

# Internet services and applications (practice)


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Home project teamwork

# Course on Google Classroom (experimental)

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INVITE TEACHERS

## Internet services and applications (2017)


MSc course in Computer/Electrical Engineering at BME VIK

Add class materials...

### Lecture 1 slides (04SEP)

-  2017-09-04-ENG-vitmma04.pptx  
PowerPoint

### Course homepage

-  Internet services and applications (2017) | Department of Telecommunications and Media Inform...  
<https://www.tmit.bme.hu/vitmma04-2017eng?language=en>



# Internet services and applications – 2017

- Practices: Every 2nd Thursday 14:15-16:00 (IB145)
- Requirements:
  - Requirements:
    - During the semester: Accomplishing the **Home Project Teamwork**.  
(Project result can influence the final grade for the course by 40% maximum)
    - Exam: in exam period
  - **Home Project Work fulfilment is only possible \*before\* the exam period starts.**
- Homepage: **<http://www.tmit.bme.hu/vitmma04-2017eng>**

# Home Project Teamwork

- **Goal:**

- „... students will learn about the service design and development cycle and will gain **experience in creating new services and applications.**”

- **Practices:**

- Students implement a **project task in groups** (2-4 pers.) during the semester.
- **week 1:** *Task assignments.*
- **week 3:** *High level description and design of services (specification, system architecture, schedule)*
- **week 7-9:** *Midterm checkpoint.*
- **week 11-13:** *Demos and presentations*

# Internet services and applications – workload

- **Expected work**

Lectures	42
Preparations for the lectures	14
Preparation for test(s)	
<b>Home Project Work</b>	<b>36</b>
Given course material	
Preparing for exam	28
Total	120

- *Approx. **100+ working hours** for groups of 3 people*

# Task: Service creation

- Creating and implementing\* a new service\* ,
- with strong emphasis on technological/networking details
  
- Presentation:
  - **Demonstration**, preferably with a working service/application prototype
  - **1-minute promotional video**

\* *Implementation* = Implementing **some of the key components** of the chosen service, together with a **detailed system plan** that explains thoroughly the **chosen technologies** and solutions, that would make the actual implementation straightforward.

# Guidelines

- Goal: To create (and possibly implement) a service that meets the expectations and **satisfies real user demands**.
- Surveying the demands could be a significant part of the work.
- The planned service **ideas will be evaluated already on on week 3**.
- The **midterm review** will evaluate the ongoing work on weeks 7-9. The **evaluation will be performed by you (fellow students)**.
- The implementation details (e.g., platform, programming language, methodology) are not restricted, and can be chosen freely (i.e., it is part of the project work).
- The final demonstration has to „**sell the product**” at the end! 😊

# Guidelines (cont'd)

- Important remark:

The detailed specification is part of the task, the final concept can be different from the initial idea. (see *Design Thinking*)



# Service creation

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# Service creation steps („classic”)

## 1. Service concept creation

- from high level description down to detailed requirements lists.

## 2. Service logic creation

- Design and specify service functions;
- Specify necessary data structures;
- Define messaging between components;
- Modeling the user interface.

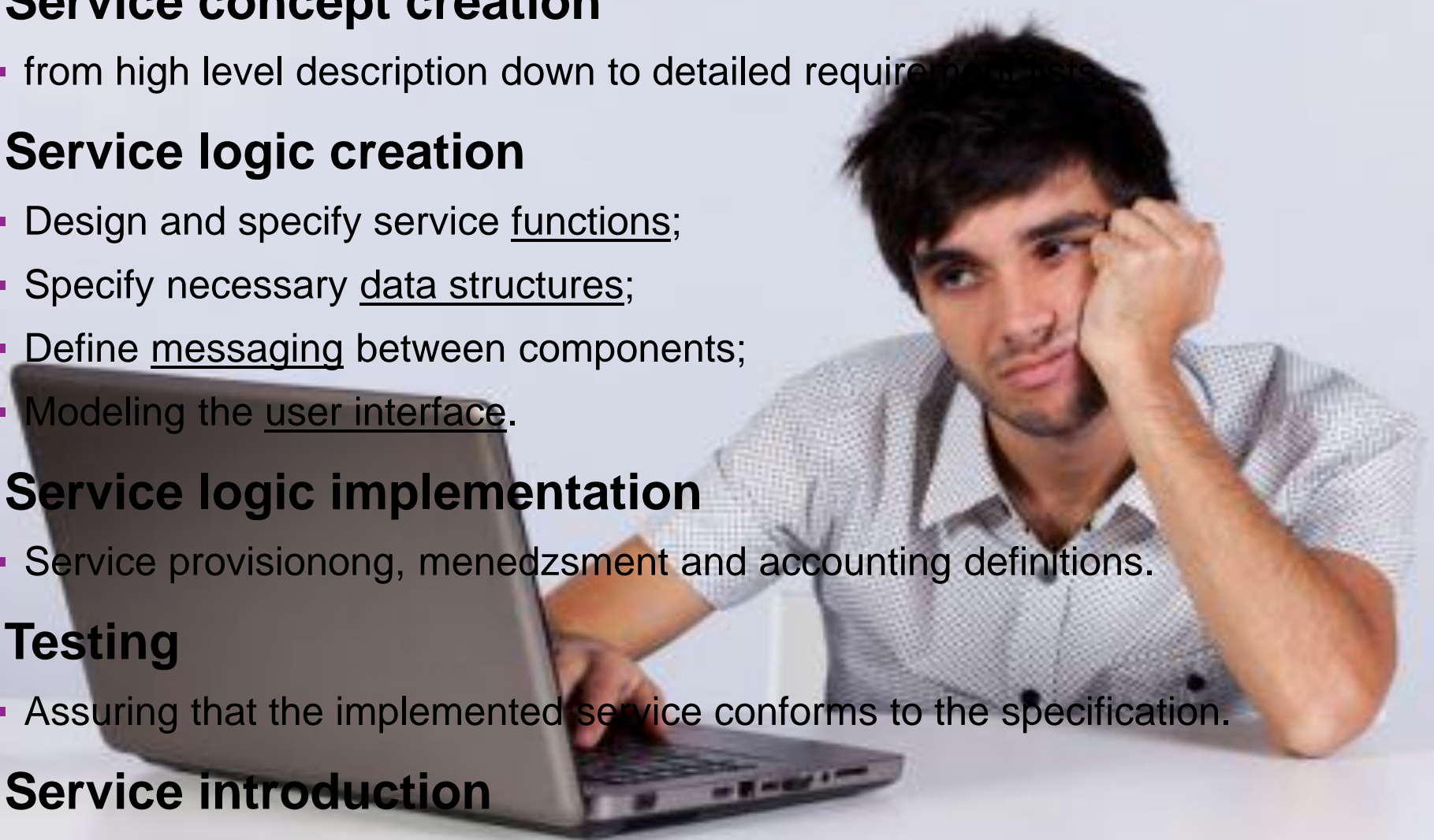
## 3. Service logic implementation

- Service provisioning, management and accounting definitions.

## 4. Testing

- Assuring that the implemented service conforms to the specification.

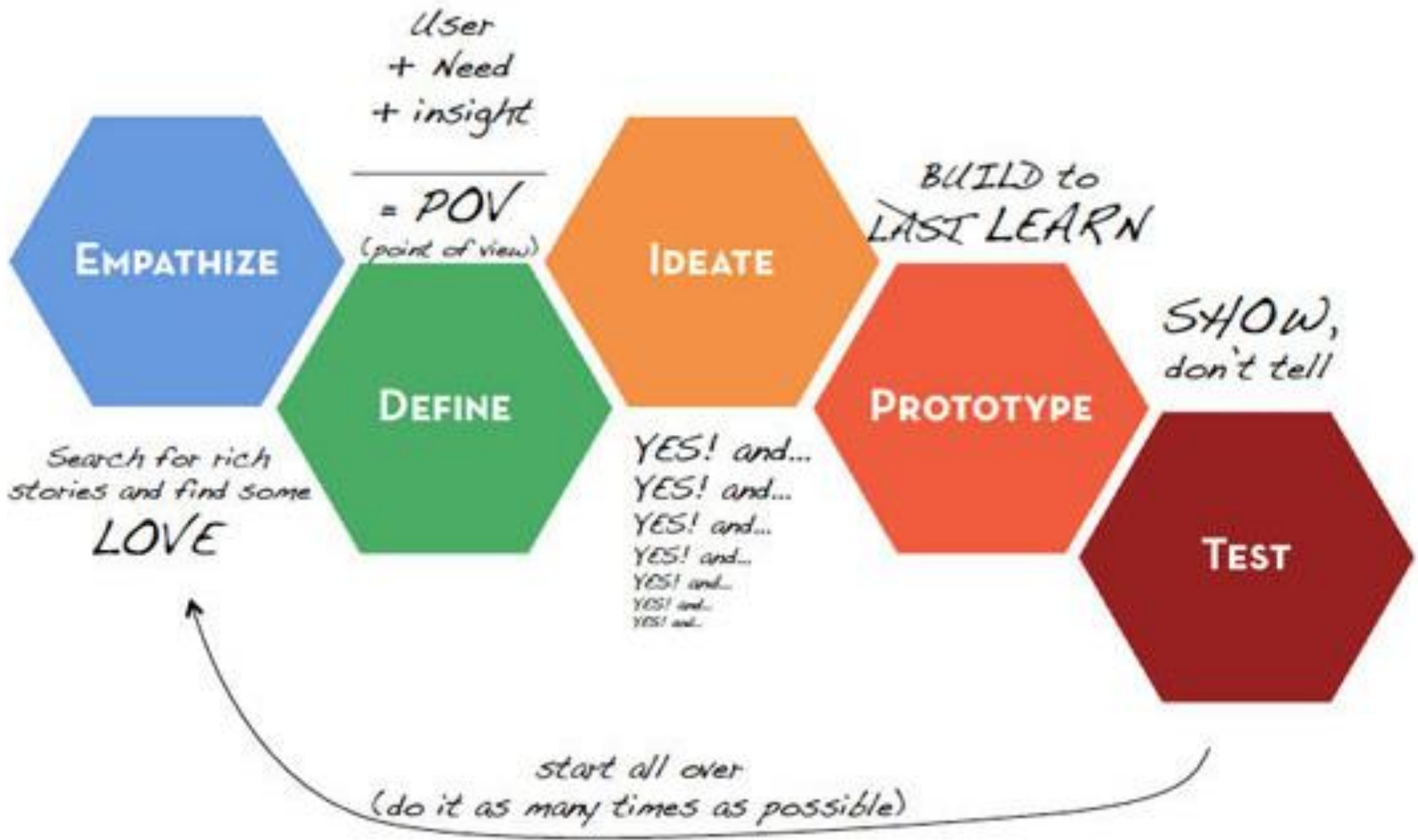
## 5. Service introduction

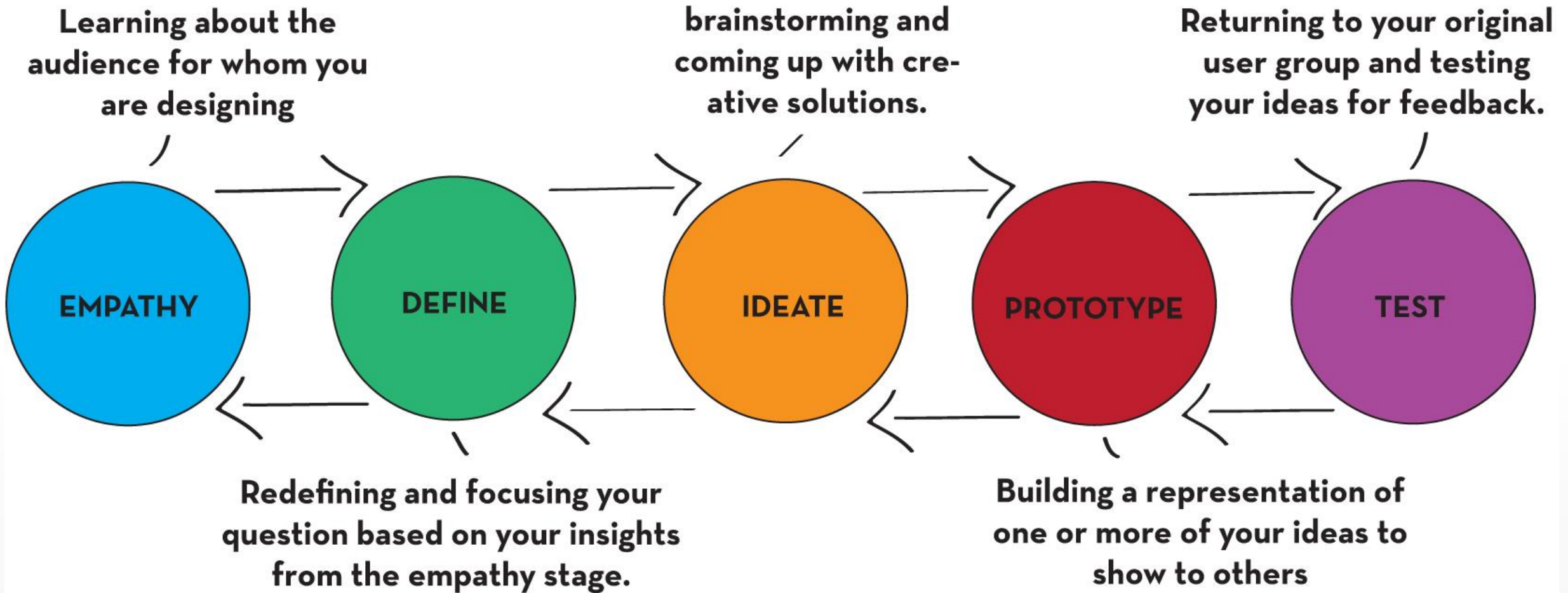


# Design Thinking

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[https://en.wikipedia.org/wiki/Design\\_thinking](https://en.wikipedia.org/wiki/Design_thinking)





# Service Design Thinking

As a special case of **Design Thinking** we can talk about **Service Design Thinking** that aims at...

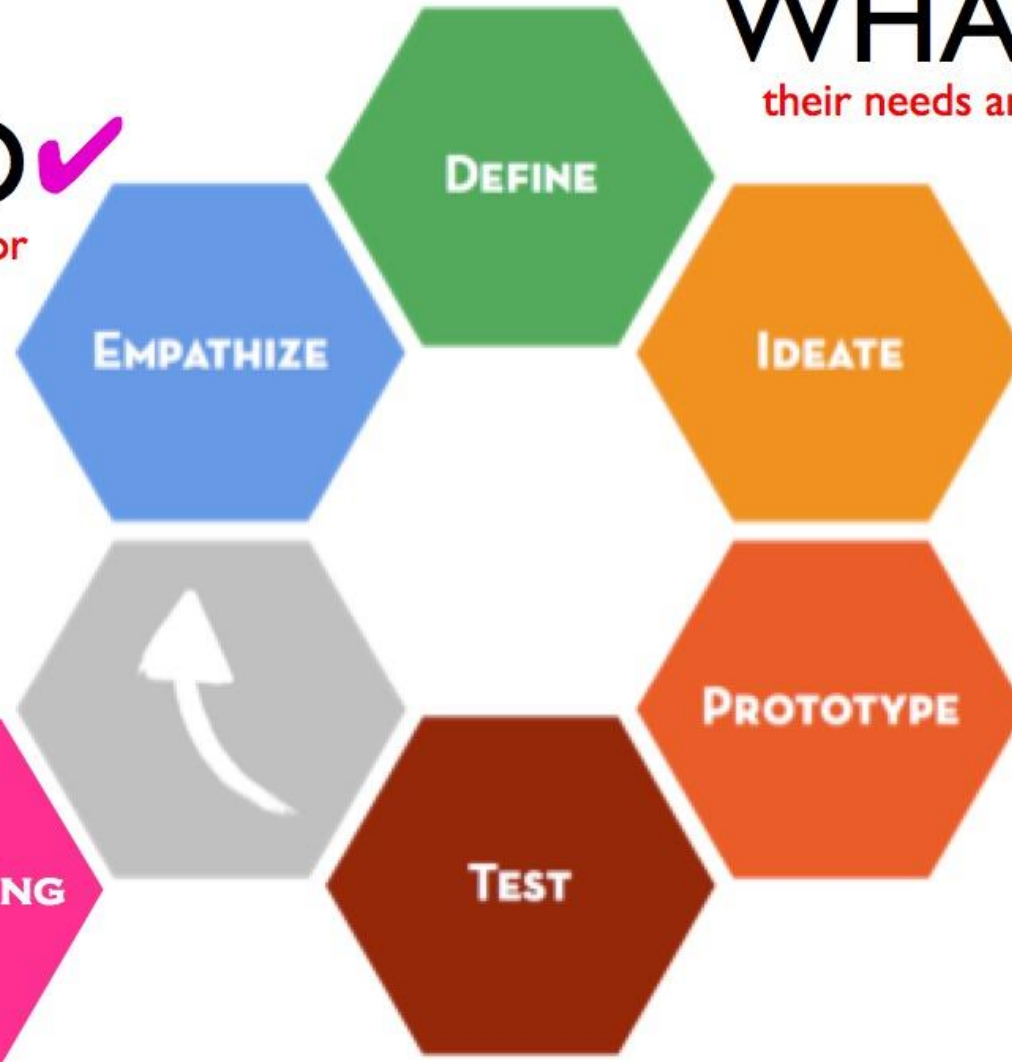
making our proposed service  
useful, useable and attractive!

# Service Design Thinking principles

1. **Customer centric**: Designing your services based upon how they are experienced from the 'customers perspective'. **Interaction with the user is highly important** during service creation.
2. **Co-creativity**: All stakeholder groups should be involved in the service design process. The user is the member of the team. **The solution for a given problem is the result of joint work.**
3. **Process**: Each project is an **iterated process**, that needs continuous reflections.
4. **Evidencing**: Key to success! Services are essentially intangible in nature and **should be visualised** in terms of 'physical elements, like *storytelling* or *storyboard*.

**WHO** ✓  
you're solving for

**WHAT** ✓  
their needs are



**HOW** ✓  
you'll solve them

**WHY** ✓  
your work matters





# Storytelling

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promotion video, evaluation

# TT ResponseCard RF system



Which Province has the largest concentration of moose in North America?

- A. Alberta
- B. British Columbia
- C. Newfoundland
- D. Quebec



# Project tasks (2015)

1. SafePic – Personal photo management system  
(Kónya A, Kerémi A, Turi B)
2. CampusWalk – Interactive walk on the historical campus of BME  
(Kozmóczy D, Varga T)
3. iFridge – Intelligent fridge  
(Andrónyi E, Tibély M, Módly M)
4. SmartHome – Home automation with smart devices  
(Soós E, Marosvári B, Ládi G)
5. H4LP Let's learn together – teacher-student „brokering”  
(Sajtos R, Lombos P, Cselenkó P)
6. SmartMovies – An app for choosing movies  
(Goretity D, Zonda Cs, Méréz D)

# Example

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# „The internet is for everybody” (or it should be...)

*In other words: when the user is not an  
MSc student in Electrical/Computer Engineering!*

#user-centric #embedded #communication  
#social #media #iot



- User demand:
  - We don't want to learn how to use computers.

We want to live our everyday's life by improving it  
using all the internet capabilities.



# Group assignments

#	Students (3 pers/group)	Task
1.	Ghazal Faraj, Miriam Bahna, Noor Mohammed Sabr Al-Gburi	
2.	Azucena del Mar Aragon Boza, Diego Xavier Mena Flores, Bumbu Nicolae	
3.	Adrian Barroso Fernandez, Pablo Bermejo Pérez, ...	
4.	Miguel Guilherme Perestrelo Sampaio Pereira, Razvan Andrei Mocanu, Viktoria Molnar	
5.	Davide Quattrocchi, Benjamin Cabassot, Juan Pablo Flores Galindo	ParkMyWheelchair
6.		

Amro Rita Nabil Shaker

Ibiyev Kamran

Musutua Riahama

Saransh Dhama