xin chào!

Lecture: Modern Project Management in ICT

Prof. Dr. Harald Wehnes

HUST, 09 Mar 2020
Agenda

1.1 The Lecture: Objectives and organisation
1.2 Team Building
1.3 Business plan
1.4 „Moonshot Thinking“ by Google
   ▪ Huge problems to solve
1.5 Creativity techniques
   ▪ Ideas for start-ups

Task 1: Three ideas for start-ups
1.1 THE LECTURE: OBJECTIVES AND ORGANISATION
The roots of the Julius Maximilian University of Wurzburg reach back as far as 1402. In that era, it was the sixth institution of higher education to be founded in the German-speaking regions of Europe, after the Universities of Prague, Vienna, Heidelberg, Cologne, and Erfurt. Many eminent scholars and scientists, 14 Nobel Laureates among them, have conducted research and taught in Wurzburg. Notable scientists include Wilhelm Conrad Röntgen, who discovered X-rays in Wurzburg in 1895, and Klaus von Klitzing, who discovered the Quantum-Hall Effect. Today, Wurzburg’s university comprises ten faculties with approximately 425 professors and 29,000 students.
Lecture Overview
Chair of Prof. Hoßfeld / Prof. Tran-Gia, University Wurzburg

Modern Project Management in ICT
About the Lecturer

1978: Doctoral degree from University of Giessen in numerical maths
2011: Honorary professor, department of computer science, University of Wurzburg

Business
management positions, project manager of big sized projects, project portfolio manager:
- University of Wuppertal
- Medis / GSF (German Research Centre for Environmental Health)
- Health Insurance, ICT
- 2008 price winner of the „German Project Excellence Award 2008“

Practical experiences

Teaching & Research
- University of Wuppertal, University of Applied Sciences Munich: Structured Programming
- University of Wurzburg, Chair of Communication Networks (Prof. Tran-Gia) “Professional Project Management in Practice” (since 2000)
- 2007: Certificate of "Competence of Excellence (CoE)"

Theory and methods
About the Lecturer: Actual activities

- Member of the Department of Computer Science, University of Wurzburg: Teaching & Research
- Member of GPM (German Association of Project Management), a network of 8,000 PM experts; GPM is a member of IPMA (International Project Management Association)
  - Member of the Executive board: 2012 – 2015
  - Project management in education
    - PM at Universities
    - PM at Schools
    - PMOs (project management offices) at Universities
    - PM for research projects
  - PM Forum (biggest project management congress in Europe, 1,000 participants): manager of the program committee – since 2012
- Professor Wehnes Consulting: ICT & Project Management – since 2013
Highlight 2018: Exhibition stand with the team products and an excursion to CeBIT 2018
International Project Excellence Award (Video)

Video Helsinki 2009

International Project Excellence Award
Munich (where the lecturer lives)
Go to www.menti.com and use the code 14 91 93

1. Grab your phone
2. Go to www.menti.com
3. Enter the code 14 91 93 and vote!
Motivation
Expectations
### Modern Project Management in ICT

**Your personal questionnaire today!**

<table>
<thead>
<tr>
<th>Experience in project work</th>
<th>Expectations</th>
<th>Motivation for your participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As a project manager</td>
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<tr>
<td>2. As a member of a project team</td>
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<tr>
<td>3. Experience in pm software (e.g. MS project)</td>
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<tr>
<td>2. App development</td>
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<tr>
<td>1. Website programming</td>
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</tbody>
</table>

**Please upload the questionnaire today!**

**Platform for the documents and templates of the lecture and for the upload:**

- 09.03.2020
- Scrum Guide - English
- Project roadmap viet-eng
- Questionnaire: Expectations
- Organisation and objectives of the lecture
- Brain Writing
- Upload: Task 1 Startup ideas

**Lecture "Modern Project Management in ICT"**

**Questionnaire "Motivation, Expectations, and Experiences"**

- # of the student list:

**Name:**
Project Management Market is Booming!

New Professions in Project Management

Source: http://www.arraspeople.co.uk/project-management-candidate-job-seeker-information/sectors-for-project-management-recruitment/public-sector-project-management-jobs/
Career Path of Project Managers

- Project Manager
- Senior Project Manager
- Programme Manager
- Project Portfolio Manager
- Junior Project Manager
Design of our Lecture

Theory, modern methods and techniques of professional project management in ICT

Examples & case study
Workshops
Tasks (daily)
Research Tasks

Start-up (new digital company)

Exam: Mar 19

Certificate
Mar 20

Presentations Start-ups Mar 18
### Design of our Lecture

<table>
<thead>
<tr>
<th>Theory, methods and techniques of professional project management in ICT:</th>
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</thead>
<tbody>
<tr>
<td>Business Plan</td>
</tr>
<tr>
<td>Project Environment and Stakeholder Management</td>
</tr>
<tr>
<td>Project Design</td>
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<tr>
<td>Project Initialisation, Project planning, Project implementation, Project Close-out</td>
</tr>
<tr>
<td>Project Monitoring and Control</td>
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<tr>
<td>Agile Project Management: Scrum, Kanban, Lean Startup</td>
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<tr>
<td>Project Management Tools</td>
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<td>Project Organization</td>
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<td>Project Marketing</td>
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<td>Risk Management</td>
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</table>

<table>
<thead>
<tr>
<th>Start-up (new internet company, app or IT service)</th>
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<td>Risk Management</td>
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</table>
Content of our Course

- Basics of Project Management
- Business Plan
- Agile Project Management: Scrum, Kanban, Lean Start-up
- Hybrid Project Management
- Project Environment and Stakeholder Management
- Project Objectives, Project Canvas, Project Charter
- Project Start-up, Project planning, Project implementation, Project Close-out
- Project Monitoring and Control
- Project Management Tools
- Communication Management, Project Marketing
- Project Organization
- Risk Management
- Quality Management
Objectives of the Lecture

✓ You know the fundamentals (methods, techniques) of modern project management in ICT
✓ You know how to start, design, plan, execute, control, and close out projects
✓ You know the critical success factors of projects
✓ You know the importance of stakeholder and communication management
✓ You have first experiences with a modern project management tool (Trello)

✓ You are motivated to get deeper into the field of project management (in ICT)
# Schedule

**Online** *(Room D08 – 502)*

<table>
<thead>
<tr>
<th>09.03</th>
<th>10.03</th>
<th>11.03</th>
<th>12.03</th>
<th>13.03</th>
<th>16.03.</th>
<th>17.03</th>
<th>18.03</th>
<th>19.03</th>
<th>20.03</th>
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<tbody>
<tr>
<td>Project work in teams</td>
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</table>
Final Presentation

Presentation by the team members
Total duration: < 15 minutes

Part 1: Presentation of the project management of your project

Part 2: Presentation of the project product (prototype)
  - Demo of the product (ppt or other format)
Platform for the documents and information of the lecture

Registration for **full** access to the platform

- Student: send an email to wehnes@informatik.uni-wuerzburg.de
- Lecturer: enrolls you
Platform for the Documents and Information of the Lecture

2020: Modern Project Management in ICT, HUST

Startseite > Meine Kurse > SS16_PPMP > Lecture "Modern Project Management in ICT", HUST, Hanoi, 2020

Allgemeines

News

Lecture "Modern Project Management in ICT", HUST, Hanoi, 2020

Platform for the documents and templates of the lecture and for the uploads of the solutions of the tasks

- Project roadmap viet-engl
- Scrum Guide - English
- Scrum Guide - Vietnamese

09.03.2020

https://wuecampus2.uni-wuerzburg.de/moodle/course/view.php?id=16293&section=1
Teams & Team projects

74 students – 12 teams
   10 teams with 6 members
   2 teams with 7 members
Every day: Change of the leadership: “Project manager of the day”

Team projects: Startup Projects
Team project „Start-up Company“

„Learning by doing“

Project manager (of the day): role with tasks and responsibilities
- Leadership and coordination of the team work
- Controlling of the results of the tasks
- Controlling the working progress
- If there are any problems or questions, please contact the lecturer and your class monitor immediately
- Presentation of results and experiences

Team member: role with tasks and responsibilities
- Working on WP schedule
- If there are any problems or questions, please contact the actual project manager of your team immediately
- Inform the project manager about your working results
Rules of our collaboration

► Ask questions!
► Be curious!

► Please
  ▪ Be on time
  ▪ Smartphones and other devices off
  ▪ No eating during the lecture
  ▪ No sleeping during the lecture

Make me happy by asking a lot of questions
Research Tasks: Project Management in Vietnam

1. Large-size historical projects in Hanoi (result, duration, costs)
2. Large-size actual projects in Hanoi (result, duration, costs)
3. Large-size historical projects in VN (result, duration, costs)
4. Large-size actual projects in VN (result, duration, costs)
5. Industry sectors where project management is applied in VN
6. VN portals with job offers for project managers
7. VN universities that offer project management (degree) courses for students
8. Books about project management in Vietnamese
9. Skills of project managers (analyze some pm job offers)
10. PM organizations and groups in VN
11. Tools for project work
12. Tools for virtual communication

Presentation of the results by the team members: 16 Mar 2020
Literature and Links


Free download: http://www.scrumguides.org/download.html
My personal Project „W@T (Work & Travel) 2020“

Project Objectives

W@T 2019

Functional objectives
- Excellent lecture at HUST
- Visiting famous locations in Vietnam & Indonesia

Time objectives
- 2 weeks: “work”: lecture
- 3 weeks: travel

Financial and cost objectives
- Affordable journey

Social objectives
- Participation of culture events
- Meeting nice people, new friends and partners
# Project phases and milestones W@T

<table>
<thead>
<tr>
<th>Phase</th>
<th>Jan 2020</th>
<th>Feb 2020</th>
<th>Mar 2020</th>
<th>Apr 2020</th>
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<tbody>
<tr>
<td>Preparations</td>
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<td>Travelling</td>
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<tr>
<td>Lecture</td>
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<td>Travelling</td>
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<td>Post-Processing</td>
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- **Departure MUC 28.02.2019**
- **Start of Lecture 09.03.2020**
- **Final Event 20.03.2020**
- **Arrival MUC 13.04.2020**
- **Project Closure 30.04.2020**
Break (up to 10:30)

Project managers of the day communicate with their teams to find a solution for team communication

Next steps

1. 10:30 Project managers of team 1 – 12 tell their solutions
2. We try to find the “best” solution for the teams

- Face book messenger: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
- Trello: 8
- [https://hangouts.google.com/](https://hangouts.google.com/) (Video call): 8
1.3 BUSINESS PLAN

*) The following slides are from a presentation of Dr. Christian Andersen, IGZ Wurzburg, 07.04.2014, University Wurzburg
Business plan must give the answer to three key questions

- What is the content of the business?
  - Description of the product and the **customer benefits**

- How is the business positioned?
  - Market environment and competition
  - Strategy for marketing and sales

- How is the implementation?
  - Business model, organization
  - Management and personal
  - Realization schedule
  - Opportunities and risks
  - Funding
### Why a business plan?

#### Top 5 Success factors of business Start-ups
- Secured funding
- Preparation and concept of establishment
- Specialist knowledge and expertise
- Self-confidence
- Personal engagement

#### Top 5 Failing factors of business Start-ups
1. Financial problems
2. Errors in planning and in the concept
3. Not enough qualifications
4. over-estimation of one's abilities
5. Missing engagement

*Quelle: Maisberger et al. 1998*
The Business plan has 9 + 1 components

- Executive Summary
- Product or service
- Market environment and competition
- Marketing and sales
- Business model, organization
- Management and personal
- Realization schedule
- Opportunities and risks
- Funding
- attachment

about 30 pages
Executive Summary

Objective

• Awake interest of the potential sponsor
• Communication of all key aspects of the company

Content

Invest enough time in the formulation!

The business plan is the business card of your company

• Brief summary of all the important aspects of the business plan
  • Product / service
  • Customer benefits
  • Relevant markets
  • Management competences
  • Development of the company
  • Funding
The Business idea

• **Product** idea:
  • Development of a material or immaterial product
  • The product brings new benefits

• **Service** idea:
  • Development of a service
  • The service provides new benefits

→ The idea becomes a business idea, if someone is willing to pay money for this
The user benefit has 3 dimensions:

- **Time**
- **Cost**
- **Quality**

- Clarify benefits!
- Quantify benefits!
Unique characteristics or Unique selling propositions (USP)

**Unique characteristic:**
My product is different from all others

**Unique selling propositions (USP):**
My product / my services offers a unique incentive to buy for my target group

- A "unique selling point", that can be used for advertising
- USP describes an outstanding feature of a product
- The addressed target group should thereby develop preferences for the advertised product.
- USP is a prerequisite for successful positioning of products
The uniqueness can be caused by …

- Technological
- Design
- Price
- ease of use
- quality / durability
- terms of time saving
- reachability (sales channel/location)
- the service
- the image
- …
USP Examples

► Apple: “1000 songs in your bag”
► Service: 24 h – 7 days a week – all year round
► Special features of the product that similar products of other producers don‘t have (these features are decisive to buy your product)
► IT Security: Google-Drive is a good tool; but a lot of people don‘t like their private data stored on US-server → national solutions with the same features
► Price: Best price guarantee
► References from famous customers
► Studies: “Based on scientific evidence …”
► Awards

Don’t be a grey mouse!
The Marketing Mix

What properties must the product / service have?

What is the best distribution for the product / service?

How do I communicate with my customers?

What price are my customers willing to pay for the product / service?
Use social media …
Business model
market-specific perspective

... How do I earn my money?
Competent and motivated teams are the prerequisites for the success of the foundation.
Example of a realization plan
Types of funding: Overview

Types of funding

Internal funding

External funding

Equity

Debt financing

Grants

Profits

Investments

Stocks

Loans

Bonds

Local

Regional

EU

Different types are used for a good financing!
Project management delivers many components of the business plan …

… and controls the realization of the business plan.
1.4 MOONSHOT THINKING*

*) The following slides are mainly from a presentation of Michael Korbacher, Google, 07.04.2014, University Wurzburg
The Google Road To Innovation

Michael Korbacher
Country Manager Google Enterprise DACH & CEE

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Trends...

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Modern Project Management in ICT

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Modern Project Management in ICT

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Moonshot Thinking

Not improve by 10%, but by 10X

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Examples of Google Moonshots

Self-driving car
a robotic vehicle that is designed to travel between destinations without a human operator

Google glass
a wearable, voice-controlled device that resembles a pair of eyeglasses and displays information directly in the user’s field of vision
Principles

1. Focus on the user
2. Innovation is not Perfection
3. Being fast is Better

Launch fast and Iterate...

“Big will not beat small anymore. It will be fast beating slow.”

Rupert Murdoch

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Principles

4. Ideas come from everywhere
5. Share and collaborate
6. Data beats Politics

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Principles

7. Develop Ideas, Don’t kill them

8. Allow Errors

9. Freedom to Passion

Source: M. Korbacher: The Digital Road To Innovation, 7.8.2014, Wurzburg
Make your moon shot!

**Moonshot Thinking**

**Steps**
1. Address a huge problem to solve (define it clearly)
2. Propose a radical solution to fix the problem
3. Use breakthrough technology (often: stepwise realization)

*The biggest problems are the biggest opportunities*
Examples

- **Huge problem**: in the world: people are killed or injured by car accidents
  - **Solution**: self-driving cars

- **Huge problem**: You often need further information
  - **Solution**: Eyeglasses that display information directly in the user's field of vision

- **Huge problem**: special diseases
  - **Solution**: life-saving contact lens (Beat diabetes)

- **Huge problem**: no internet in areas where only a few people live
  - **Solution**: high-altitude balloons to cast internet (project loon)
Workshop I

1. Find 3 huge problems (in your city, country or in the world) to solve!

2. What is the biggest of them?

Time: 10 minutes

11:45 Results are presented and discussed in the plenum
Workshop I: Results

- 1. nCovid
- 2. Pollution
- 3. Pollution
- 4. nCovid
- 5. Traffic accidents
- 6. Pollution
- 7. nCovid
- 8. Pollution
- 9. Pollution
- 10. nCovid
- 11. Disease Control
- 12. Pollution
Workshop I: Results

Dimension of the problem: huge, high, middle, low

Regional scale of the problem: personal, city, country, worldwide

- 4. Covid
- 3. Pollution
- 5. Traffic accidents
- 10. Covid
- 11. Disease Control
- 12. Pollution

Modern Project Management in ICT
Find a radical solution for the hugest (biggest) problem your team has recognized

Time: 15 minutes
**Workshop II: Results**

Team5 (Hiệu Trần Thành): Our biggest problem that my team has recognized is traffic accidents. Most of the traffic accidents in Vietnam are made by drunk drivers and the lacking of awareness of road users. So we have a radical solution for that problem is increase the level of fines and actively propagate and educate people about the awareness when participating in traffic.

Team #6 (Kien162234): The control of the emission of various contaminants into the environment which brings down the level of the pollution is done by various updated methods. The various technologies which control the pollution are Bioremediation laser methods, chemical methods, nanotechnology etc. Phytoremediation is a way to mitigate environment pollutions, such as in air, water and soil pollution in virtue of plants, more often than not, combined with their associated microorganisms. This concept has been widely applied to treat pollutants in soil and water. Vapour recovery is the process of recovering the vapours of gasoline or other fuels, so that they do not escape into the atmosphere.
Workshop II: Results

Team #4 **Tharika Gimhani**: Our biggest problem is nCovid. We think the best way we can do is that don't panic and stay calm while government manage the present situation. As well as be responsible people who follow all the safety precautions as instructions.

Team #10 **Van Sy Le**: Today, nCovid disease is happening complicatedly. Along with that is the fear of people who do not dare to face this disease. We have come up with some disarmament to help people feel more comfortable with disease prevention and treatment.

#team 3 **Dung Chan**: Our biggest problem is nCovid. Radical solution for covid-19: self-isolate at home, using dry handwashing and medical mask. Contact the healthcare center if you feel sick or come from place have people infected. Keep ourself save is a effective way to keep our country save.

TEAM #8 **Phuc Pham 20176656**: The biggest problem of my team is air polution. And we also found a radical solution: AIR PURIFIER FOR THE TREE. This method is about creating a new device which can improve the function of tree.
Trịnh Thành
Team #11: Our biggest problem is disease control. We think all the people need to follow the information of government and if they have any signal or feeling not good, they should call the doctor and have an isolate method to control the disease.

Đặng Anh
Team #1: The critical problem of my team is Covid-19. It has a very fast spread, so what we need the most is how we can reach the information about the disease as soon as possible. So that, I think that a portal about the disease should be operated, with the online ways for people to submit their situation to the government, so that they can control the disease and prevent it from spreading.

Cong Trần
Team #2: For our biggest problem which is sea pollution, we could have a long barrier around a central object such as a floating tank. The barrier has a solid "perimeter" which block the trash but not gets the fishes stuck. The trash will be collected by people and recycled.
1.5 CREATIVITY TECHNIQUES
Problem: How can you combine the 9 points with 4 straight lines without dropping the pencil?

Limits are in the head
The strokes are limited by the square

Solution: Avoid the self-set limits in your mind

Creativity by overcoming self-set limits
1. Decompose the L-shaped area in 4 areas of the same size

2. Form 4 equilateral triangles with the 6 matches
Creativity Techniques (Overview)

Source: http://upload.wikimedia.org/wikiversity/en/1/1a/45_Creativity-Methods.png
Brainstorming

First and well-known creativity method (Osborn, 1957)

Rules

- Focus on quantity
  “The best way to get a good idea is to create a lot of ideas.”
- No criticism or validation of ideas
- Unusual ideas (lateral thinking!) are welcome
- Combine, mutate and improve ideas
- Documentation of results

Procedure

- 4-8 participants + moderator/facilitator
- Board or flip chart for proposals
- Open, cosy atmosphere
- Idea generation: app. 15 – 20 minutes – then break
- Idea selection: app. 30 – 40 minutes
Brainstorming in the sense of “Moonshot Thinking”

▶ Try to imagine yourself in the future with the ideal solution . . .
  ▶ Forget about technical feasibility

▶ Remember:
  • In the future, anything is possible
  • Dare to change the rules
  • Best solutions are sometimes contrary to conventional wisdom
Brainwriting (6-3-5 Method)

Written form of brainstorming (Prof. Bernd Rohrbach, 1968)

Procedure
- Each team member gets an idea-form with three boxes
- 6 participants write down
- 3 ideas and these ideas are written down
- 5 minutes apart
- Reading ideas and complementing them by 3 new ideas
- After 30 minutes: max. 108 ideas

Pro
- Solutions more sophisticated compared to brainstorming
- Critical ideas easier to write
- Active participation by all participants
## Brainwriting form

### Brainwriting

**Problem: Ideas for a Start-up**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Idea 1</th>
<th>Idea 2</th>
<th>Idea 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>![Light Bulb]</td>
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<td>5.</td>
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<td>6.</td>
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Date: 09.03.2020
### Example: Brainwriting

**Problem:** Ideas for a Start-up

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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Idea 1.1</td>
<td>Idea 1.2</td>
<td>Idea 1.3</td>
</tr>
<tr>
<td>2.</td>
<td>Idea 2.1 = improvement</td>
<td>Idea 2.2 = a combination of Idea 1.2 + Idea 1.3</td>
<td>Idea 2.3 = a new idea</td>
</tr>
<tr>
<td></td>
<td>of Idea 1.1</td>
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<td>3.</td>
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Workshop: Brainwriting

Task: Develop ideas for a Start-up with your team

1. Download the Brain Writing template
2. Fill out the first line (5 minutes) and send the template to the next member of your team (x.1 → x.2, x.2 → x.3, x.3 → x.4, x.4 → x.5 ....)
3. Fill out the second line (5 minutes) and send the template to the next member of your team (x.1 → x.2, x.2 → x.3, x.3 → x.4, x.4 → x.5 ....)
4. Continue up to the template is complete
Mind Mapping

Visualisation technique (Buzan, 1974)

Example:

Source: https://leadershipchamps.wordpress.com/project-management-mind-maps
Homework: Task 1

Each team develops **3 ideas for digital Start-ups**

- Upload the solutions (**Team_x-Task_1.pptx**) to the portal
- Presentation by the project managers of day 1 tomorrow morning (Duration: < 3 min)

**REALIZE YOUR DREAM**
Projects 2017 and 2018

2017
1. Transport mobile app
2. AR Glasses
3. Dating app
4. Online School
5. Online Tutor Network
6. Dating website
7. Sport trainer network
8. Smarthome app

2018
1. EZtalk - Translating app
2. Traffic Management app
3. Laundry service tracking app
4. Food safety device and app
5. Remotely control household appliances
6. AUDIO BOOKS FOR BLIND PEOPLE
7. Job finding application
8. STREET VENDOR APPLICATION
9. Hotel Online for Backpackers
10. SMART HOME APP