

**Teacher  
slides**

# Becoming A Digital Global Engineer



**B A D G E**

# Activity 1: Throw the ball



## STEP 1

Everyone in the room forms a circle.

## STEP 2

When you catch the ball, say your name out loud.

## STEP 3

Throw the ball to another person who did not have the ball yet.

# Activity 1: Where in the world?



You have two minutes to think of three clues that describe, but do not give away, either the country you are from (OR) your favourite foreign place you have visited or dream of visiting.



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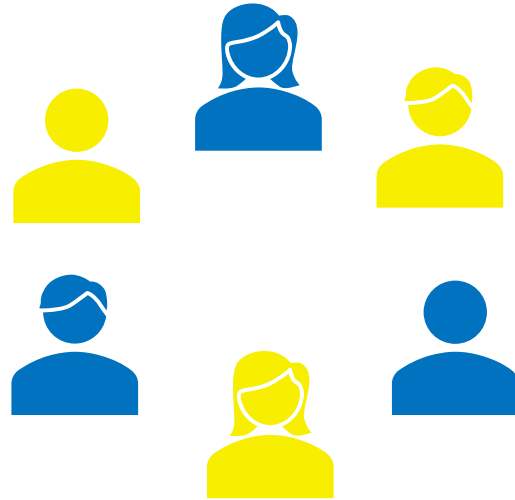
Political Map of the World, April 2005



# Activity 2: “Good” teamwork



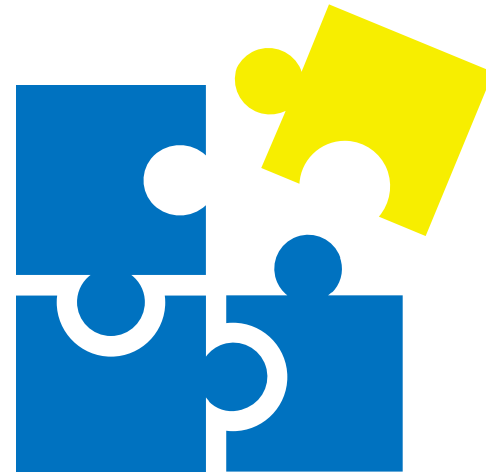
In small groups, brainstorm, generate and capture your ideas on what are the principles of being a ‘good team member.’ When finished, each group will be asked to present their findings.



# Activity 3: Team allocation and collaboration tools



**Brainstorm:** What online collaboration tools are you familiar with?



# Activity 4: Personal values and strengths



There is a strong correlation between your personal values and strengths you bring into your team. In this activity you will

- ✓ *Reflect on your values*
- ✓ *Reflect on your strengths as a team member*
- ✓ *Start developing your team culture*

# Activity 5: Concept of “challenge”



Find synonyms  
to “challenge”?

challenge

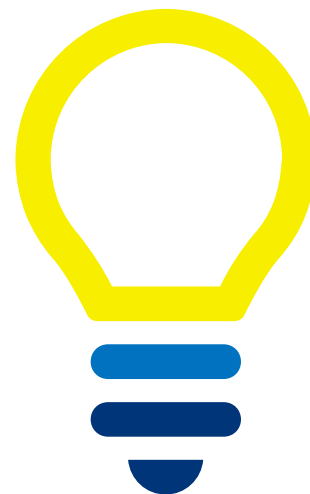


# Activity 5: Concept of “challenge”



Think of challenges in different perspectives considering:

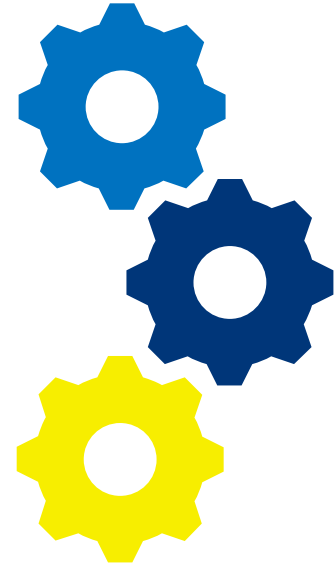
1. Time (daily/ weekly/ ... )
2. Scale (individual/ family/ work/ communities/ world)
3. Life stages (toddler/ child/ young adult)



# Activity 5: Concept of “challenge”



How do you define challenge? Can you give an example of a challenge you've overcome? How did you address it? How did it change you as an individual?



# Activity 6: What challenge?



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In your group, **have a discussion** on different goals (taken eg. from sustainable goals) and **select** the one closest to your major or your general interests. Be prepared to **report** on the decision process they used (brainstorming, shortlisting, convincing/arguing)



# Activity 7: What challenge?



In your group, **identify and choose** one of the most relevant environmental / societal challenges and present your findings using a collaboration tool of your choice.



# Activity 8: Defining users?



Once your target group has been defined, **think about** how you will **access** it (e.g. questionnaires, interviews, field observation, etc.), and how practical it will be if done online. You will share their thoughts and results with the class.



# Activity 9: Interview questions



(depends on the option and highly customized)

# Activity 10: Designing questions



In your team, **design** a set of questions relevant for your challenge and target group.







**Ideate**

# Activity 1: Warm up / creativity training



The warm up is a fun and creativity-boosting activity not requiring any preparation. The goal is to push the limits of students' creativity so that they get ready for the upcoming tasks and get acquainted with their mock companies better. Two exemplary activities are suggested:

**Option 1: The paperclip method**, a brainstorming task for potential uses of a paperclip, that boosts creativity and also points out the benefits of teamwork.

**Option 2: Brainstorm cards** help to set students in a direction that is solution-oriented, optimistic and collaborative.

[Paperclip method](#)

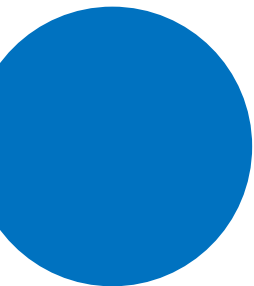
The Revolut logo is the word "Revolut" in a bold, blue, rounded font with a white outline and a slight drop shadow.

**WHAT IF**

**Your product was  
designed to only be  
used once?**

Imagine you throw away your product after using it once. Could your product be valuable for one use only? Revolut creates one-time credit card details for online purchases on websites you don't entirely trust.

[Examples of Brainstorm cards](#)



# Activity 2: Teamwork through ideational techniques



This part revolves around (cultural) factors affecting the teamwork experience, and aims to help students in developing (self-)awareness of such factors and resulting behaviors, as well as approaches for creating good teamwork environments. Two exemplary activities are suggested:

**Option 1: Case studies** to illustrate and analyse teamwork situations at the workplace.

**Option 2: Discussion of behavioral dimensions** potentially affecting teamwork, including reflections of others' and own behaviors, and approaches for creating positive teamwork environments.

An example of a case:

[Behavioral dimensions according to Hofstede](#)  
[Impact of Working Environment on Job Satisfaction](#)

# Activity 3: Brainstorming clients' needs / identifying problems

Students should try to **identify** a mock client's needs through **brainstorming**. This is a creative and concentrated process; students should be provided with an environment that facilitates free, open, and the non-judgemental sharing of ideas. The activity consists of two parts, which can be merged into one.

## Part 1. How might we?

**HOW**

- WE DON'T KNOW THE SOLUTION IN ADVANCE
- OPEN-MINDED
- DIVERGENT

**MIGHT**

- THERE IS NO "ONE RIGHT SOLUTION"
- WE ARE HERE TO GENERATE LOTS OF IDEAS

**WE**

- COLLABORATIVE TEAMWORK

**PROBLEM DEFINITION**

THERE ARE DIFFERENT TEMPLATES AND PHRASES, E.G.:

- PROBLEM STATEMENT
- PART OF NEW/OLD STATEMENT
- USER NEED STATEMENT
- INSIGHT STATEMENT

BASED ON INSIGHTS, NOT ASSUMPTIONS

**THE STATEMENT SHOULD CONTAIN:**

- WHO THE USER / TARGET AUDIENCE IS (SUPPORT-CENTRED, NOT PRODUCT-CENTRED)
- USER NEED (ONE A SPECIFIC SOLUTION)
- ACTION/GOAL/PURPOSE

• YOU CAN ADD CONTEXT, DESIGN CRITERIA, CONSTRAINTS, OBSTACLES

**ONE POSSIBLE TEMPLATE:**

**USER** NEEDS TO **REASON / INSIGHT**

BASED ON THESE WE CAN FORMULATE HMW QUESTIONS

E.G. DURING A WINTER WALK

**EXAMPLE HMWs**

- TOO BOARD
- TOO DARK
- TOO HEAVY

**A GOOD HMW**

- ✓ RESEARCH-BASED
- ✓ FRAMED IN A WAY THAT SUPPORTS IDEATION
- ✓ PALMS FOR MULTIPLE IDEAS
- ✓ NOT TOO NARROW (E.G. IT IS NOT ABOUT A CERTAIN SOLUTION)
- ✓ NOT TOO BROAD - YOU NEED SOME MEANINGFUL STARTING POINTS

## Part 2. Storyboarding

**STORYBOARD**

**PERSONA:** CORPORATE BLUNDER, JAMES

**SCENARIO:** REPLENISH OFFICE SUPPLIES

**WE NEED MORE POST-ITS**

- MAKES NOTE OF SUPPLIES NEEDED ON CLIPBOARD
- PHYSICAL INVENTORY

**JAMES'S DESK**

- SELECTS ITEMS FROM FAVORITES LIST
- USES DESKTOP + SUPPLY LIST AS TOOL

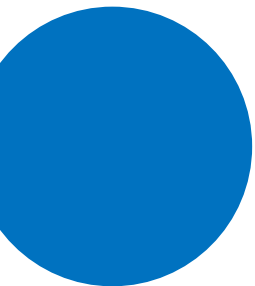
**SUCCESS!**

- RECEIVES SHIPMENT WINDOW
- ORDER SUBMISSION
- SETS PLAN FOR RESTOCK

*A storyboard doesn't have to be complicated or high-fidelity. Simple visuals and a basic, but specific scenario will be memorable for your team and stakeholders.*

## Storyboarding

## How might we?



# Activity 4: Collecting and refining ideas



This activity begins after the students generate and structure their ideas, it is time for collecting and refining the most suitable ones. The activity helps to make connections between ideas that will help students uncover patterns or themes.

Structuring can be done through an Affinity diagram, a great tool that gathers large amounts of data (ideas, opinions and issues) and organizes them into groupings based on their natural relationships.

[Affinity diagram](#)

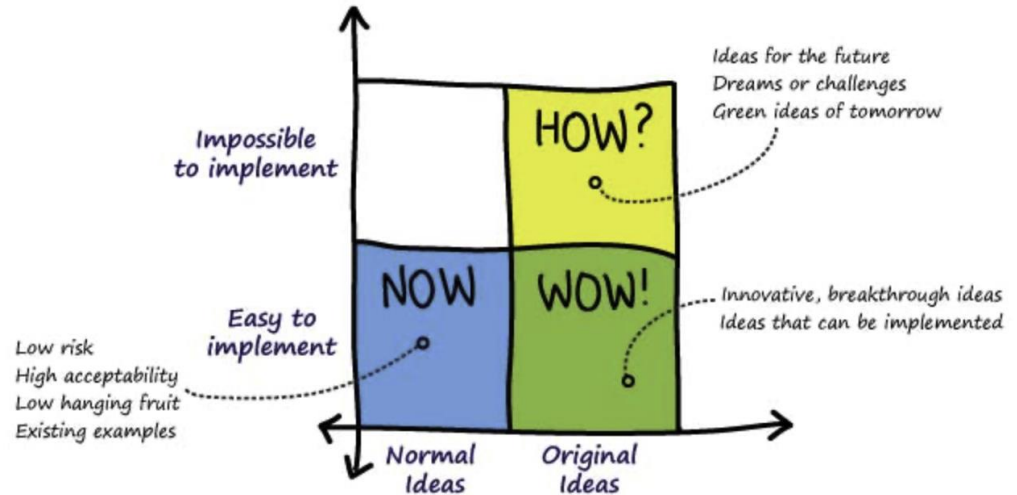


# Activity 5: Choosing the best idea



The final step of ideation is to **finalize** the gathered and refined ideas and **rank** them according to the client X criteria.

Once students finish brainstorming and categorizing, they can start narrowing down to the best idea, solution, or strategy. The so-called *post voting method* allows them voting and expressing their opinion towards the best given ideas.

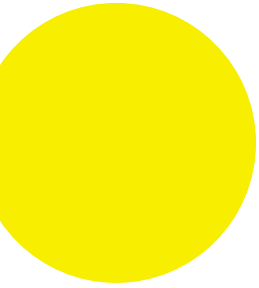


[How Now Wow](#)



**Prototype and test**

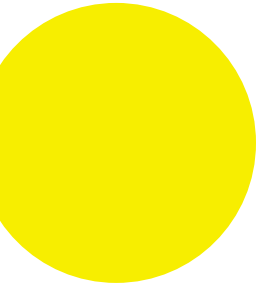




## **Activity 1:** Cultural knowledge about target markets and communities



The following are the warm up exercises which could be done after all the stages of design thinking. Students finally have the necessary skills to prototype the actual product and test it in the market. These warm up activities give students the opportunity to understand the market and recognize the needs of a regular consumer, later offering them a (potentially) tangible and plausible solution.



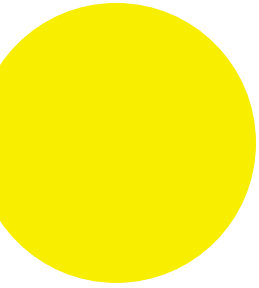
## Activity 2: Pitching



### Monroe's speech

Monroe's speech is a technique for organizing persuasive speech. The technique consists of 5 steps. Following the steps the students would gain the skills of public speaking and persuasion.

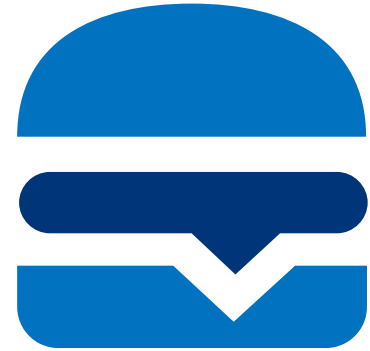


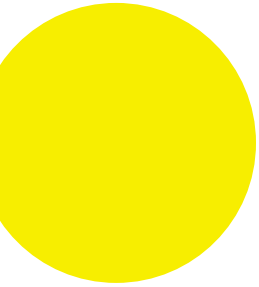


## Activity 2: Pitching



**The hamburger method** is a method of constructive criticism. This is a way to give your feedback in a polite and constructive way, to help the others to improve their ideas without getting offended. The key principle of a hamburger method is to criticize including initial and final complementing.





## Activity 3: Attending meetings with real life professionals

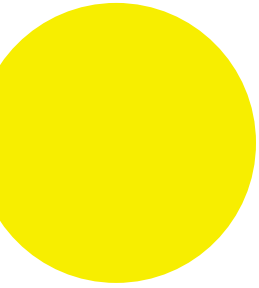


### Option 1

A few professionals are invited to the lectures. **A roundtable discussion** could be organized. The professionals from different fields could be invited (academic staff, entrepreneurs, employees of some global companies, researchers, business market experts, etc.)

### Option 2 Preparing and conducting interviews

Students are analyzing the market. They have to choose a public figure, a professional in their field. The students are asked to prepare a questionnaire for an interview with the famous personality. Later on, 1 of the public figures could be invited to join the lecture or the best interview could be sent by e-mail to the actual person.

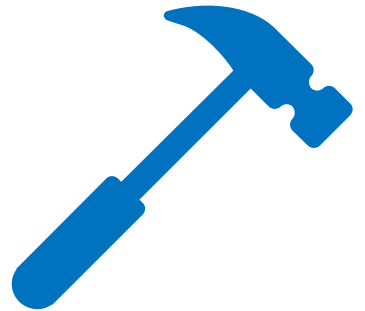


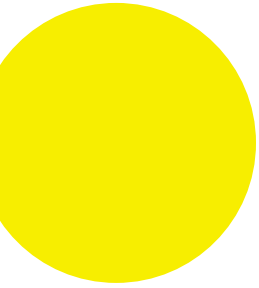
## Activity 4: Creating a prototype



### Lego structure copy

The students are working in small groups of 3 or 4. The same amount of Lego's bricks is given to each group. Each group has the same amount of bricks, identical in its form. The students are choosing the roles inside the groups: the leader, the architect, the journalist, etc. The journalist sees the building made out of the bricks. He/she describes it to the leader. The architect is asked to build the identical figure according to his/her leader's explanations.





## Activity 5: Pitching to business agels



A simulation of a start-up fair could be organized. A few well-known entrepreneurs, students from other groups, academic staff members could be invited for a discussion. The students are asked to present their business idea and to present it in a short period of time.

