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 **ITonboard**  
PROJECT WEEK

## IO2 - Guideline for vocational orientation - Conception of a project week -

IT community onboarding programme:  
vocational orientation for young people  
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## The need for a project week in the area of IT

Project weeks at schools are a good way of promoting modern work techniques and giving pupils the opportunity to practise mastering complex tasks, to act in a goal-oriented manner and as part of a team, thus preparing them for the demands of working life.

The educational mission of schools is: "Pupils should be adequately prepared for life in society [...] and this includes preparing pupils for the world of work and professions."

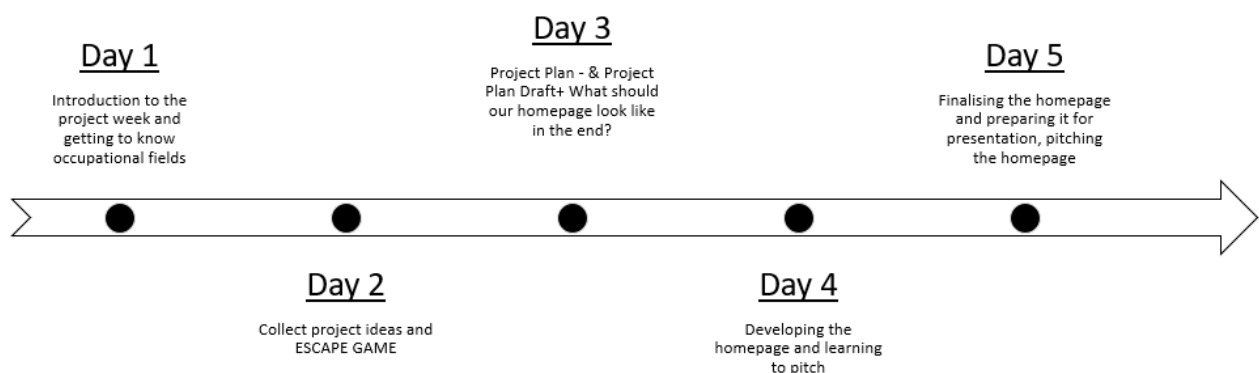
## Objectives of the conception of a project week in the field of IT

The pupils are introduced to professions in the IT sector at an early stage and in a playful way, so that a stereotype-free and practical career orientation can take place. In addition, the ability to work in a team is strengthened.

Teachers are relieved as they are not the direct mediators of the learning content and do not have to acquire the required knowledge.

In principle, the concept can be used at any school within the framework of project weeks.

## Procedure of the project week



Start time	Day 1	Day 2	Day 3	Day 4	Day 5
08:00	Welcome and introduction	Welcome and presentation of the day	Welcome and presentation of the day	Welcome and presentation of the day	Welcome and presentation of the day
	Presentation of the project week idea	What is a project? What makes a good project?	How do I create a project plan?	Designing a homepage - What should our homepage look like?	Further work on Homepage
	IT career interest test		Draft project plan I		
09:30	Break				
10:00	Method presentation: Stand-up	Stand-up	Stand-up	Stand-up	Stand-up
	Research on occupational fields in IT	What does team mean? / Team building exercises	Draft project plan II	Design homepage	Research on the pitching / speed pitching method
		Collect project ideas & determine project topics	Conception of a Schoolyard Survey		Pitching method exercises
11:30	Break				
12:00	Stand-up	Stand-up	Stand-up	Stand-up	Stand-up
	Presentation Phase I - Occupational fields in IT	ESCAPE GAME	Conception of a Schoolyard Survey	Further work on Homepage	Pitch like a star!
					Evaluation of the week
13:15	Reflection of the day / final round				

## Schedule Day 1: (Start 8:00)

### Topic: A profession in the IT industry

Project Week: Schedule Day 1	
Start time	individual exercises
08:00	Welcome and introduction
	Presentation of the project week
	IT occupational stress test
09:30	Break
10:00	Presentation of methods Stand-Up
	Research on occupational fields in IT
11:30	Break
12:00	Stand -Up
	Presentation phase - occupational fields in IT
13:15	Reflection of the day / final round

## Material and preparation

- Internet-enabled device (Office applications should work)
  - is required for all days!
- IT Occupational Interest Test Instructions (Appendix, p. 45-60)
- Headphones (for the e-learning courses)
- Worksheets on Project Management, Frontend Design, Frontend Development, Backend Development (Appendix, pp. 61-72)
- Possibly material for posters for presentation (glue, pens, colours, paper)
- E-learning access points (Appendix, pp. 73-80)

## Instruction and implementation

The welcome should be as interactive as possible. The purpose of the project week should be made clear, and an inventory of the students' experiences and opinions should be taken.

The following points could be addressed:

- "What do you know about the IT sector?"
- "Have you dealt with this area before and if so, could you please elaborate?"
- "Do you know anyone who works in IT?"
- "Are you interested in this area?"
- "To what extent do you have contact with the IT sector in everyday life (perhaps even unconsciously until now)?"
- The introduction can be exclusively verbal or can also be supported by the students briefly researching and presenting the most important key data on IT.

During the introduction, the pupils' expectations and wishes for the project week can also be asked.

Afterwards, it is useful to explain the daily routine:

(see table on page 6)

- Presentation of the project week
- IT Occupational Stress Test
- Method presentation Stand-up
- Research on the topic of IT - 4 occupational fields - Worksheets
- Presentation phase/final round

Students can ask questions at any time if they arise.

Since it can happen during the project week that the same teacher is not present every day and not for every block, it makes sense to have a pupil explain before each new block what has been discussed and worked on so far. This gives the teacher an overview of the topics that have already been worked on and which are still missing.

At the beginning of each day, the exchange can take the form of a "Daily Standup Meeting" (see p. 9).



- The aim is to coordinate the work and have a plan for the day.
- The students can answer the following three questions:
  - What have I achieved since the last Daily Standup?
  - What will I achieve today?
  - Do I expect obstacles and can the team help me?
- It is important not to exceed 10 minutes.

#### Presentation of the task / project week "My Website"

- incl. the requirements (see p. 9)

At the end of the first block, the career interest test is conducted. (See Appendix, pp. 45-60)

After the first break, the self-determined learning unit on the topic of professions in IT begins.

#### Self-directed learning unit: Have 4 e-learning courses completed

- 3 professions (Project Manager, Frontend Designer, Backend Developer) + Introduction to the different professions in the IT sector
- Group size: 3 persons (one topic can be worked on by more than one group)
- The worksheets for the four groups can be used to help with group work and presentation. However, they do not have to be handed out directly if the class has enough ideas of its own for structuring the work.
- Have students prepare presentations on the respective topics of the e-learning courses (with PowerPoint, posters, etc.).
- At the end of the presentations, the students can create quizzes (e.g. via Kahoot).

The presentation of the results takes place in the third block. Solving the quizzes together at the end of the presentations. After the presentations, the students can be asked questions and given feedback. Reflection of the day.

## Additional information Day 1

### Explanation "My Website" project

The aim of the project week is to develop an idea for your own website with your own theme. The website is to be created using Canva, Wix.com, studio.polotno, Wordpress or similar tools. NOT with PowerPoint. The tools mentioned are free and studio.polotno.com can also be used without registration.

Website is a compound word made up of the terms World Wide Web and site. Website is the term for a complete Internet presence on the Internet. A website consists of several web pages.

The pupils are allowed to think about the theme for the website themselves.

The content of this website is to be thought up and visually designed. At the end of the project week, the whole idea will be pitched to a jury/the whole group.

Along the way, many relevant topics related to the field of information technology (IT) are discussed. We get to know some professional fields in more detail and discuss the process of a project. This includes the project plan, dealing with difficult situations and also team-building measures.

### What is a Stand-Up Meeting?

- Exchange between several persons
  - standing and not sitting
- Improving communication
- Identification of difficulties/obstacles in only 10 minutes
- Increase decision making
- Knowledge of all is expanded
- Progress is made transparent
- Negligence can be difficult to conceal

## Explanation of the occupational fields

### Project Management

- Project-oriented work has become an integral part of most modern companies. Therefore, project managers are essential for the successful implementation of projects. Project managers manage projects, coordinate the projects assigned to them in a company and have to fulfil these projects with a designated budget. They lead the teams responsible for implementation. Thus, project managers take on a great deal of responsibility. Project managers monitor and regulate three essential phases in company projects.

These are:

- Idea and concept
- Planning
- Organisational implementation
- Project managers control and monitor the necessary resources such as financial resources, staff and time during implementation.
- Good project managers have clear leadership skills. They are self-confident and present their proposals with conviction. They are confident and can assert themselves even in the face of resistance. In addition to these soft skills, successful candidates need the following skills:
  - Initiative, Problem-solving skills, Creativity, Entrepreneurial thinking, Ability to work in a team, Communication skills, Critical faculties, Flexibility
- Project managers' communication should be clear and precise. They are well organised and coordinate the necessary tasks in a timely manner. An awareness of potential problems and the ability to make contingency plans and respond to incidents are also characteristics of good project managers. They need empathy to assess the performance and capabilities of the team.

## Frontend Designer

- Web designers create, design and optimise websites. In doing so, they implement the desired "corporate design" of the client in terms of design and technology so that customers and companies are presented in an appealing way on the Internet.
  - Corporate design: visual appearance of a company. E.g. logo, typography, corporate colour in e.g. letterheads, interior design, product and packaging design and advertisements.
- The creation of animations, graphics and layouts as well as the menu structure, chat function and voice control are among the tasks that web design must fulfil. Other activities of web designers include:
  - Talking to customers and planning the website together
  - Develop corporate design and implement it graphically
  - Create logos, lettering, graphics and animations
  - Design layout, structure and user-friendliness of the website
  - Keeping technical know-how up to date
  - Long-term customer care and continuous optimisation of the websites
  - Implementation of any technical wishes of the customers
- Successful web designers are communicative and responsive to new clients. In the fast-changing technical world, they are constantly educating themselves. Technical expertise on topics such as coding, content management systems or special technologies such as source code editing or barrier-free websites are very important. Some web designers focus their work especially on the graphic-aesthetic area and pass on the technical functionalities to specialists. In addition to a sound technical knowledge of website design and a creative streak, some soft skills in close contact with clients are also an advantage. Web designers should be able to work both in a team and alone, organise their work well and meet deadlines.

## Backend Developer

- Backend developers design systems, add enhancements and maintain existing systems and applications. In development and maintenance, they deal with the part of an application that runs in the background, i.e. invisible to the user. The backend is often about processing data that is sent to the frontend.
- The tasks of backend developers include:
  - The implementation and programming of systems and applications
  - The analysis of requirements as well as the development, conception, implementation and maintenance of a system or application
  - Test and document the systems and programmes
  - To support internal developers in their work
  - Work with the frontend developers on one system
  - Conduct customer meetings
  - Implement elements and functions
- Hard skills required
  - Good HTML5, CSS3 and JavaScript skills
  - At least one programming language, e.g. PHP, Ruby on Rails, Node.js, Python, Java, C/C++
  - Good handling of relational databases and SQL
  - Basic knowledge of the frontend area
  - English skills
- Soft skills needed
  - Ability to work in a team
  - An eye for innovation
  - Openness for new things
  - Creativity
  - Organisational skills
  - Analytical thinking skills

## Schedule Day 2 : (Start 8:00)

### Topic: Get started! Theory, practice & game

Project Week: Schedule Day 2	
Start time	individual exercises
08:00	Welcome and presentation of the day
	What is a project? /
	What makes a good project?
09:30	Break
10:00	Stand - Up
	What does team mean / Team building exercises
	Collecting project ideas & defining project topics
11:30	Break
12:00	Stand - Up
	ESCAPE GAME
13:15	Reflection of the day / final round

## Material and preparation

- Internet-enabled device (Office applications should work)
- Projector
- Material for the ESCAPE Game (Appendix, pp. 86-97)
- Material to record the project ideas
- Prepare presentation: This is what an ideal-typical web project (or process) looks like.
- Worksheets Project Ideas
- Team building games (p. 16-17)

## Instruction and implementation

Welcome the students and briefly introduce the daily schedule. Questions can also be answered directly.

Daily schedule (see table on p. 13)

- What is a project / What makes a good project?
- What does team mean? / Team building exercises
- Collect project ideas & determine project topics
- ESCAPE GAME

In the first block, the teachers discuss with the pupils "What is a project?"/"What makes a good project?"

- For example, one half of the group spends 10 minutes answering the first question and the other half spends 10 minutes answering the second question.

The individual project phases are then discussed in more detail (see pp. 20-22).

- Preparation phase
- Planning phase
- Implementation phase
- Closing phase

As a follow-up to the discussion, it is useful to explain "non-goals" and to refer to the SMART goals model. (see p. 22-23)

After the first break, it is a good idea to start with one or two team-building games (see pp. 16-17) to prepare the students for group work and cooperation. After the games, it is useful to discuss why teambuilding is important. (see p.16)

- 1 Truth and 2 Lies
- Birthdays in a row
- Quick change
- Floating rod

Then the transition to the content "Team" takes place. The pupils work out/discuss together with the teacher "What is a team?"

- what distinguishes a good team from a bad team/project? What is the composition of a team? What are the most important characteristics of a team, etc.?)
- Pupils can do short research on different points or discuss their knowledge directly with the whole group.

What we have learned so far will be applied in the following. The aim is to plan your own project ("My Website"). To do this, the students should first get together in groups.

- The number of group members should not exceed 3, depending on the number of participants.

After the groups have come together, the task is to:

- Select a theme for the website
  - ❓ To do this, the pupils should first think about their own topics without any help. If a group does not come up with their own ideas, the worksheets for the project ideas can be handed out.
- View websites on the internet on the topic of the project week
- What are the differences between the respective websites? Create awareness of design possibilities and elements
  - ❓ Different websites can also be viewed in the whole group via the beamer and discussed with regard to the aspects mentioned above.
- What are the tasks from the students' point of view? What should be considered in the design? What should be considered in advance?
- Presentation of the selected topic and the rough concept

The ESCAPE Game takes place in the third block. (Appendix, p. 86-97)

At the end of the day, the results of the day are collected and reflected upon. What has been learned is summarised again.

- In the large group, any problems that may have arisen can also be addressed. This can also directly improve the work process for the next few days.
- The students get another chance to ask questions about the tasks or about the project week in general, if something is still unclear.



## Additional information Day 2

### Team building measures

#### What is team building?

To be successful, a well-functioning team is important. The team should consist of members who complement each other optimally. Team building brings together people with different qualifications in order to be able to solve all tasks with the combined knowledge.

#### Why are teambuilding measures important?

- Promote a good working atmosphere
- Strengthening the WE feeling
- Increase productivity and motivation
- Increase success

#### Some team building games are explained below:

##### 1 Truth and 2 Lies

- Duration: can be determined by the participants
- Delivery: One person thinks of one truth and two lies about themselves and the others have to find out which is the truth.

##### Birthdays in a row

- Duration: 10-15 minutes
- Delivery: Ask the team to line up in order of birthdays, but without talking to each other. Communication is only allowed in any way such as sign language, gestures or nudging. To make it more difficult, a game duration can be set in advance!

## Quick change

- Duration: 10-15 minutes
- Delivery: Divide the team into two groups and ask the participants to stand opposite each other. Team A now has a short time to observe Team B (15-30 seconds), during which they have to memorise as many details as possible of the people facing them. Then Team A turns around and Team B changes as many details as possible on their own appearance.
- From changing the line-up order to swapping shoes with another person or changing the hairstyle, pretty much anything is allowed. After about 45 seconds, Team A turns around again and now has 5-10 minutes to find out what has been changed.

## Floating rod

- Material: broomstick or other similarly long and inflexible stick
- Duration: 10 - 15 minutes
- Execution: The participants line up in two rows facing each other. Everyone stretches one arm out in front of them at about chest height, holding the index finger out in front. The row of people should be about as long as the pole is long. The leader picks up the pole and places it on the index fingers of the other players.
- Once the pole is on the fingers, the rules of the game are explained. The following conditions apply: Participants must always touch the pole from below (at least lightly) with their index finger - the hand must therefore never be removed from the pole. While this condition is to be observed, the group as a whole is given the following task: the bar must be placed on the floor. As soon as one finger is no longer on the pole, the group has to start again from the beginning.
- If there are too many pupils, 2/3 of them can act as observers to make sure that all fingers are on the pole.

## What is a project?

The planning and implementation of the project week described here corresponds to the general project principles [State Institute for School Quality and Educational Research]:



By taking a systematic approach to the topic of the "project week", the pupils meet the generally accepted criteria of projects.

In addition to the actual topic of the project week, the pupils are made aware of what the terms "team" and "project" mean in general and what they should pay attention to in particular.

At the beginning of a project there is brainstorming. Project ideas or initiatives can be brought to the school or an individual teacher from different sides. In some cases, this opens up the possibility of discussing alternatives or, in other cases, already provides a defined framework. The same applies to the goals: They can sometimes also be predefined.

After brainstorming, the idea is concretised into a homepage / project website. Aspects such as goal clarification, feasibility check (e.g. framework conditions), rough planning and project assignment play an important role here.

The following key data must be clarified in principle:

Objective: What is to be achieved?

Cost target: What resources (€) are available?

Deadline target: By when should it be achieved?

## Project management supported

With the help of project management, projects are approached in a structured manner and made transparent to the outside world.

Problems that arise should be identified at an early stage and remedied if necessary so that a project has a better chance of sustainable success.

If you approach an undertaking systematically, i.e. according to our concept as a project, then you may initially experience this as more time-consuming.

Questions arise, more thought is given to justifications and fit, e.g. of goals and measures. Ambiguities and also contradictions in the views and plans within the project group become visible. A team that can make fruitful use of these delaying "obstacles" will benefit from this and cope better in the further course of the project. Often the additional expenditure of time and material resources is even compensated for.

Systematic action requires a schedule, space for open discussion and decision-making, ongoing documentation and the implementation of evaluations.

## What is project management?

In this documentation you will learn the following:

- Definition of the term "project"
- Project criteria
- Overview of project management
- Project: A project is an undertaking that is essentially characterised by the uniqueness of the conditions in their entirety, e.g. target setting, time, financial, personnel and other limitations; differentiation from other undertakings; project-specific organisation.
- Project management: Project management helps to know where to go, how to get there and to check if you are still on the right track to get there safely.
  - ❓ formulate the objectives, plan the project, manage the project, complete the project

A project is usually divided into different phases:

- preparation phase

- planning phase

- implementation phase

- final phase

In the following, those project phases are described in more detail:

## Preparation phase

In this phase, the duration, the costs and, above all, the goals of the project should be determined with all those involved. This is very important for a good final project, because without a goal a project is doomed to fail.

## Planning phase

In this phase, the goals are reviewed again, the tasks are distributed, and a project schedule is written.

The goals are formulated in more detail and broken down into clear work packages. In addition, important stages are defined, which are also called milestones. A precise plan is drawn up for the various factors of costs, personnel and time. At this point, at the latest, the project management should be determined, and each team member receives a work package for which they are responsible and has to complete it.

In the planning phase, the foundation is laid for the successful implementation of the project. All important aspects are first recorded in a specification sheet. During project planning, the entire project is first broken down into its individual components and then put back together again, for example in a work breakdown structure ("What needs to be done?").

The project schedule is an important tool that shows what is to be done and when, so the time component is added. As a further planning aid for the additional distribution of responsibility, an action plan is useful.

- Time planning: It is advisable to start "backwards", i.e. to plan the individual subtasks backwards from the deadline. It is also helpful to define so-called "milestones", i.e. concrete dates by which certain subtasks must be completed.
- Critical path: Consideration must be given to whether individual work packages are interdependent.
- Information management: This regulates when which persons must be provided with which information.
- Cost planning: Cost planning includes the calculation of actual financial expenses incurred for each subtask. The total budget is already determined when the project is defined.

- Distribution of responsibility: It is determined who is responsible for which sub-tasks. If several people are involved in the project, it is advisable to appoint a project leader.
- Quality planning: The aim here is to determine characteristics for each subtask in the form of indicators that make the quality of the respective subtask measurable, e.g. school grades, success rates, utilisation data, etc.

## Implementation phase

In this phase, the project is implemented according to plan.

Problems often arise during this phase, as not everything always goes according to plan.

During the implementation of the project, the planned and the current course of the project as well as possible anticipated risks must be compared again and again. All subtasks of the project are coordinated, monitored and controlled in their structure.

If the process flow goes in the wrong direction, corrective action must be taken.

and these changes must also be recorded (appendix in the specifications). Team meetings are held at regular intervals for this purpose. It is important that the regular meetings are prepared and moderated and that an agenda is available.

All important steps are documented in a results protocol. Even if there is no larger team in a project, it is still important to reflect in a structured way on the status of the project and to document progress.

The following questions guide the steering process:

- Is the timetable or critical path being adhered to? Will the set milestones be reached?
- Are the planned financial resources sufficient? Are the people responsible for subtasks still available and motivated?
- Is the quality guaranteed? Is it possible to measure the results of the work or the achieved sub-goals with the help of the defined indicators?

## Closing phase

In the last phase, it is checked whether the set goal has been achieved. Now the project is completed and documented. This documentation explains how the project came about, whether there were any difficulties in implementing the project and the final result is documented.

Every project is limited in time and has a clearly defined end. The end of the project usually also means the handover of a finished product. Depending on the nature of the project, it is a good idea to hand over the project results in a ceremonial setting, which is also an expression of appreciation for those involved.

As a rule, a final or outcome evaluation takes place, i.e. it is evaluated with the help of the indicators whether the previously defined project objective has been achieved or whether the resulting product is sufficient.

In addition to the delivery of the product, a final project report and/or a presentation of the project results is usually due. The accompanying documentation from the phases of project planning and implementation (specifications, meeting minutes, etc.) can often be used well for this purpose.

Finally, in addition to evaluating the results, the process should also be retrospectively evaluated.

The results of the project will be evaluated in order to contribute to future projects. learning (lessons learned).

Guiding questions for this could be, for example:

- What worked well?
- Were there any difficulties?
- For example, how good were the communication channels or the teamwork?

## Non-targets

Non-goals are set to narrow down a project. These non-objectives express which aspects are dispensed with.

Without formulating non-objectives, it can happen that during project implementation additional potential focal points suddenly become attractive and the project gets out of hand.

The project leader plays an important role here. The project leader is the contact person in the project and the person of trust for all group members. The project leader must always have an overview throughout the project.

It is also responsible for ensuring that communication within the project team works and that the documentation of the overall project is constantly maintained. It is important to note, however, that the role of project management does not mean doing every task yourself. It means assigning all team members with work packages that match their skills. The team members are part of the project team. The project team takes on the individual tasks in the project. The team members must take responsibility for the work packages they have taken on and accepted so that the project can succeed.

## Project planning Work packages

To make the project easier to create, the various tasks are divided into manageable work packages.

- Structure plan: The work packages together with their responsible persons are now inserted into the work breakdown structure.

## The term "project"

The term "project" appears regularly in everyday school life as well as in private life and thus in the lives of students. Whether it is a school party that needs to be planned, a sports event such as a charity run, a project against discrimination or for climate protection, what exactly makes a project a project?

**SMART** - present goals and have them considered

**S (specific)** - Is the objective concrete, clear, precise and unambiguous?

**M (easurable)** - Are criteria included that are clearly verifiable?

**A (attractive)** - Is the benefit recognisable?

**R (realistic)** - Is the goal achievable in terms of time and resources?

**T (time-related)** - Does the target have a clear end point?





Projects are therefore determined by many different criteria. As a rule, they are not implemented by one person alone, but by groups, the so-called project team.

## What is a team? What makes a project team?

It starts with a group of people who come up with a common idea. This can be a new action, e.g. an event on health issues. The idea can also come from a commonly felt problem, e.g. increasing cases of violence at school. These impulses can be followed by similar change measures, but first they bring people together.

Already in the initial phase, one can discuss the following organisational questions in addition to the content-related questions:

- Who wants to collaborate?
- Can we agree on the topic provisionally described?
- What formal commitment do we want?
- Is the group manageable (e.g. 3 - 10 people)?

Once these questions have been bindingly clarified, the group of people becomes a project team. The composition of the project team and the climate in the group as well as in its environment are decisive for success.

However, work in project teams does not always run smoothly. Basic knowledge, for example in the areas of conflict management or moderation, is very useful here. Division of labour, distribution of roles and internal rules make cooperation more effective. This also includes looking at the "we-feeling", the emotional mood and the cohesion in the team. Team members should distribute tasks according to their personal talents, important roles and rules should be named and established by mutual agreement:

- Team leaders should be interested in the task and have basic organisational skills.
- In larger teams, it can be useful to distribute leadership tasks among several people (e.g. communication with the outside world, cooperation with partners).
- Dates and distribution of tasks are bindingly recorded.
- Team members are deployed according to their resources (e.g. time, inclination, ability).
- Agreements on how to deal with each other in the team have been clarified.

## Schedule Day 3 : (Start 8:00)

### Topic: Break through - Development of a web project

Project Week: Schedule Day 3	
Start time	individual exercises
08:00	Welcome and presentation of the day
	How do I create a project plan?
	Project plan draft I
09:30	Break
10:00	Stand-up
	Project Plan Draft II
	Conception of a schoolyard survey
11:30	Break
12:00	Stand-Up
	Implementation of the schoolyard survey
13:15	Reflection of the day / final round

## Material and preparation

- Worksheets Project Plan (Appendix, pp. 99-100)
- Internet-enabled device (Office applications should work)

## Instruction and implementation

The students are welcomed and the schedule for the day (see p. 25) is briefly introduced:

- How do I create a project plan?
- Project Plan Design I & II
- Conception of a schoolyard survey
- Conducting the schoolyard survey

Together with the students, we will work out what a project plan is and how it is created.

- The pupils collect the individual stages of the project plan on the board. For this purpose, a project plan on a simple topic is drafted together in the class. (e.g. baking a cake). This gives the pupils a better overview of how a project plan is created.
- Example: Baking a cake
  - o Requirements & project goal: bake a delicious birthday cake

- o Project scope: 2-3 hours
- o Process: steps in the recipe, where to bake? etc.
- o Expected result: a successful, delicious cake
- o Defined roles and responsibilities: Who does the decorating, who does the kneading, who does the shopping, etc.?
- o Resources: money, time, helpers?
- o Deadlines: the cake must be ready by 4 p.m.
- o Communication plan: Before the cake baking there is a meeting

After the whole group exercise, the groups from the previous day will design their own project plan. The worksheet "How to create a project plan" is available for this purpose. The own project plan is created on the topic chosen for the website.

As a conclusion to this theoretical unit, a method school is a good way to teach how difficulties can be discussed among each other within the framework of a project.

- The stand-up method is used for this (see p. 9).

From now on it will be practical. The pupils can think about questions and the target group for a survey, which they will conduct in the schoolyard. The purpose of the interviews is to find out who the potential website users are. The survey can be conducted with teachers/students/caretakers, etc. The survey will be conducted at the end of the second block. The survey will be created at the end of the second block and conducted in the last block.

The last block is about conducting the survey and writing it up and preparing it for the website.

If difficulties should arise in the course of the week in finding ideas for the homepage, the listed methods for finding ideas (see p.28) can already be discussed today. This will give the pupils an idea of how they can help themselves in the next few days. The results of the day are collected and reflected on again today. What was learned is summarised again.

- What have you learned?
- What was new for you?
- ...

In the large group, any problems that may have arisen can also be addressed. This can also improve the work process for the next few days. Questions that have arisen are answered here.

## Additional information Day 3

### Idea generation methods

#### Mindmap:

- works similarly to brainstorming. However, mind mapping is more structured. Starting with a central concept in the middle of a sheet of paper, associated concepts are derived. In the centre are then keywords that are still closely related to the initial topic. With increasing distance, the connections become more abstract, which ideally offers completely new impulses.

#### Brainstorming:

- For a term, a problem or a question, all the ideas that come to mind of one or a whole group are collected. There are ways to record the contributions: the ideas are called into the room and recorded (shout-out method). Or everyone writes on a flipchart, a pin board or a card at the same time. Very important when brainstorming: first collect all the ideas and then evaluate them.

#### Brainwriting:

- All those present sit in a circle around a table. Everyone writes their ideas at the top of a DIN A4 sheet of paper. After 5 to 10 minutes, the ideas are passed on to the person sitting next to them on the left. This person adds his or her thoughts to the idea. Each idea is passed on until everyone has had a chance to add to all the ideas. The sketches written down then form a basis for discussion.

#### Card query:

- All participants generate ideas, write them on small cards and pin them on a pin board. Afterwards, the group discusses them: What doesn't fit at all? What should definitely remain? The remaining cards are then grouped and ordered.

## Explanation project plan

The project plan is an indispensable organisational tool. It depicts the complex structures and processes of a project and ensures that a project can be completed on time. Planning is usually very time-consuming, so the project plan is usually drawn up jointly by project management and project assistance.

The project plan contains various elements that describe the course of a project. Only as many elements as necessary should be prepared so that the project plan does not become too cluttered. It should be used as a flexible working tool. The project plan also reduces complexity. This makes projects easier for staff to grasp.

The worksheet includes the following points in the project plan:

- Requirements and project objective
- Project scope
- Process
- Results
- Defined roles and responsibilities
- Resources
- Deadlines
- Communication plan

## "Gap-filling topics"

If there is time left over, the following topics can be introduced to familiarise the pupils with other terms from the field of IT:

### Explanation Plone - Software for collaborative creation, editing, organisation and presentation of digital content

Plone is a highly developed, so-called content management system that is often used for intra- and extranets. For example, Lufthansa uses the system for its supplier extranet.

Plone is written in the Python programming language and was first published in 2003. The focus is increasingly on more sophisticated web applications. Numerous extensions are available, which enable use as an online shop, photo album or in e-learning, among other things.

Since Plone is cluster-capable, there are hardly any limitations in terms of performance. Thanks to its easy and intuitive operation, Plone is also suitable for creating simple websites, such as a blog.

The focus on accessible web design makes Plone especially interesting for public institutions. An overview of the functions included as standard:

- Easy social media integration of Facebook Snippets and Twitter Cards
- Batch processing support: Multiple files can be uploaded at the same time.
- High security, no danger of SQL injections thanks to NoSQL
- Multilingualism: The interface can be displayed in various languages.
- automatic verification of valid XHTML
- Possibility of mapping complex organisational structures with individual assignment of rights

## Explanation CryptPad - a collaborative exchange platform

Cryptpad is a programme that can be used for collaborative work. It synchronises changes to documents in real time. As all data is encrypted, the service and its administrators have no way of viewing the edited and saved content.

CryptPad offers a complete office package with all the necessary tools for productive collaboration. The following can be used: Rich Text, Spreadsheets, Code/Markdown, Kanban, Presentations, Whiteboard and Surveys.

The applications are complemented by a range of collaboration features such as chat, contacts, colour by author (code/markdown) and comments with mentions (rich text).

Storing, managing, sharing and organising documents is possible with CryptDrive. Team drives are shared between users and enable joint organisation and detailed access control.

## Information on programming > What is an HTML form?

HTML stands for "Hypertext Markup Language". Hypertext means that the document contains more than just the actual text. It additionally contains the structure of the document, which is created by special markings in the text.

These marks do not require a special programme to create them but can be written just like the rest of the text with a simple text editor. They are called "tags" and they indicate where certain parts of a document begin and end. At the beginning of a document part, such a tag consists of a name enclosed in angle brackets. For the end, a slash is added before the name. One of these tags is called "h1" and marks the main heading of a page:

```
<h1>Introduction to HTML</h1>
```

The start tag, the content in between and the end tag together form an HTML element.

## Other IT specific tools

The students can be asked what other IT programmes/programming languages they know. The following could be discussed as examples:

- o WordPress: WordPress is an open source software that can be used to create a beautiful website, blog or app.
  - Open source software: Code that is accessible to the public, i.e. anyone can view it and modify and distribute it as they wish.
- o CSS: Cascading Style Sheets is a style sheet language for electronic documents and, together with HTML and JavaScript, one of the core languages of the World Wide Web.
  - Stylesheet language: Stylesheet languages are formal languages used in information technology to define the appearance of documents or user interfaces. A stylesheet can best be compared to a format template.
- o Java: Java is an object-oriented programming language. Within Java technology, the Java programming language is primarily used to formulate programmes.
- o Scratch: Scratch is an educational visual programming language for children and young people, including its development environment and closely linked online community platform, first published in 2007.
- o Python: Python is a universal, commonly interpreted, high-level programming language. It claims to promote an easy-to-read, concise programming style.

**? "What other IT specific terms do you know?"**

It is also possible to ask for terms in general. The students should then briefly explain these to the rest of the group.

## Schedule Day 4 : (Start 8:00)

### Topic: Problem Solving - Finding Weaknesses/Optimising the Project

Project Week: Schedule Day 4	
Start time	individual exercises
08:00	Welcome and presentation of the day
	Designing a homepage -. How should our homepage look like?
09:30	Break
10:00	Stand-Up
	Designing the homepage
11:30	Break
12:00	Stand-Up
	Further work on the homepage
13:15	Reflection of the day / final round

### Material and preparation

- Internet-enabled device (Office applications should work)
- Posters, glue, scissors, pens, etc. for making the wireframes
- Pupils can, for example, use the following to get inspiration
  - <https://studio.polotno.com/> work or with
  - <https://www.canva.com/> work
    - [https://www.canva.com/de\\_de/websites/vorlagen/](https://www.canva.com/de_de/websites/vorlagen/)
    - After registering, you can use countless functions to create designs free of charge on this site.
  - <https://manage.wix.com/>
  - <https://wordpress.com/de/>



## Instruction and implementation

Welcoming the pupils and explaining today's objectives:

- Designing a homepage - What should our homepage look like?
- Design homepage
- Further work on the homepage

Have questions about the day/tasks/previous day asked and answered.

Afterwards, the pupils continue working on the project "My Website".

- Create a sketch: What do you want your homepage to look like?
- Pupils work on their website with different tools (see Tools under Material).
  - Discuss what wireframes are (See p. 34)
    - Possibly show prototypes as an illustration
    - Students can show which wireframes they have used on their website.

At this point, the students should be made aware of the licensing problems with images, if applicable.

- Royalty-free images are available here:
  - <https://pixabay.com/de/>
  - <https://stock.adobe.com/de>

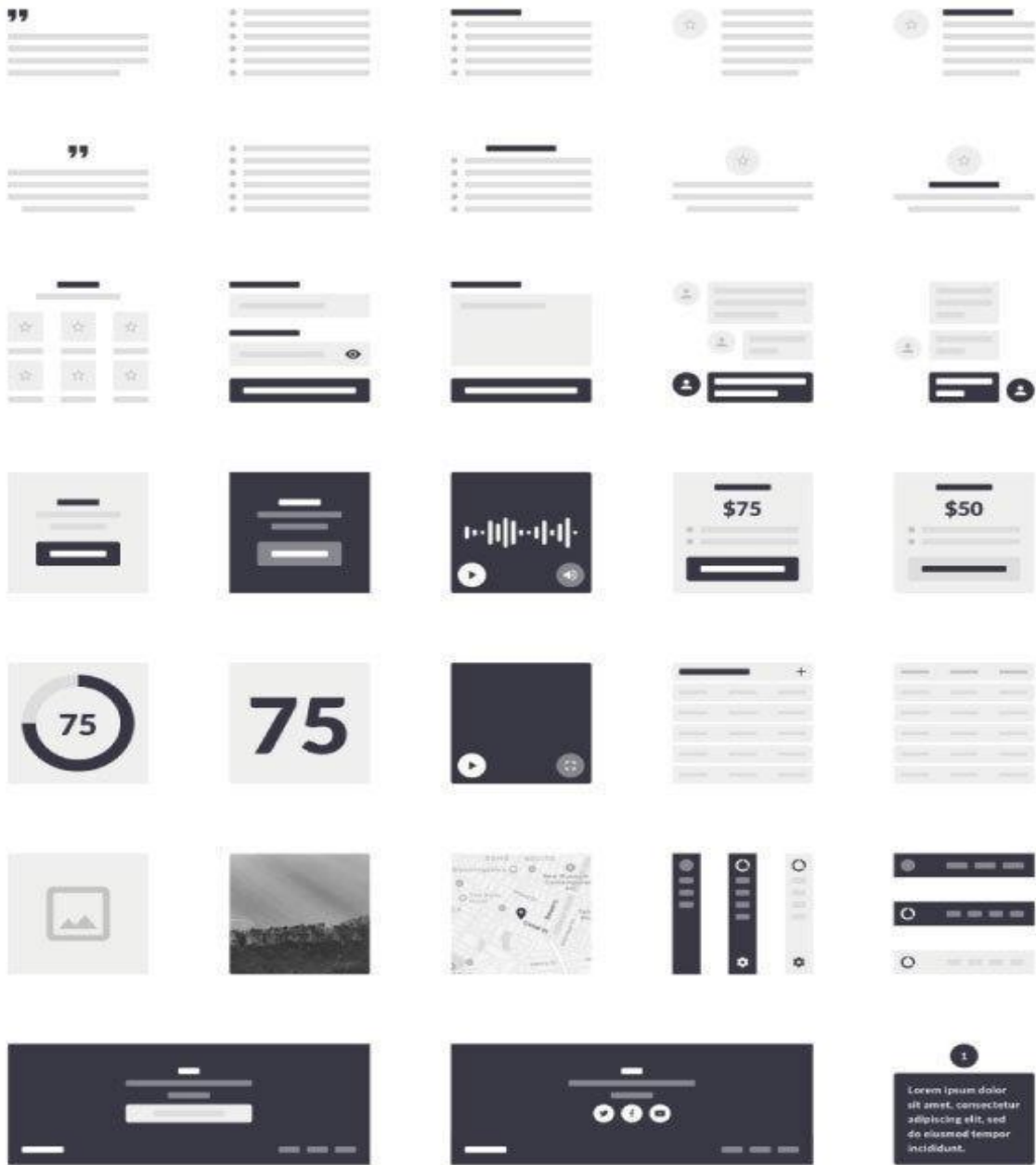
Reflection of the day

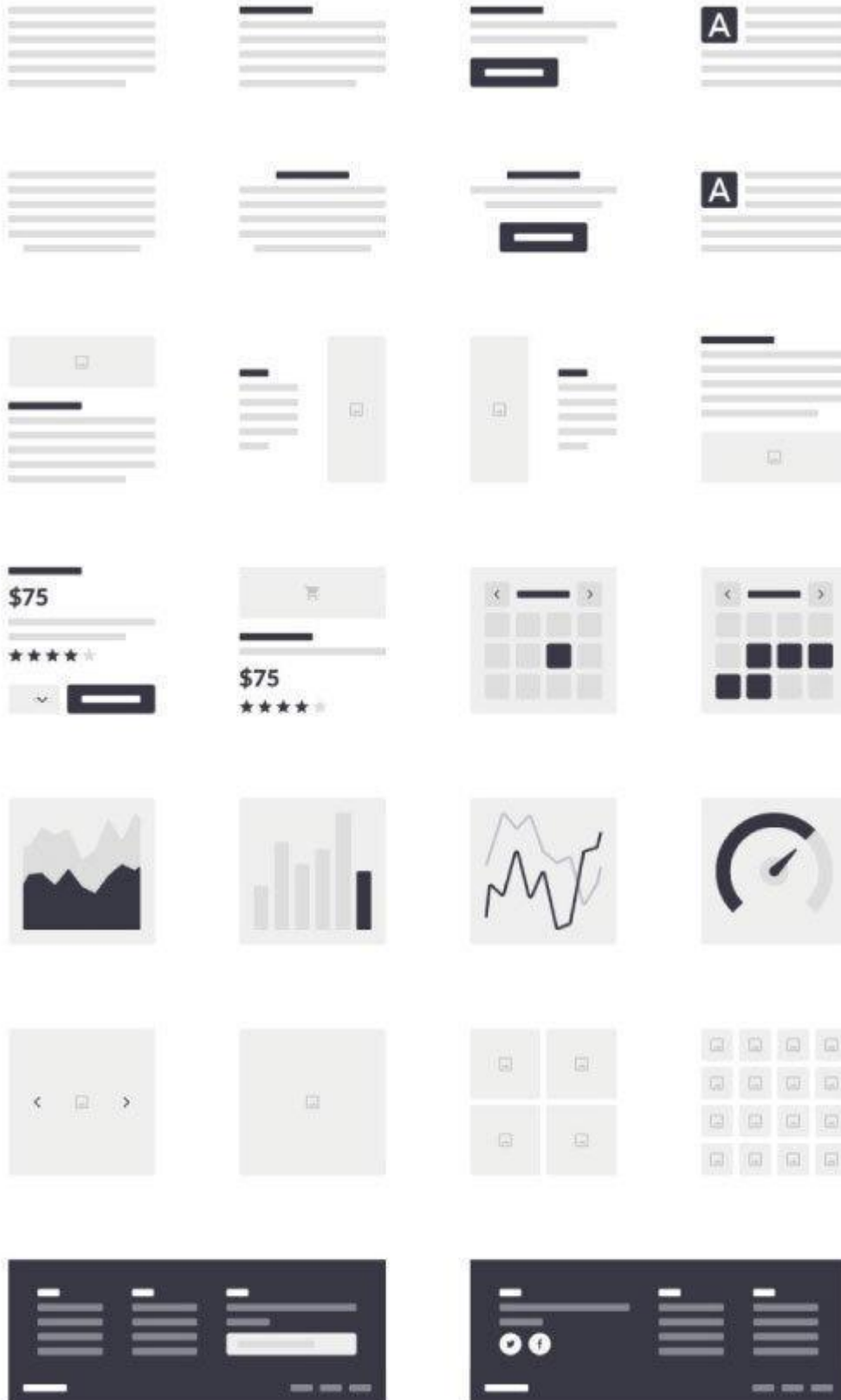
Clarify questions

## Additional information Day 4

### Wireframes

Wireframes are a tool for designing websites. They are a very technical and reduced way of representing the elements on a website. With wireframes, the visible design takes a back seat for the time being. Strongly designed elements or colours would distract from the goal of planning the content structure and the layout of the website.





## Schedule Day 5 : (Start 8:00)

### Topic: Pitch Like a Star! Present results

Project Week: Schedule Day 5	
Start time	individual exercises
08:00	Welcome and presentation of the day
	Further work on homepage
09:30	Break
10:00	Stand-up
	Research on the pitching method / speed pitching
	Exercise on the pitching method
11:30	Break
12:00	Stand-Up
	Pitch like a star!
	Evaluation of the week
13:15	Reflection of the day / final round

## Material and preparation

- Internet-enabled device (Office applications should work)
- Pitching worksheets (Appendix, pp. 102-103)

## Instruction and implementation

Welcoming the students and getting them in the mood for the last day.

Presentation of the programme

- Further work on the homepage
- Research on the pitching/speed-pitching method
- Pitching method exercise
- Pitch like a Star
- Evaluation of the week

After the welcome, the students have the first block of time to continue working on their homepage and to complete it.

After the break, it's all about pitching. The students can practise the whole thing now so that they can present their results convincingly.

- First, the students should gather/research:
  - What pitching is,
  - How it works,

- o Why you do it and in which situations,
- o What to look out for,
- o What a pitch should include
- Then the pitching worksheet is used. The students are each given a topic and then have 10 minutes to prepare. To do this, the students should follow the points discussed, which are also noted on the worksheet as a reminder.
- Pitch worksheet
  - o The students prepare a pitch and pitch about an everyday object in order to internalise the basics or the basic idea of pitching.

After that, the students get time to prepare their own presentation. Also at the beginning of the third block, the students get another 10 minutes to finalise their pitch if they did not make it before the break.

- In the last block of the day, the projects of the respective groups are then presented in turn during a pitch
  - o The groups should definitely stay within the time of 3-5 min (pure presentation)
  - o The rest/some of the students can act as a panel and take notes on whether the conditions for a good pitch have been met.
- Feedback rules are discussed - (e.g. according to the sandwich method)
- Afterwards, the pitch is reflected on and a small final round is held.

Finally, collecting ideas and content to work with after the project week if they wanted to continue the project.

Ask for overall feedback on the project week. Possibly use feedback methods to get more structured feedback.

Feedback methods:

Finger feedback

- Thumbs: That was great!
- Pointing fingers: This could be done better
- Middle finger: I did not like that
- Ring finger: I take this with me
- Little finger: That came up short

Card query

- The learners write their answers to different questions on moderation cards, which are placed on a pin board. The results are sorted, discussed and can be seen by all thanks to the pin board.

At the end, the students fill out a written feedback form about the project week.

At the end of the project week, the pupils will receive a certificate which should be printed out by the teachers and labelled with the name of the pupil (see appendix, p. 100).

## Additional information Day 5

### Pitching – What´s that?

A speed pitch is a short and concise presentation of a business idea to an investor. The term speed pitch comes from English and loosely translated means "speed presentation".

In a pitch, agencies compete against each other in front of a potential client. They try to convince the client of their ideas and land contracts. Pitching is especially common in the start-up scene. Here, the founders have the opportunity to present their business ideas to investors in the shortest possible time and convince them of their merits.

In a pitch, there are different types of presentation, e.g.:

- Elevator Pitch
- Startup Pitch
- Speed-pitching sessions

#### Elevator Pitch

- The Elevator Pitch ("lift presentation") is the shortest presentation type of pitching. Here, a summary and informative overview of the business idea or the start-up must be presented within approx. 30 seconds in order to convince investors of the idea.
- The name comes from the fact that in the past, young entrepreneurs often only had the opportunity to convince successful business people of their ideas in short lift rides.
- No additional documents or presentations are used in the Elevator Pitch, as these are more of a hindrance than a help

#### Startup Pitch

- A Startup Pitch is not as time-limited as the Elevator Pitch
- Presentations usually serve as an additional tool. In this way, the business idea and its connections can be better presented.
- Although more time is available for the presentation, it makes sense to keep the pitch short rather than too long. > After all, many investors listen to dozens of presentations a day and have to concentrate on each individual pitch. The attention span is therefore usually exhausted after a few minutes.

## Speed pitching

- Speed pitching sessions often take place as part of events
- Here, founding teams get the opportunity to convince a potential investor of their start-up idea within 3-5 minutes.
- After that, you change the interview partner, the investor, and present your business idea again
- Speed pitching is based on the principle of speed dating
- The advantage is that the ideas can be presented to several potential investors

The presentation slides for a pitch are called a pitch deck.

- A variety of programmes can be used to create the slides. For example, PowerPoint, Keynote, Prezi...
- Important: number of slides should be kept low), the important information on the slides should be summarised briefly and succinctly -> **not too much text**
- The focus of the audience should be on the text of the presenter(s)

## Structure pitch (as an example):

Slide 1: Title Slide/Introduction

Slide 2: The team

- Who participated/ what role did they play?

Slide 3: The problem

- What problem does the website aim to solve

Slide 4: The solution and the product

- The solution to the problem by presenting the website

Slide 5: The unique selling proposition

- What makes this project special?

Slide 6: The financing

- How can this project be financed

Slide 7: The contact details



## NoGos Pitch

- Being late
- Being rude
- Being conceited
- Not being able to answer questions about the presentation
- Not knowing your own numbers
- Indistinct expression and digression
- Boring flood of facts
- Becoming unprofessional and talking about private things
- Having over 20 slides in the pitch deck

## Evaluation of the project week (E-Survey)

<https://bit.ly/3K9kVfT>



Questions for an evaluation questionnaire:

- 5 answer options:



1. How clearly was the process and the goal explained to you?
2. How were the breaks organised?
3. How were the tasks/IT tools/etc explained?
4. How were your questions answered?
5. What did you think of the project week?
6. How did you like working with the materials?
7. How did you like the tasks?
8. How comprehensible were the worksheets?
9. How well were you able to solve the independent tasks?
10. How did you like the project week overall?
11. What did you miss? / What would you wish for next time?

## Farewell to the group...

## Appendix

## Documents Day 1

## Teaching concepts Vocational interest tests:

**TALENTBRÜCKE Career Interest Test /  
ITONBOARD IT-specific career interest test**



**TALENTBRÜCKE GmbH & Co KG**  
Burgmauer 60  
50667 Cologne

Cologne Local Court, HRA 29347  
P.h.G.: **TALENTBRÜCKE** Verwaltungs GmbH  
Cologne Local Court, HRB 76243  
Managing Directors: Lars-Rosario Scarpello, Thomas Beck  
Tel: 0221-29 23 33 0  
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[www.talentbruecke.de](http://www.talentbruecke.de)

**TALENTBRÜCKE career interest test:**

<https://bit.talentbruecke.de>

**ITONBOARD IT-specific career interest test:**

<https://interesttest.itonboard.eu/>

**Material and preparation:** Internet-enabled laptops, PCs, tablets or mobile phones

**Implementation:** online using the respective link

**Result:** as download or by e-mail

**Duration:** one lesson of 45 minutes each;

both tests can be carried out within the framework of a double lesson.

**The procedure of the two independent career interest tests is analogous. Therefore, an exemplary schedule is presented below.**

#### Timetable

Time	Procedure	Duration	
08:00	Introduction, welcome, seminar procedure	00:05	frontal
08:05	Conducting the test	00:10	Test
08:15	Presentation of the 6 areas	00:10	interactive
08:25	Evaluation	00:05	automatic
08:30	Research and development of sample occupations (pupils present their professions)	00:15	Small groups or individual work
08:45	Next steps (What is there to do now? How do I get an internship? What do I consider when applying for a job?)		Homework
08:45	Goodbye		

#### In the classroom

Write the lesson plan on the board:

- ✓ Welcome
- ✓ Test implementation
- ✓ Presentation of the professional areas
- ✓ Evaluation
- ✓ Occupational research
- ✓ Next steps

## Procedure

Explain the course of the seminar and the goal

- ✓ The test should clarify the professional interests
- ✓ Get an overview of different professional areas
- ✓ Own, concrete, interest-based professions should result at the end of the seminar (e.g. for the school internship or a voluntary internship)
- ✓ With reference to the TALENTBRÜCKE - Berufsinteressentest:
  - In the case of increased interest in the area "R" (manual-technical interest) and/or "I" (investigative, researching interest), in which, among other things, the occupational fields "IT, computers" are mentioned, it is suitable, additionally conduct the IT-specific career interest test
    - o The IT-specific career interest test of the Erasmus+ project "ITONBOARD" can also be carried out independently of the TALENTBRÜCKE career interest test.

## Professional areas

Once all students have completed their test, it can be reflected upon, and the career areas can be discussed interactively and the research can begin:

- ✓ There were 60 job descriptions (for ITONBOARD = 66).
- ✓ 10 each (for ITONBOARD = 11) of these refer to an occupational area
- ✓ how the pupils imagine the respective field or which professions can be found in the respective fields

## The 6 occupational areas of the TALENTBRÜCKE - Berufsinteressentest:

### Craft and technical area ( R )

People of this type like to work with their hands and with objects, they are interested in tools and machines. They like being outdoors and being physically active.

In the typical case, they are characterised by the following qualities: close to nature, down-to-earth, practical, healthy self-confidence and rather conservative.

Occupations that suit these people involve concrete objects that are worked on by hand or with tools. They often involve working with machines or technical equipment. Such occupations require manual dexterity and an understanding of technology. Some occupations also take place outdoors and require physical endurance. Some jobs in this field require good spatial awareness and mathematical understanding. Occupations in this field include tasks such as processing materials, assembling, designing, building and growing, investigating and measuring.

Occupational areas: Craft, technology, agriculture

Examples: Carpenter, mechanic, farmer, electrician

### Investigative-research area ( I )

People of this type like to delve into problems in the humanities or natural sciences. They like to analyse, investigate, learn, read, write and calculate.

In the typical case, they are characterised by the following qualities: curious, inventive, intellectual, accurate, logical, rational and achievement-oriented.

Careers that suit these people involve problems that are investigated using logical reasoning, new ideas, close observation and scientific methods. These professions require a high level of thinking ability and curiosity, as well as a willingness to delve into a subject area and learn a lot about it. Investigation and research can be done in any field of interest. Professions in this field often require patience and “perseverance” because the focus is often on dealing with relatively broad questions. Results can often only be achieved in small steps, but without losing sight of the overall goal.

Professional fields: Science, research.

Examples: Physicist, researcher, laboratory assistant



## Artistic-creative area ( A )

People of this type like to express themselves creatively or linguistically. They like to deal with unusual ideas, special materials, music or culture. Aesthetics are important to them.

In the typical case, they are characterised by the following qualities: imaginative, creative, expressive, intuitive, open, sensitive, unconventional, stubborn and idealistic.

Professions that suit these people are about artistic creation using materials, musical instruments or one's own body, according to the standards of aesthetics and perfection. These professions require high artistic, creative, musical or linguistic talent as well as tireless practice and improvement of artistic skills. Art, music, dance, theatre, creative writing can be created for their own sake as well as being used in various fields, such as event organisation or for educational or therapeutic purposes (e.g. music therapy).

Professional fields: Art, music, theatre, writing

Examples: Musician, actor, designer, writer

## Educational-care sector ( S )

People of this type enjoy helpfully caring for others. They educate, teach, advise, nurture, heal and provide for physical, mental or spiritual well-being.

In the typical case, they are characterised by the following qualities: friendly, helpful, warm-hearted, compassionate, understanding, sociable, idealistic and sometimes lecturing.

Occupations that fit these people are about helping others - caring for them, counselling them or training them. The focus is on mental, spiritual or physical well-being. These professions require a willingness to help, empathy and skillful interaction with fellow human beings.

There are very different professions in the field of education and care, which entail very different requirements. For example, in some caring professions physical resilience is necessary, whereas in other professions, such as educators, mental resilience is more important.

Professional fields: Education/school, counselling, health care.

Examples: Teacher, nurse, psychotherapist, social worker

## Leading-selling area ( E )

People of this type like to motivate, convince and lead, they manage and organise. They take care of economic planning and financial goals.

In the typical case, they are characterised by the following qualities: self-confident, motivated, engaging, success-oriented, ambitious, dominant, responsible and sociable.

Professions that fit these people are about economic goals, organising, managing and selling. You want to convince and motivate others (e.g. to buy a product or provide a service). Professions of this kind require economic thinking and a convincing manner, often also organisational and administrative skills. Professions in sales/distribution require strong communication skills to be able to advise and convince customers well.

Careers in management require the desire to bear a high level of responsibility and to lead employees. You should also have the proverbial "entrepreneurial spirit", which motivates you to commit yourself to a project in a committed and comprehensive way and to take certain risks in the process.

Professional fields: Management, Sales

Examples: Hotel manager, politician, salesperson, advertising agent

## Organising-managing area ( C )

People of this type like to work neatly, accurately and well organised in an office. They process, check and transmit figures or texts. Clear rules are important to them.

In the typical case, they are characterised by the following qualities: careful, accurate, detail-oriented, persistent, neat, practical, adapted, conscientious.

Jobs that suit these people are about dealing with numbers, data or information in an orderly and systematic way. The focus is on reliable execution, administration or accounting as well as good organisation and control.

There are many possible applications in this field, as every other occupational area also involves administrative activities. A combination with another field of interest is therefore eminently possible.

Occupational areas: Commercial, office and counter professions

Examples: Secretary, Commercial Clerk, Cashier, Correspondent

## The 6 occupational areas of the ITONBOARD - Occupational Interest Test are:

### Hardware development

Hardware developers are responsible for the development of devices. The term hardware includes everything that belongs to the technical equipment of a system, such as computer parts, modems or USB sticks. A distinction is made between installed and uninstalled hardware components: Built-in are, for example, the components of a smartphone, unbuilt are mouse and keyboard. Simply put, everything you can touch is hardware, while software is non-physical components.

To be able to work as a hardware developer, you need a university degree, for example in electrical engineering or natural sciences

No degree programme is aimed solely at hardware development, so you will always gain a lot of basic knowledge in the field of IT and should start early with further training in hardware. During your studies, you can specialise in telematics, hardware-software design or network and communication technology, for example. In addition to training and practical knowledge, you should bring the following with you:

- o Deep technical understanding and very good IT skills
- o confident handling of programming languages, operating systems, circuit design
- o Very good command of English
- o strong quality awareness
- o Independent, self-reliant way of working
- o Ability to work in a team
- o Flexibility and organisational skills

### Hardware administration

The main task of the hardware or system administrator is to manage and maintain the IT infrastructure. Compared to a technician, however, he/she does not lay cables or is responsible for setting up hardware but is almost exclusively concerned with ensuring that the devices communicate smoothly with each other or that user rights are distributed.

The tasks of an administrator within an IT landscape can be versatile or limited to a specific subject area. Whether the admin is an all-rounder or a specialist in a particular area often depends on the size of the IT landscape.

A system administrator, for example, is responsible for the administration of the IT system. He/she makes sure that access rights are correctly distributed, manages central storage or databases and must ensure that the software is up to date and that new tools are installed.

Network administrators manage email accounts, for example, and ensure that there is

an internet connection, and are also responsible for ensuring that devices communicate with each other without problems.

A server administrator is responsible for the operation of servers.

Regardless of whether you are a system administrator or a server administrator, both specialists and all-rounders must have basic knowledge. In any case, they must have a sound knowledge of operating systems. The necessary language skills are often underestimated. Every administrator should at least have a technical vocabulary in English, as not only are many commands in this language, but support from the manufacturer is often offered exclusively in English.

## Software development

Someone who works in software development is also called a backend developer. Backend developers develop systems, add enhancements and maintain existing systems and applications. In development and maintenance, they deal with the part of an application that runs in the background, i.e. invisible to users. The backend is often about processing data that is sent to the frontend.

The tasks of backend developers include, for example:

Analysing requirements, developing, designing, implementing and maintaining a system or application; implementing and programming systems and applications; testing systems and programmes; conducting customer meetings.

Backend developers need hard skills in the following areas, for example:

Good knowledge of HTML5, CSS3 and JavaScript; at least one programming language, e.g. PHP, Ruby on Rails, Node.js, Python, Java, C/C++; good handling of relational databases and SQL; knowledge of English

In addition, they need skills such as the ability to work in a team, creativity, organisational skills and analytical thinking.

## Creative area in IT: Development & Design

In the creative field in IT, one often speaks of frontend developer and frontend designer.

The job title Frontend Developer is derived from the technical term "Front End" and refers to the user interface of web-based applications. The front end is thus the part of an IT system that is closer to the user. Accordingly, frontend developers as programmers are primarily entrusted with developing web applications and constantly optimising the code used for this purpose. The focus is on enhancing the user experience with a website.

Frontend designers or web designers create and optimise websites.

They design websites and implement the desired "corporate design" of the client in terms of design and technology so that customers or their companies are represented realistically on the Internet. The creation of animations, graphics and layouts as well as the menu structure, chat function and voice control are among the tasks that a web designer must fulfil. The other activities of a web designer are:

Successful web designers as well as developers are communicative, approach new clients and constantly educate themselves in the fast-changing technical world. In addition to a sound technical knowledge of website design and a creative streak, some soft skills in close customer contact are also an advantage.

Knowledge of foreign languages is always an advantage. Especially in agencies that serve international clients, it may happen that consultancy services are booked in English or other foreign languages.

### Commercial area in IT: Marketing & Sales

IT salespeople are employed in the sale of software, such as communication solutions for companies or security software but also in the area of hardware for server systems, telephone systems or computers.

In general, the area of distribution primarily includes the sale of goods; the distribution of goods, also called logistics; and the maintenance of a manufacturer's relationships with the trade and the end customer.

People who work in this field often possess several of the following characteristics: motivating, persuasive, organised, self-confident, motivated, engaging, success-oriented, ambitious, communicative, responsible and outgoing.

Typical tasks in the commercial field include e.g. economic planning and achieving financial goals; organising and managing processes. It also involves convincing and motivating other people (e.g. to buy a product).

### Project management

Many modern companies now work on a project-oriented basis. Therefore, project managers are indispensable for the successful implementation of projects. Project managers lead projects and bear a great deal of responsibility. They coordinate the projects assigned to them in a company. They have to complete these projects with a budget allocated to them. They lead the teams responsible for implementation. Project managers monitor and regulate three essential phases in company projects.

These are: Idea and conception, planning and organisational implementation.

As part of the implementation process, project managers control and monitor the necessary resources such as funding, staff and time. Good project managers should have clear leadership skills. They are self-confident and present their proposals with conviction. They are confident and can assert themselves even in the face of resistance. In addition to these soft skills, a successful candidate needs the following abilities: Initiative, problem-solving ability, creativity, entrepreneurial thinking, ability to work in a team, communication skills, critical faculties, flexibility.

Project managers should be able to communicate clearly and concisely. They are well organised and coordinate the necessary tasks with deadlines. An awareness of potential problems and the ability to make contingency plans and respond to incidents are also characteristics of a good project manager. Project managers need good people skills to assess the performance and capabilities of the team.

### Development of sample occupations

- ✓ The pupils can write down and visualise their results on the following pages.
  - o This serves the reflection with the topic
- ✓ The individual values can be transferred from the result reports

### Next steps

- ✓ Introductory question to the class "What are the next steps now?"
- ✓ Find out about the professions on the internet
- ✓ Do an internship in one of the professions
- ✓ How do I get an internship?  
(Reference to voluntary internships during the holidays or also observation days)
- ✓ If applicable, briefly outline the application process: preparing a CV, formulating a covering letter, interview (what do you have to look out for?) etc.

### Closing

- Clarify open questions

Point values of the individual areas in the TALENTBRÜCKE - Berufsinteressentest:

R	
I	
A	
S	
E	
C	

I awarded the most points in the three areas:

1: Letter: \_\_\_\_

Field of interest: \_\_\_\_\_

2: Letter: \_\_\_\_

Field of interest: \_\_\_\_\_

3: Letter: \_\_\_\_

Field of interest: \_\_\_\_\_

I have found the following **example professions**:

What is there to do now?

How do I get an internship?

What do I look for in an application?





Scores of the individual areas in the ITONBOARD - Berufsinteressentest:

Hardware development	
Hardware administration	
Software development	
Creative area in IT: Development & Design	
Commercial area in IT: Marketing & Sales	
Project management	

I awarded the most points in the three areas:

1: Area of interest: \_\_\_\_\_

2: Area of interest: \_\_\_\_\_

3: Area of interest: \_\_\_\_\_

I have found the following example professions:

What is there to do now?

How do I get an internship?

What do I look for in an application?



## How students can find out more

The easiest way to find more detailed information on the areas of interest is to visit the website of the Employment Agency ("Arbeitsamt").

<http://berufenet.arbeitsagentur.de> (Select "Search for occupational fields" on the page below)

There you can select the occupational fields that match your areas of interest and thus find suitable occupations.

### In addition, the following pages provide further information:

- On the internet, for example, also on:
  - [www.planet-beruf.de](http://www.planet-beruf.de)
  - [www.berufe.tv](http://www.berufe.tv)
  - [www.beroobi.de](http://www.beroobi.de)
- Vocational Orientation Office at School (BOB)
- Vocational Information Centre (BIZ) of the Employment Agency
- Also interesting for IT professions: [www.itonboard.eu](http://www.itonboard.eu)

## Worksheets for e-learning courses

### Team 1: Backend Developer

#### 1. What is a Backend Developer?

---

---

---

---

#### 2. Which characteristics, skills and strengths are relevant for this?

---

---

---

---

3. How can you imagine your everyday working life?

---

---

---

---

4. Personally, I find the job as a backend developer exciting/not exciting because ...

---

---

---

---

5. I didn't know that before the research:

---

---

---

---

6. Are there any further training courses? /What other information did you find?

---

---

---

---

## Team 2: Frontend Designer

### 1. What is a frontend designer?

---

---

---

---

### 2. Which characteristics, skills and strengths are relevant for this?

---

---

---

---

3. How can you imagine your everyday working life?

---

---

---

---

4. Personally, I find the job as a frontend designer exciting/not exciting because ...

---

---

---

---



5. I didn't know that before the research:

---

---

---

---

6. Are there any further training courses? /What other information did you find?

---

---

---

---

## Team 3: Project Manager

### 1. What is a project manager?

---

---

---

---

### 2. Which characteristics, skills and strengths are relevant for this?

---

---

---

---

3. How can you imagine your everyday working life?

---

---

---

---

4. Personally, I find the job as a project manager exciting/not exciting because ...

---

---

---

---

5. I didn't know that before the research:

---

---

---

---

6. Are there any further training courses? /What other information did you find?

---

---

---

---

## Team 4: Various professions in the IT sector

### 1. What defines the professions in the IT sector?

---

---

---

---

### 2. Which characteristics, skills and strengths are relevant for this?

---

---

---

---

3. How can you imagine your everyday working life?

---

---

---

---

4. The following professions in the IT sector are exciting/not exciting because ...

---

---

---

---

5. I didn't know that before the research:

---

---

---

---

6. Are there any further training courses? /What other information did you find?

---

---

---

---

## E-learning course access for all classes

### [Class 9.1 https://itonboard.abzt.de/](https://itonboard.abzt.de/)

**Group: 1**

**E-mail:** abstracttechnologyservices+week01user1@gmail.com

**Username:** week01user1

**Password:** 01welcome1

**Group: 2**

**E-mail:** abstracttechnologyservices+week01user2@gmail.com

**Username:** week01user2

**Password:** 01welcome2

**Group: 3**

**E-mail:** abstracttechnologyservices+week01user3@gmail.com

**Username:** week01user3

**Password:** 01welcome3

**Group: 4**

**E-mail:** abstracttechnologyservices+week01user4@gmail.com

**Username:** week01user4

**Password:** 01welcome4

**Group: 5**

**E-mail:** abstracttechnologyservices+week01user5@gmail.com

**Username:** week01user5

**Password:** 01welcome5

**Group: 6**

**E-mail:** abstracttechnologyservices+week01user6@gmail.com

**Username:** week01user6

**Password:** 01welcome6

**Group: 7**

**E-mail:** abstracttechnologyservices+week01user7@gmail.com

**Username:** week01user7

**Password:** 01welcome7

**Group: 8**

**E-mail:** abstracttechnologyservices+week01user8@gmail.com

**Username:** week01user8

**Password:** 01welcome8

**Group: 9**

**E-mail:** abstracttechnologyservices+week01user9@gmail.com

**Username:** week01user9

**Password:** 01welcome9

**Group: 10**

**E-mail:** abstracttechnologyservices+week01user10@gmail.com

**Username:** week01user10

**Password:** 01welcome10



## Class 9.2

<https://itonboard.abzt.de/>

**Group:** 11  
**E-mail:** abstracttechnologyservices+week01user11@gmail.com  
**Username:** week01user11  
**Password:** 01welcome11

**Group:** 12  
**E-mail:** abstracttechnologyservices+week01user12@gmail.com  
**Username:** week01user12  
**Password:** 01welcome12

**Group:** 13  
**E-mail:** abstracttechnologyservices+week01user13@gmail.com  
**Username:** week01user13  
**Password:** 01welcome13

**Group:** 14  
**E-mail:** abstracttechnologyservices+week01user14@gmail.com  
**Username:** week01user14  
**Password:** 01welcome14

**Group:** 15  
**E-mail:** abstracttechnologyservices+week01user15@gmail.com  
**Username:** week01user15  
**Password:** 01welcome15

**Group:** 16  
**E-mail:** abstracttechnologyservices+week01user16@gmail.com  
**Username:** week01user16  
**Password:** 01welcome16

**Group:** 17  
**E-mail:** abstracttechnologyservices+week01user17@gmail.com  
**Username:** week01user17  
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**Group:** 18  
**E-mail:** abstracttechnologyservices+week01user18@gmail.com  
**Username:** week01user18  
**Password:** 01welcome18

**Group:** 19  
**E-mail:** abstracttechnologyservices+week01user19@gmail.com  
**Username:** week01user19  
**Password:** 01welcome19

**Group:** 20  
**E-mail:** abstracttechnologyservices+week01user20@gmail.com  
**Username:** week01user20  
**Password:** 01welcome20

## Class 9.3

<https://itonboard.abzt.de/>

**Group:** 21  
**E-mail:** abstracttechnologyservices+week01user21@gmail.com  
**Username:** week01user21  
**Password:** 01welcome21

**Group:** 22  
**E-mail:** abstracttechnologyservices+week01user22@gmail.com  
**Username:** week01user22  
**Password:** 01welcome22

**Group:** 23  
**E-mail:** abstracttechnologyservices+week01user23@gmail.com  
**Username:** week01user23  
**Password:** 01welcome23

**Group:** 24  
**E-mail:** abstracttechnologyservices+week01user24@gmail.com  
**Username:** week01user24  
**Password:** 01welcome24

**Group:** 25  
**E-mail:** abstracttechnologyservices+week01user25@gmail.com  
**Username:** week01user25  
**Password:** 01welcome25

**Group:** 26  
**E-mail:** abstracttechnologyservices+week01user26@gmail.com  
**Username:** week01user26  
**Password:** 01welcome26

**Group:** 27  
**E-mail:** abstracttechnologyservices+week01user27@gmail.com  
**Username:** week01user27  
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**Group:** 28  
**E-mail:** abstracttechnologyservices+week01user28@gmail.com  
**Username:** week01user28  
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**Group:** 29  
**E-mail:** abstracttechnologyservices+week01user29@gmail.com  
**Username:** week01user29  
**Password:** 01welcome29

**Group:** 30  
**E-mail:** abstracttechnologyservices+week01user30@gmail.com  
**Username:** week01user30  
**Password:** 01welcome30

## Class 9.4

<https://itonboard.abzt.de/>

**Group:** 31  
**E-mail:** abstracttechnologyservices+week01user31@gmail.com  
**Username:** week01user31  
**Password:** 01welcome31

**Group:** 32  
**E-mail:** abstracttechnologyservices+week01user32@gmail.com  
**Username:** week01user32  
**Password:** 01welcome32

**Group:** 33  
**E-mail:** abstracttechnologyservices+week01user33@gmail.com  
**Username:** week01user33  
**Password:** 01welcome33

**Group:** 34  
**E-mail:** abstracttechnologyservices+week01user34@gmail.com  
**Username:** week01user34  
**Password:** 01welcome34

**Group:** 35  
**E-mail:** abstracttechnologyservices+week01user35@gmail.com  
**Username:** week01user35  
**Password:** 01welcome35

**Group:** 36  
**E-mail:** abstracttechnologyservices+week01user36@gmail.com  
**Username:** week01user36  
**Password:** 01welcome36

**Group:** 37  
**E-mail:** abstracttechnologyservices+week01user37@gmail.com  
**Username:** week01user37  
**Password:** 01welcome37

**Group:** 38  
**E-mail:** abstracttechnologyservices+week01user38@gmail.com  
**Username:** week01user38  
**Password:** 01welcome38

**Group:** 39  
**E-mail:** abstracttechnologyservices+week01user39@gmail.com  
**Username:** week01user39  
**Password:** 01welcome39

**Group:** 40  
**E-mail:** abstracttechnologyservices+week01user40@gmail.com  
**Username:** week01user40  
**Password:** 01welcome40

## Class 9.5

<https://itonboard.abzt.de/>

**Group:** 41  
**E-mail:** abstracttechnologyservices+week01user41@gmail.com  
**Username:** week01user41  
**Password:** 01welcome41

**Group:** 42  
**E-mail:** abstracttechnologyservices+week01user42@gmail.com  
**Username:** week01user42  
**Password:** 01welcome42

**Group:** 43  
**E-mail:** abstracttechnologyservices+week01user43@gmail.com  
**Username:** week01user43  
**Password:** 01welcome43

**Group:** 44  
**E-mail:** abstracttechnologyservices+week01user44@gmail.com  
**Username:** week01user44  
**Password:** 01welcome44

**Group:** 45  
**E-mail:** abstracttechnologyservices+week01user45@gmail.com  
**Username:** week01user45  
**Password:** 01welcome45

**Group:** 46  
**E-mail:** abstracttechnologyservices+week01user46@gmail.com  
**Username:** week01user46  
**Password:** 01welcome46

**Group:** 47  
**E-mail:** abstracttechnologyservices+week01user47@gmail.com  
**Username:** week01user47  
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**Group:** 48  
**E-mail:** abstracttechnologyservices+week01user48@gmail.com  
**Username:** week01user48  
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**Group:** 49  
**E-mail:** abstracttechnologyservices+week01user49@gmail.com  
**Username:** week01user49  
**Password:** 01welcome49

**Group:** 50  
**E-mail:** abstracttechnologyservices+week01user50@gmail.com  
**Username:** week01user50  
**Password:** 01welcome50

## Class 9.6

<https://itonboard.abzt.de/>

**Group:** 51  
**E-mail:** abstracttechnologyservices+week01user51@gmail.com  
**Username:** week01user51  
**Password:** 01welcome51

**Group:** 52  
**E-mail:** abstracttechnologyservices+week01user52@gmail.com  
**Username:** week01user52  
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**Group:** 53  
**E-mail:** abstracttechnologyservices+week01user53@gmail.com  
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**Group:** 54  
**E-mail:** abstracttechnologyservices+week01user54@gmail.com  
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**Group:** 55  
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**Username:** week01user55  
**Password:** 01welcome55

**Group:** 56  
**E-mail:** abstracttechnologyservices+week01user56@gmail.com  
**Username:** week01user56  
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**Group:** 57  
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**Username:** week01user57  
**Password:** 01welcome57

**Group:** 58  
**E-mail:** abstracttechnologyservices+week01user58@gmail.com  
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**Group:** 59  
**E-mail:** abstracttechnologyservices+week01user59@gmail.com  
**Username:** week01user59  
**Password:** 01welcome59

**Group:** 60  
**E-mail:** abstracttechnologyservices+week01user60@gmail.com  
**Username:** week01user60  
**Password:** 01welcome60

## Class 9.7

<https://itonboard.abzt.de/>

**Group:** 61  
**E-mail:** abstracttechnologyservices+week01user61@gmail.com  
**Username:** week01user61  
**Password:** 01welcome61

**Group:** 62  
**E-mail:** abstracttechnologyservices+week01user62@gmail.com  
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**Group:** 63  
**E-mail:** abstracttechnologyservices+week01user63@gmail.com  
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**Group:** 64  
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**Username:** week01user64  
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**Username:** week01user65  
**Password:** 01welcome65

**Group:** 66  
**E-mail:** abstracttechnologyservices+week01user66@gmail.com  
**Username:** week01user66  
**Password:** 01welcome66

**Group:** 67  
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**Group:** 68  
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**Group:** 69  
**E-mail:** abstracttechnologyservices+week01user69@gmail.com  
**Username:** week01user69  
**Password:** 01welcome69

**Group:** 70  
**E-mail:** abstracttechnologyservices+week01user70@gmail.com  
**Username:** week01user70  
**Password:** 01welcome70

## Class 9.8

<https://itonboard.abzt.de/>

**Group:** 71  
**E-mail:** abstracttechnologyservices+week01user71@gmail.com  
**Username:** week01user71  
**Password:** 01welcome71

**Group:** 72  
**E-mail:** abstracttechnologyservices+week01user72@gmail.com  
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**Group:** 73  
**E-mail:** abstracttechnologyservices+week01user73@gmail.com  
**Username:** week01user73  
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**Group:** 74  
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**Group:** 75  
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**Group:** 76  
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**Group:** 77  
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**Group:** 78  
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**Group:** 79  
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**Group:** 80  
**E-mail:** abstracttechnologyservices+week01user80@gmail.com  
**Username:** week01user80  
**Password:** 01welcome80

## Documents Day 2



## Suggestions and ideas for projects

### 1. Climate protection

- Ecological footprint
- Changes in everyday life (meat consumption, CO2 emissions)
- Possible consequences in the future
- Mention of school projects



## 2. School dance

- Organisation of the celebration
  - Cost calculation
  - Rent a room
  - Sell tickets
- Organising actions to raise money
- Advertisements





### 3. Fundraising

- Fundraising run with the school class
  - Flood disaster
  - Corona
  - Schoolchildren in poorer countries
- "Deposit raising action at school"
- Food stall



4. Campaign against discrimination/racism/bullying in schools

- Racism
- Cyberbullying
- Discrimination



## Instructions for the Escape Game (English)

### Summary - The escape game at one glance

**Emilia Garcia, an independent IT consultant for schools, doesn't show up for a presentation in your school. Where is Emilia? What happened to her? Can the players solve a series of puzzles in time to find out about Emilia's whereabouts?**

"Finding Emilia" is an escape game to be used in vocational orientation for students from 12 to 16 years old. Within the game, typical knowledge and skills in web development can be experienced.

Grade level	Number of players	Game duration
Germany: grade 9 recommended. Other countries: ages 12 - 16.	10 - 30	Play time: 60 min  Debrief after the game: approx. 20-30 min

Material and technical setup
<p><b>The teacher provides:</b></p> <ul style="list-style-type: none"> <li>● one 4-digit <b>padlock</b> set to "6293" and <b>printout B</b> glued on it</li> <li>● 5 envelopes with a piece of paper in each of the envelopes containing play codes</li> <li>● <b>Printout A</b> for first puzzle</li> <li>● One notebook or desktop computer with internet access and sound output for presentation purposes, ideally with a beamer. This device will play videos, for example.</li> <li>● One device (notebook, tablet, desktop computer, smartphone) with internet access for game administration</li> <li>● One device (notebook or desktop computer) with a browser and internet access <b>per group</b> (= 5 devices)</li> </ul> <p><b>Players bring with them:</b></p> <ul style="list-style-type: none"> <li>● Paper and pencils for note-taking and scribbling</li> </ul>

Before playing in class
<ul style="list-style-type: none"> <li>● Sign up for a teacher's account: <a href="https://game.itonboard.eu/">https://game.itonboard.eu/</a> and start with the "Quick start guide".</li> <li>● Print and prepare the game material and the classroom.</li> <li>● At game day: <ul style="list-style-type: none"> <li>○ Open the presentation screen from the game control panel.</li> <li>○ Send your 5 groups to: <a href="https://game.itonboard.eu/play">https://game.itonboard.eu/play</a></li> </ul> </li> </ul>

## Teacher's guide

Within a given time limit of 60 minutes, five groups of players decrypt codes for (digital or real) locks with digital and real-life puzzles. The key to success in the game: good communication within the whole class and division of labour within the team. Most of the puzzles are digitally accessible. Only at the very beginning, there is one puzzle for which some analogue game material is needed.

This teacher's guide helps you set up and play the game:

### Teacher sign up

Teachers need an account in the game administration app in order to play the escape game in class. By contrast, students do not need any account or personal information in order to participate in the game.

Sign up

[https://game.itonboard.eu/sign\\_up](https://game.itonboard.eu/sign_up)

### Add your class

You may play the escape game with as many of your classes as you want. For every game you want to play with a class, you need to set up a new class first.

Use the button **CREATE NEW CLASS** on the page "**My classes**" in the game administration app.

You only need to enter a class name, the number of players and the student age range of your class. We don't need any personal information from your students to play the game.

The minimum number of students you need to play the game is 10. In this case, you have 5 groups with 2 students each. The maximum recommended number of students is approximately 30 so that you have 5 groups with 6 students in each group.

You may add your class (or even more than one class) in advance of game day. You do not need to decide in advance when you will play the escape game.

### Prepare some material

You need to prepare or buy the following material:

- Prepare 5 envelopes, write "Group A", "Group B", "Group C", "Group D", "Group E" on them and fill them with the appropriate sheets of paper with their group identifiers written on them. The group IDs are generated automatically when you set up a class. You will find them on the game control page and can print them from there.



- Prepare a bag (any bag is fine, backpack, briefcase, anything) which contains the 5 envelopes. Close the bag with a 4-digit padlock. Make sure the padlock combination is set to 6293.
- Please print the following pages:  
Printout A: **Download**  
Printout B: **Download**

### Set up the classroom

The story setting is a classroom in a school. So you may play the escape game in a normal classroom or any other area suitable for your specific group size. There are no special requirements concerning the look & feel. You do not need to decorate or arrange furniture except for the following simple steps:

- Place one laptop or desktop at the teacher's desk in front of your students. Ideally, this device is hooked up to a **beamer** so that its content can be seen from everywhere in the class. There will be videos with **sound** to be played at this screen. So make sure you have proper **audio equipment**.
- Place the **bag** with the **5 envelopes** at the teacher's desk in front of your class. Close the bag with the padlock. Cut our printout B to an appropriate size and glue it on the padlock.  
Be aware that students sometimes do not notice the bag. So make sure, the bag is in plain view for your students and can be easily noticed.
- Place **printout A** next to the backpack.
- Make sure there is enough space for 5 individual groups (Group A-E) to play at the same time, according to your overall class size. For example, if you have 30 students ("players") in your class, you will need space in the classroom for 5 groups with 6 students each. **Every group needs one laptop or desktop computer** with a browser and internet access to play the digital puzzles. We recommend using either Firefox or Chrome browsers. Microsoft Edge is not recommended, Internet Explorer is not supported.



## Inform your students

It is important that you organize the composition of the 5 groups already during the days ahead of the game so that at game day the 60-minute game may start right away without any further introduction or organizational work.

In order to immerse students into the story, your students should receive an introduction on the days before the game:

Tell your students that the game is about an independent IT consultant ("Emilia Garcia") who is supposed to come to your class and give a presentation and workshop about different facets of IT and job opportunities. This workshop is supposedly part of a career orientation program which is sponsored by the European Union.

There is an example announcement which you may use to introduce some important information to your students: [PDF-Download](#)

Also, ask your students to form 5 groups for the workshop. We recommend that you let them choose their groups so that you can build on already existing social groups within your class.

The groups will be named with the letters A-E so that the students know which group they belong to. At game day, the opening puzzles relate to the group names (e.g., an envelope labelled "Group A").

## Some advice you might want to tell your student's just before starting the game:

- You may find things which are needed by another group. Remember to communicate with all groups and players during the game. You will not succeed in this game if you do not share information and work together.
- Whenever you find something that looks like a password, write it down or take a photo. You might need it later.
- Do not open a second browser window with the same game. This might get you into trouble.
- If you close your browser window with the game by accident, you have to start from the beginning. There is no way of "fast-forwarding" to your last location.
- If by chance, a page in your browser somehow doesn't look right, please reload the page.
- Not all links and buttons which you encounter during the game are functional. Some are just for decoration :) If a button doesn't work, it doesn't mean that there is something wrong.



## Start the game from the game control panel

There is a game control panel to start and pause the game at game day. You may access the game control panel by clicking on "DETAILS & PLAY" on your "My Classes" overview page:

### My classes

CREATE NEW CLASS

Game ID	Class	Creation date	Status	Action
rw1yc9wl	Class 8	Mar 30, 2022 10:22 am	game in cut scene	DETAILS & PLAY
qf5l7ffo	Testtest	Mar 29, 2022 5:22 pm	game in progress	DETAILS & PLAY
pnb5ihwn	sgdfgsd	Feb 17, 2022 6:52 pm	game in video	DETAILS & PLAY
75xeaxe	OOO	Feb 15, 2022 10:29 am	game in video	DETAILS & PLAY

There are two important things to do before starting the game:

1. You need to open the **presentation screen** with the specific URL for your class, which is displayed on the game control panel.

Make sure the presentation screen is able to play videos with sound. The videos at the end of the game will start with "autoplay". You need to check your browser if autoplay is allowed.

Make sure that all of your students can see the screen.

**Play the video** on the presentation screen once your class is ready, and you started the game with the "start" button.

A second video will be played sometime during the game, when all groups reach the "final puzzle". You need to press the play button on the video to play it on the presentation screen. There is autoplay functionality for this video.

2. Direct your students to the **game frontend**. They need to open the following URL in their group device: <https://game.itonboard.eu/play>  
They will find their group identifiers (codes) on the post-its you placed in the 5 group envelopes in the backpack and can start the digital games by entering those codes. A code looks like this (just an example): rw1yc9wl\_A

## Your role during the game

Your role during the game is mostly to sit back and enjoy your student's excitement and experience. The game will unfold itself. But be prepared to support your students in case they are stuck with one of the puzzles. For every puzzle in the game, there are a number of hints which your students may access themselves in case they do not find the answer, get frustrated with the puzzle or lose too much time.

The hints are accessible via the **chatbot in the right bottom corner of your students screens**. Every puzzle has a help code which is displayed in the top left corner of your students screens.

qf5l7ffo\_E L1E

## help [puzzle code] hint1-4

For example:

help L1E hint1

or:

help L1E hint2

or:

help L1E hint3

Make sure your students work together towards one common goal.

Groups A to E should not compete with each other. They depend on each other to solve the puzzles.

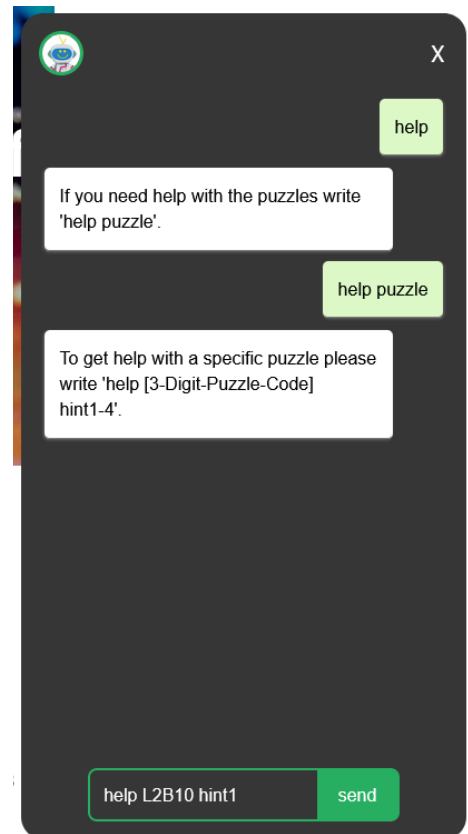
If one group is faster than another group, you may encourage them to support each other. The escape game can only be completed if all groups get to the final puzzle.

## Password overview and teacher's cheat sheet

You may download and print a list of login data and other useful information on how to solve the puzzles. This might be helpful in case your students are stuck with one of the puzzles during the game. This cheat sheet can be found on the pages "Puzzle demo", "Game control panel" as well as "Teacher's guide".

## Puzzle demo

You may test all the digital puzzles and the game flow yourself before playing them with your students. All necessary passwords and other login credentials are displayed when you enter the puzzles in demo mode from this page.



The puzzle demo mode can be accessed from the main menu in the game administration app. (Please sign up for teachers' account first)  
 You may also download and print a list of login data to all puzzles. This might be helpful in case your students are stuck with one of the puzzles during the game.

**Opening puzzle for all groups (offline)**

The opening puzzle is a simple "warm up" puzzle. Players need to printout A and decipher the symbols which are printed on the padlock. The combination of the padlock should be: 6293  
 Please have a look at the quick start guide for more information on the materials you need.

**Group A**

Code Styles and Secret Text Messages (D1)



Find encrypted files (E7.1)



T.I.M.s favorite color (D4)



Vault Puzzle 1 (K1)

**Group B**

Hex code to ASCII (E1.1)



Find a diagram on a cloud server (D7)



Konami code (E10)



Vault Puzzle 2 (K2)

**Group C**

Find password in source code (D2)



Find encrypted files (E7.2) and find information in e-mail (P10)



Vault Puzzle 3 (K3)

**Group D**

Sorting of wireframes - user journey (D5)



Work with a command-line interface (E2)



Caesar ciphers (E5)



Vault Puzzle 4 (K4)

**Group E**

To do list (P4)



Binary cipher and Freemasons cipher (E1.2 and P10)



Vault puzzle 5 (K5)

## Story

The following story will be communicated to the players in the beginning of the game and during the game. You as the organising teacher do not need to and should not tell them the whole story. Part of the fun in the game is a moment of surprise when something unexpected happens.

The story starts with Emilia's absence when she is supposed to have a workshop about job orientation with your class. In an introductory video at the beginning of the game, Emilia's digital assistant T.I.M. ("Totally Intelligent Mate") asks your students for help in finding Emilia. Your students gather clues and, while the game unfolds, get access to different "servers". Those "servers" range from Emilia's personal cloud storage to Emilia's company server up to a police server ("Interpol Evidence storage") and servers of a group called "Legion".

Emilia's artificial intelligence bot T.I.M. can be pretty helpful during the game. Your students will be able to communicate with T.I.M. with chat messages. If a puzzle is too complicated for your students, they can ask T.I.M. for help in the chat.

Digging a bit deeper than the initial puzzles, your students gather clues that Emilia is maybe followed by "Legion" and is therefore hiding somewhere. Legion might be a criminal group, and there are hints that there was a break-in to an important EU building for which Legion is responsible.

Completing the second level of puzzles, it will become clear that Emilia is an undercover agent for Interpol who is investigating within Legion:

At some point, your students separately find five videos within their puzzles. The videos show scenes from the criminal group Legion's next planned heist. Emilia hid these evidence videos behind puzzles, and she was apparently automatically notified when your students had opened the video files. It is then that T.I.M. reads an automated message from Emilia to your students, telling them this part of the story.

Game resolution:

Your students have to unlock all puzzles in order to find out what happened to Emilia.

There are two different outcomes of the story, depending on your student's speed.

Successful outcome: If your students resolve all puzzles within 60 minutes, your students will see a video message from Emilia thanking them for their help. She will explain in a video that she got a chance to look into who triggered her alarm by opening her puzzles and that it looks like it was only the students and not Legion as she had feared. So now she apparently does not need to be afraid of Legion, and it seems that her sudden escape has not been necessary. She explains that she tried to escape to an Interpol safe house in London but since it is not necessary anymore, she will just take a couple of days off.

Unsuccessful outcome: If your students do not resolve all puzzles within 60 minutes, your students will see a different video message on the presentation screen. In this video, T.I.M. is contacted by an Interpol agent named J. Smith. The agent explains that Interpol was made aware that her colleague Emilia was missing. But he doesn't seem to worry all that much, since Emilia is already known for "playing hide and seek" and for disappearing sometimes. But still, he says that Interpol will take over and start looking for her and the students don't need to worry.

### Debrief after the game

We recommend having students talk about the puzzles and share their experiences with each other. Then you might add to the conversation what you observed. Detailing times when you saw communication really fall apart, or when you thought students were on the same page, is a great way of having students understand where their strengths and gaps lie.

In our opinion, the escape game experience will be more successful with a powerful debrief. Right after the game, you should get feedback from your students about their game experience and their learning experience. Make sure to plan for at least 20-30 minutes for this debrief.

You may lead them through the debrief following these steps:

- Let your students explain the puzzles and ask them which ones went well and where they had trouble, and ask them why.
- Prepare a rating handout for them (or use our online rating tool [coming soon]) where they should self-reflect and rate their own key skills.
- Share your observations concerning key skills during the game. Tell them when you thought collaboration and communication among them was good or not good.

→ Please let your students give feedback about the game itself using the following form:

<https://game.itonboard.eu/feedback>

## Learning objectives

The escape game is a gamified approach to vocational orientation. The story is based in the "IT world", the open source idea, and all the puzzles have some relation to typical job situations or IT knowledge. The game concentrates on professions around user experience design, web development and IT project management.

The game should be a trigger for more in-depth information in later stages. We recommend that you follow up the game themes in another lesson.

The game intends to show the diversity of professional fields and give some practical examples. Furthermore, students should get an idea what is part of IT professions. By having a female hero in the game, the game tries to show some aspects of being a woman in IT.

Additionally, the game intends to foster self-information skills of the participants instead of presenting them pure job information.

As in most gamified Edu Breakout concepts, the so-called "4Cs" will be strengthened: communication, collaboration, creativity, critical thinking.

Within the ITONBOARD project, there are several follow-up tools you may use in class after playing the escape game:

- E-learning courses introducing IT professions (see <https://www.itonboard.eu/project-modules/e-learning>)
- a concept for organising a project week around the subject of IT professions (see <https://www.itonboard.eu/project-modules/project-week>)
- an Internship exchange platform (<https://www.itonboard.eu/project-modules/internship-exchange-platform>).

We also recommend that you let your students take the ITONBOARD interest assessment test before playing this escape game. This short online test will help your students to find out how much interest they already have in IT and in which areas of IT they are interested in. [Coming soon]

## Checklist

### Preparation 1-7 days before the game

I told my students the introductory story before the game (or sent them the announcement mail)

Students know to which group (A-E) they belong.

The game location (classroom or similar) is set.

Appropriate time slots for the game are set (approx. 90 minutes).

I bought or organised all the materials.

Printout, post-its and envelopes are ready.

### Preparation at game day

The presentation screen (beamer or other large screen) is ready.

Emilia's bag with padlock, envelopes and printouts are ready.

I tested the sound for the presentation screen.

## License & legal information

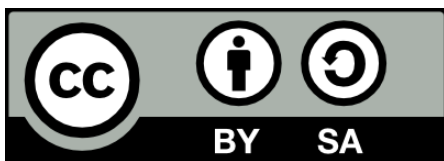
This game has been developed during the European ERASMUS+ project ITONBOARD. Its title stands for "IT community onboarding programme: vocational orientation for young people".

ITONBOARD introduces young people to IT career orientation possibilities with a focus on open source software communities. The onboarding programme extends from gamified career orientation activities to in-depth e-learning to facilitating the involvement of companies in a practical component.

More information: <https://www.itonboard.eu/>



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Erasmus+ Programme  
of the European Union



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## Contact

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[www.itonboard.eu](https://www.itonboard.eu)



## Documents Day 3

## How do I create a project plan?

**Task 1:** What is a project plan? Briefly create a project plan together using an example scenario.

- Building a house, baking a cake

### Project plan scheme:



Requirements and project goal: What are the requirements? What state should be achieved after the successful completion of the project?

Project scope: what a project involves and what factors are crucial for its success.

Process: Who, What, How, When, Where?

Results: What results are expected at the end of the project

Risk assessment: What risks could arise? How can they be prevented/ made less likely? How do you deal with it if a risk does happen?

Roles and responsibilities: Who takes on which task during the project?

Resources: Are there enough staff available (how many are needed)? Is there enough time? Is the budget sufficient? Are there enough materials and machines? ...

Deadlines: By what date must the project be completed?

Communication plan: When do team meetings take place? How is communication among each other done? Are intermediate goals discussed? Is there a daily briefing?

**Task 2: Create your own project plan.**

INDIVIDUAL STEPS	PROJECT PLAN
Requirements and project objective	
Project scope	
Process (Who, What, How, When, Where)	
Expected results	
Risk assessment	
Roles and responsibilities	
Resources	
Deadlines	
Communication plan	

## Documents Day 5

## Preparation of a pitch

**Task:** Prepare a pitch about the topic you have chosen. Keep in mind the points discussed and try to convince the rest of the students of your topic/subject.

### Small guide:

- Slide/Introduction
- The team
  - Who participated/ what role did they play?
- The problem
  - What problem does the website aim to solve
- The solution and the product
  - The solution to the problem by presenting the website
- The unique selling proposition
  - What makes this project special?
- The funding
  - How can this project be financed
- Your contact details

Pitch topics:

Water bottle	Backpack/Bag	Pen	Shoes
Blackboard	Mask	Apple	Cushion
Charging cable	Mobile phone	Jacket	Chocolate
Kerpen	Cologne	College notebook	Rubber bands
Cup	Chalk	Projector	Laptop
Socks	Eraser	Lighter	Table
Spoon	IT	Internet pages	Chairs
Clock	Rubbish bin	Batteries	Vase
Vase	Bicycle	Avocado	iPad
Helmet	Hair tie	Highlighter	Cushion

## Participant certificate

For \_\_\_\_\_, born on \_\_\_\_\_

ITonBoard is a project week designed around the theme of information technology. The aim of the project week is to introduce the pupils to professions in the IT sector at an early stage and in a playful way, so that a stereotype-free and practical career orientation can take place. During the project week, the pupils work towards creating their own website at the end.

Participation in the project week was voluntary and consisted of the following contents:

*Use of modern working techniques*  
*Coping with complex tasks*  
*Goal- and team-oriented action*  
*Ability to work in a team*

\_\_\_\_\_  
Date



**Lars-Rosario Scarpello**  
Managing Director



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