Learning to Design & Prototype

Building the right prototypes for testing

Methods for prototyping

Problem space

Solution space

Understand › Observe › Define point of view › Ideate › Prototype › Test › Reflect
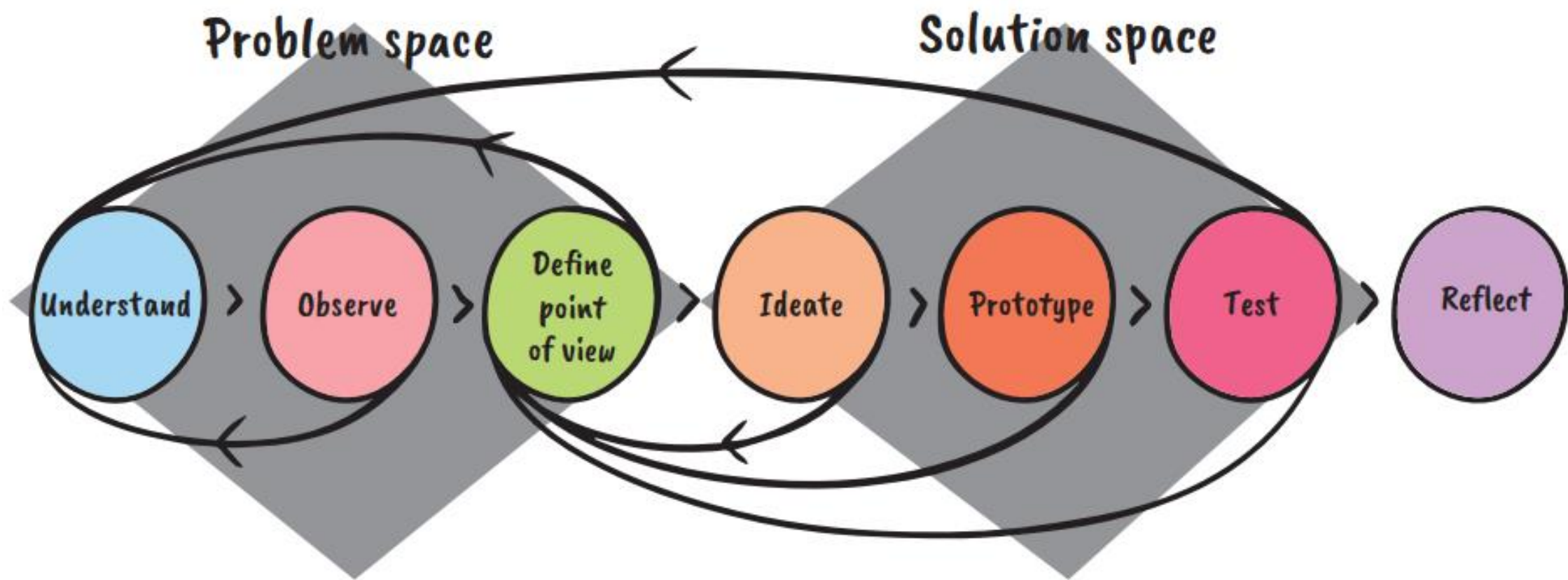
Ideate

- Once we have defined the point of view, the ideate phase "Ideation" begins. Ideation is a step toward finding solutions for our problem. Usually, different forms of brainstorming (see page 151) and specific creativity techniques, for example, working with analogies (see page 171), are applied. Dot voting and similar tools (see page 159) help to select and cluster the ideas.
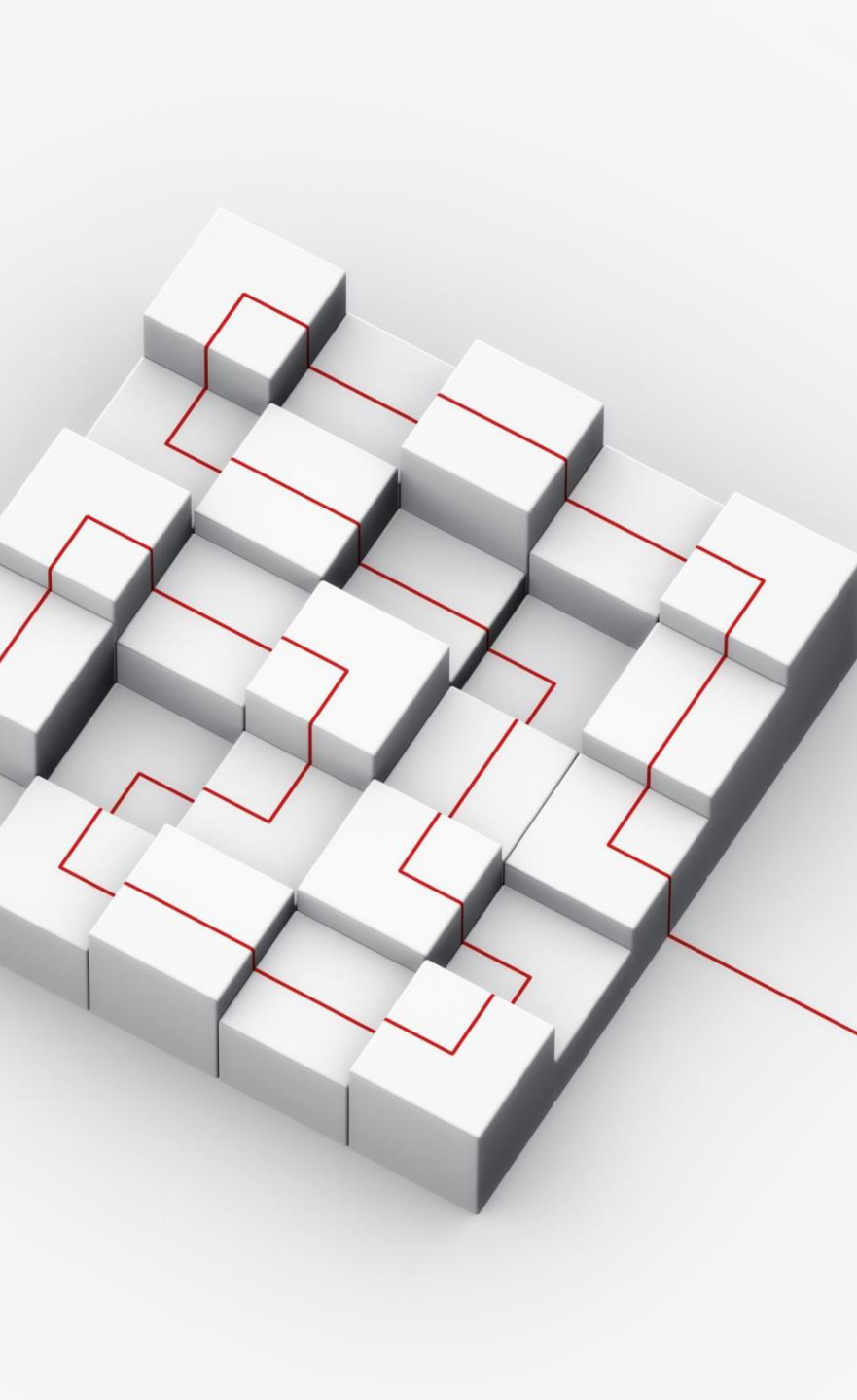
Prototype

- The building of prototypes helps us to test our ideas or solutions, quickly and without risk, with our potential users. In particular, digital solutions can be prototyped with simple paper models or mock-ups. The materials are very easy: craft materials, paper, aluminum foil, cords, glue, and adhesive tape are often sufficient to make our ideas tangible and come alive. Various kinds of prototypes are presented in the Toolbox section under the heading "Prototyping" (see page 187 and what follows). The prototypes range from critical experience prototypes all the way to a final prototype. Ideation, building, and testing must each be seen as one sequence. They cover the so-called solution space

Method for Prototyping

- Low Fidelity
  - Sketches and Diagrams
  - Storyboard
  - Paper prototypes
  - Clay/Plasticine prototypes
- High Fidelity
  - Digital prototyping
  - Wireframe – Figma, Adobe XD, Sketch, InVision
  - Video Prototype - [COOLEST COOLER: 21st Century Cooler that's Actually Cooler by Ryan Grepper — Kickstarter](#)

Feedback

- The feedback from the experiments with stages and life plans helps you fine-tune the existing plan, to include new elements or to formulate and visualize a new life plan or individual stages. You can do this iteration (test – obtain feedback – improve) as often as you want until you have found a concept that fits your individual needs.

Feedback capture grid
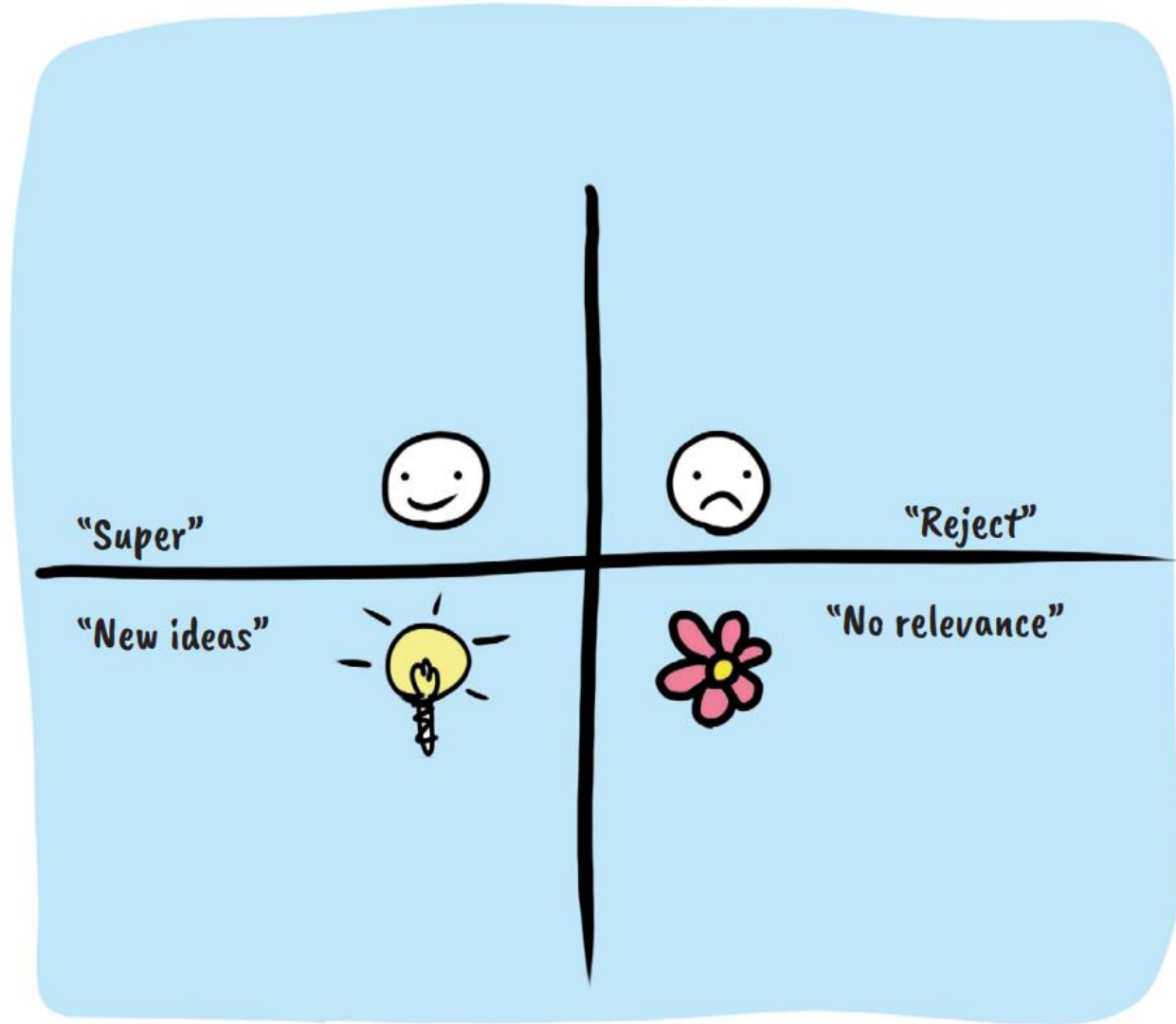
Ideas and life concepts
with which you feel good

Ideas and concepts of life
that you better reject again

New ideas that you would
like to try

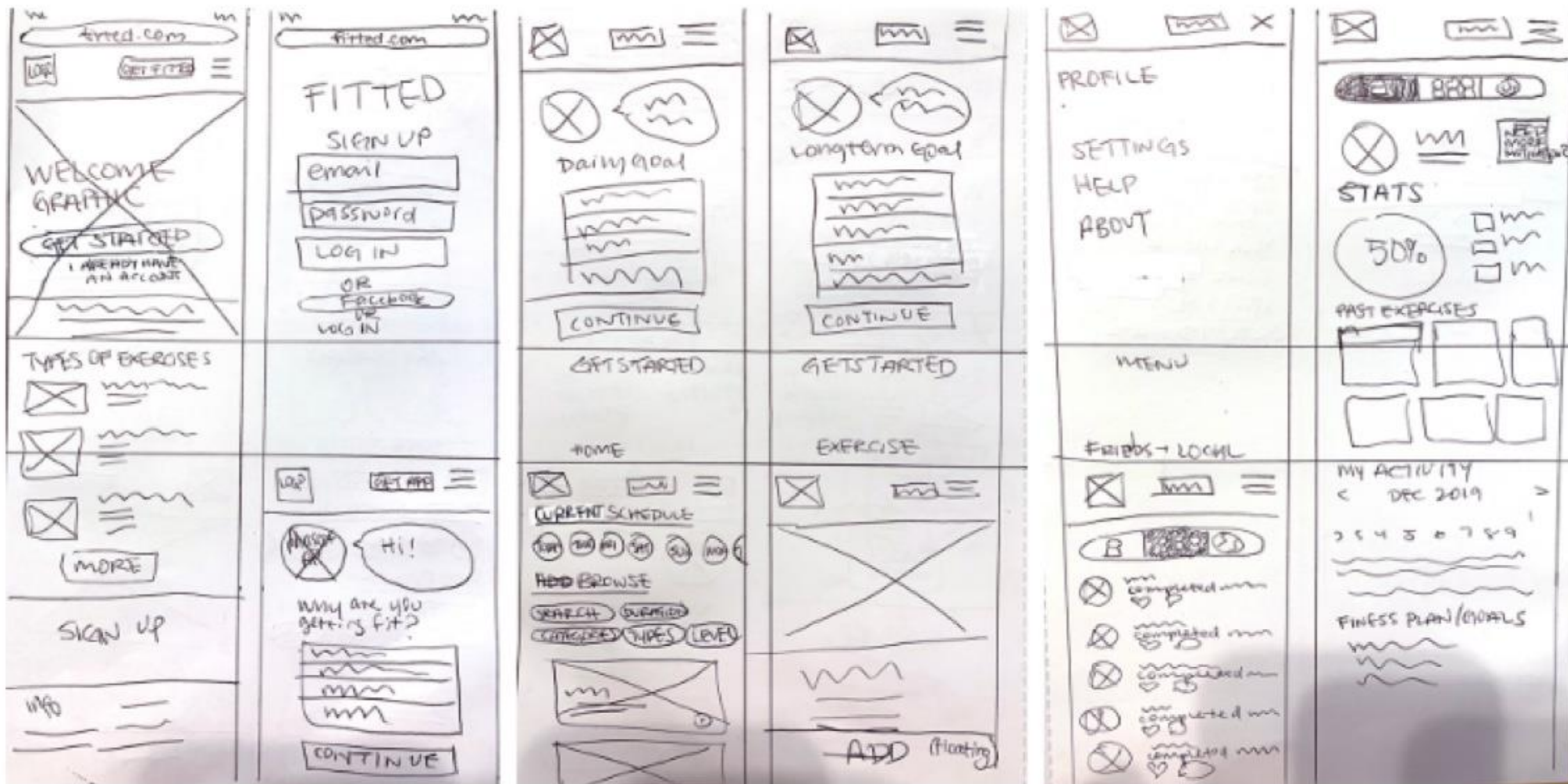Ideas and life concepts that
have no relevance

Paper Prototyping

Task	Expected Time	Actual Time	Expected Click	Actual Click
1. Register a new account	20s		10	
2. Log-in and go to profile page	10s		4	
3. Change your birthdate to today	10s		2	

Activity

- Group as your DT Teams
- 15 mins - Brief the problem to be solved with Mobile Apps
      define two tasks (functions)
- 15 mins – Design/Draw first version
- 10 mins – First test among yourselves and fix issues.
- 10 mins – Improve from feedback
- 45 mins – Go out and collect feedback from 3 random people.
    - Ask them permission to video record without their face shown.
    - Ask them to perform two tasks.
- 4:00 PM - Come back for class summary.

How to submit

1. The Video
   1. Upload the VDO clips to YouTube or MS Stream
   2. Set the clips to "Unlisted", so it can only be accessible via directly link only.
   3. Share the links among your team
2. The Papers
   1. Write members' names and IDs on them.
   2. Photograph them
   3. Share the photo among your team
3. CW Submission
   1. Every team member must submit
   2. 2 photos of the papers
   3. 3 links of the clips

Project Proposal

1. Form a team of 4-5 students → Team Signup
2. Proposal a topic and apply "Observe & Understand, Define & Explore"
3. 3 Mentors at 3 Stations.
   1. Teams visit at least 2 stations.
   2. Mentors give feedback.
   3. Mentors record team score
4. 7-minute Content in Slides, etc.
   1. Topic and Members
   2. Observe
   3. Understand
   4. Define
   5. Explore