PDST
Professional Development Service for Teachers | An tSeirbhís um Fhorbairt Ghairmiúil do Mhúinteoirí

An Roinn Oideachais agus Scileanna
Department of Education and Skills

National Workshop 5

LEAVING CERTIFICATE
COMPUTER SCIENCE

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Day 2, Session 2

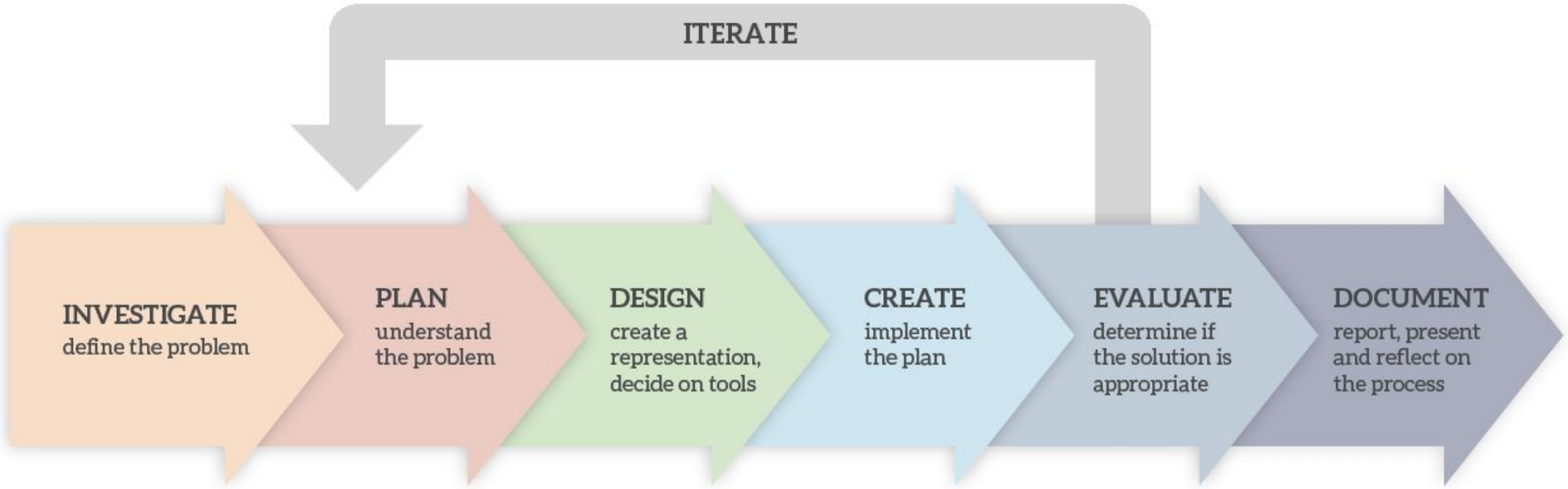
ALT1 – Project Design

By the end of this session participants will have:

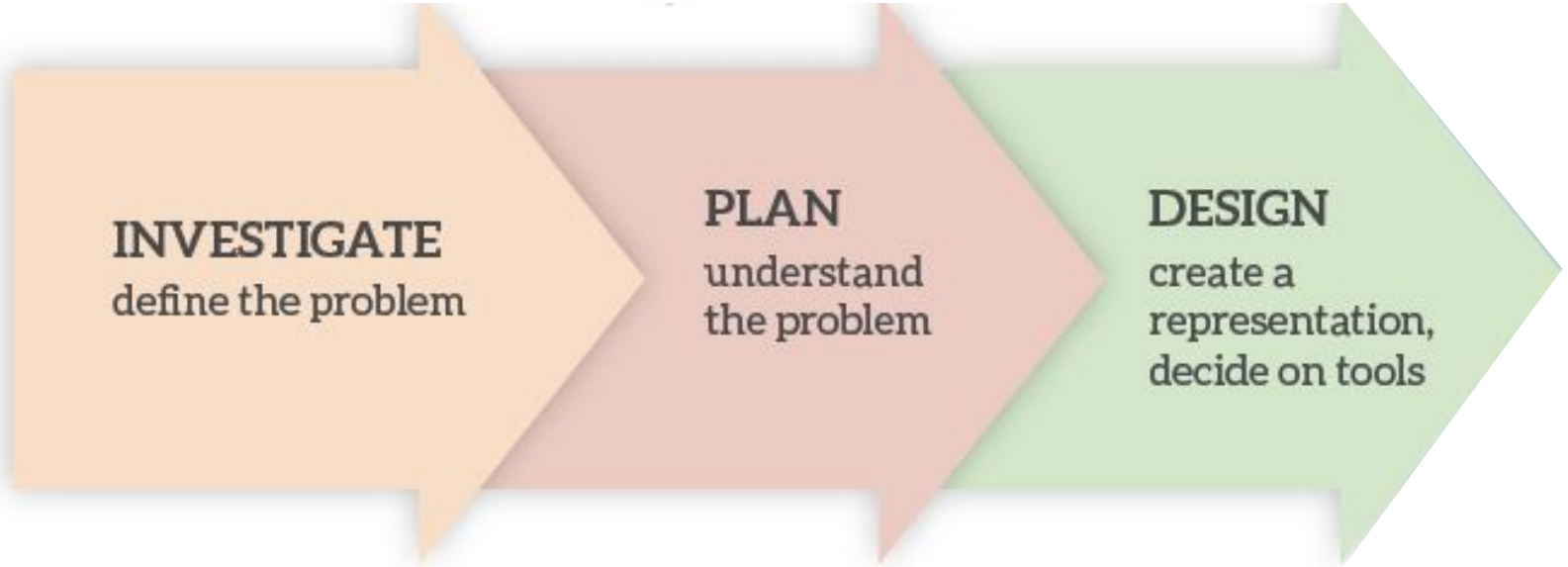
- Experienced the design phase for an original ALT1 project.
- Enhanced their team working, communication and collaboration skills.
- Acquired additional skills, knowledge and ideas on how they will facilitate ALT1 in their own classrooms.

Group Activity

Groups will work on the Design phase of ALT1



The Design Process


INVESTIGATE
define the problem
PLAN
understand the problem
DESIGN
create a representation, decide on tools

3

DESIGN

create a representation, decide on tools

- Map
- Diagram
- Storyboard
- Mock-up
- Wireframe
- Paper Prototype

Learning Outcomes

Students learn about:	Students should be able to:
Information systems User-centred design Web design File systems and **relational** databases Design process	3.1 understand and list user needs/requirements before defining a solution 3.2 create a basic **relational** database to store and retrieve a variety of forms of data types 3.3 use appropriate programming languages to develop an interactive website that can display information from a database that meets a set of users' needs

Learning Outcomes
(don't try and do too much!)

S1: Designing and developing	
Design process	1.19 identify features of both staged and iterative design and development processes
Working in a team, assigning	1.20 collaborate and assign roles and responsibilities within a

S2: Evaluation and testing	
Debugging	2.19 test solutions and decisions to determine their short-term and long-term outcomes
Testing: Unit test, **Function test, System test**	2.20 identify and fix/debug warnings and errors in computer code and modify as required
	2.21 critically reflect on and identify limitations in completed code **and suggest possible improvements**
	2.22 explain the different stages in software testing

1.15 consider the
interacting
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	2.2 use a range of methods for identifying patterns and abstract common features
	2.3 implement modular design to develop hardware or software modules that perform a specific function
	2.4 illustrate examples of abstract models

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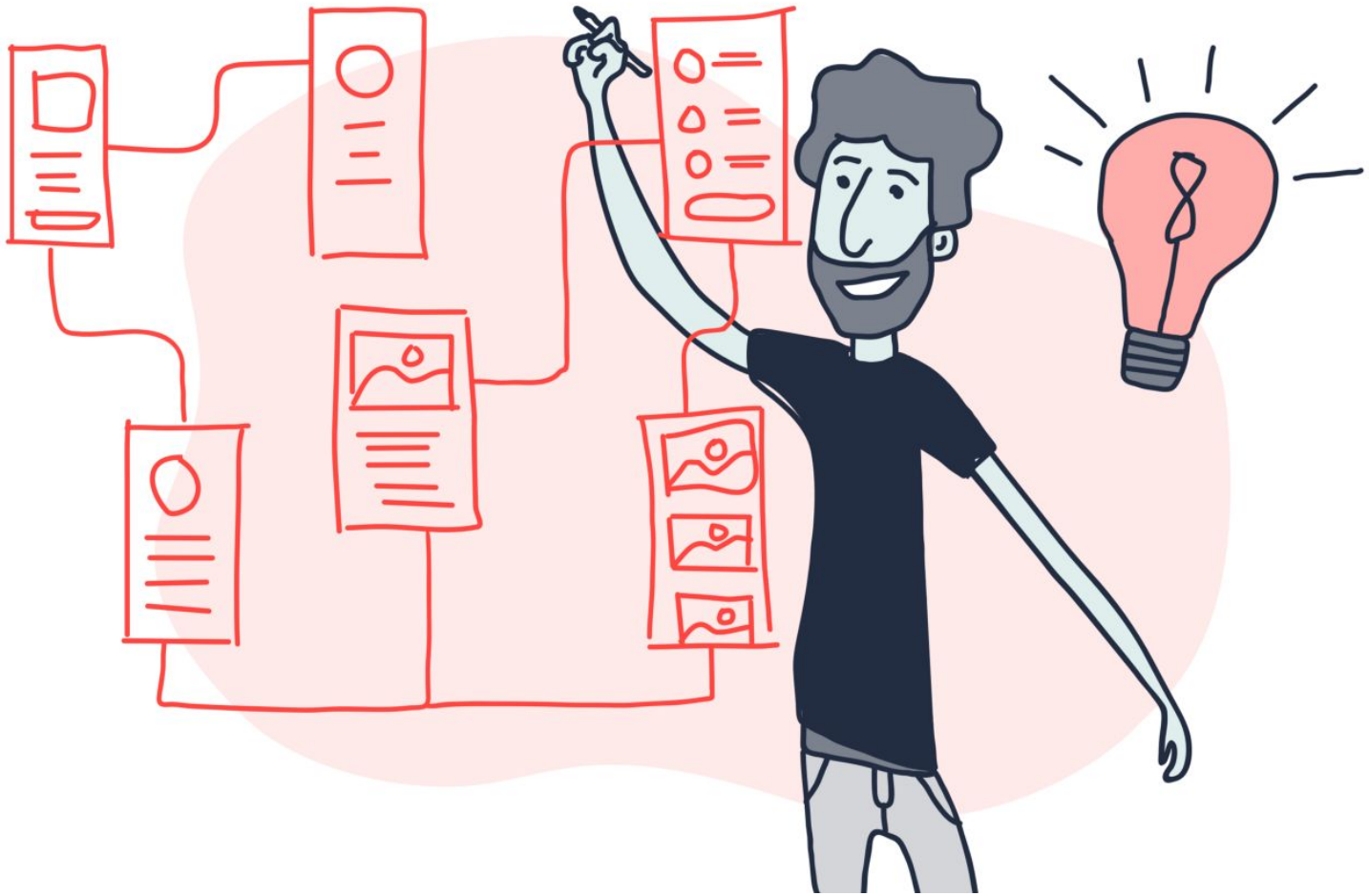
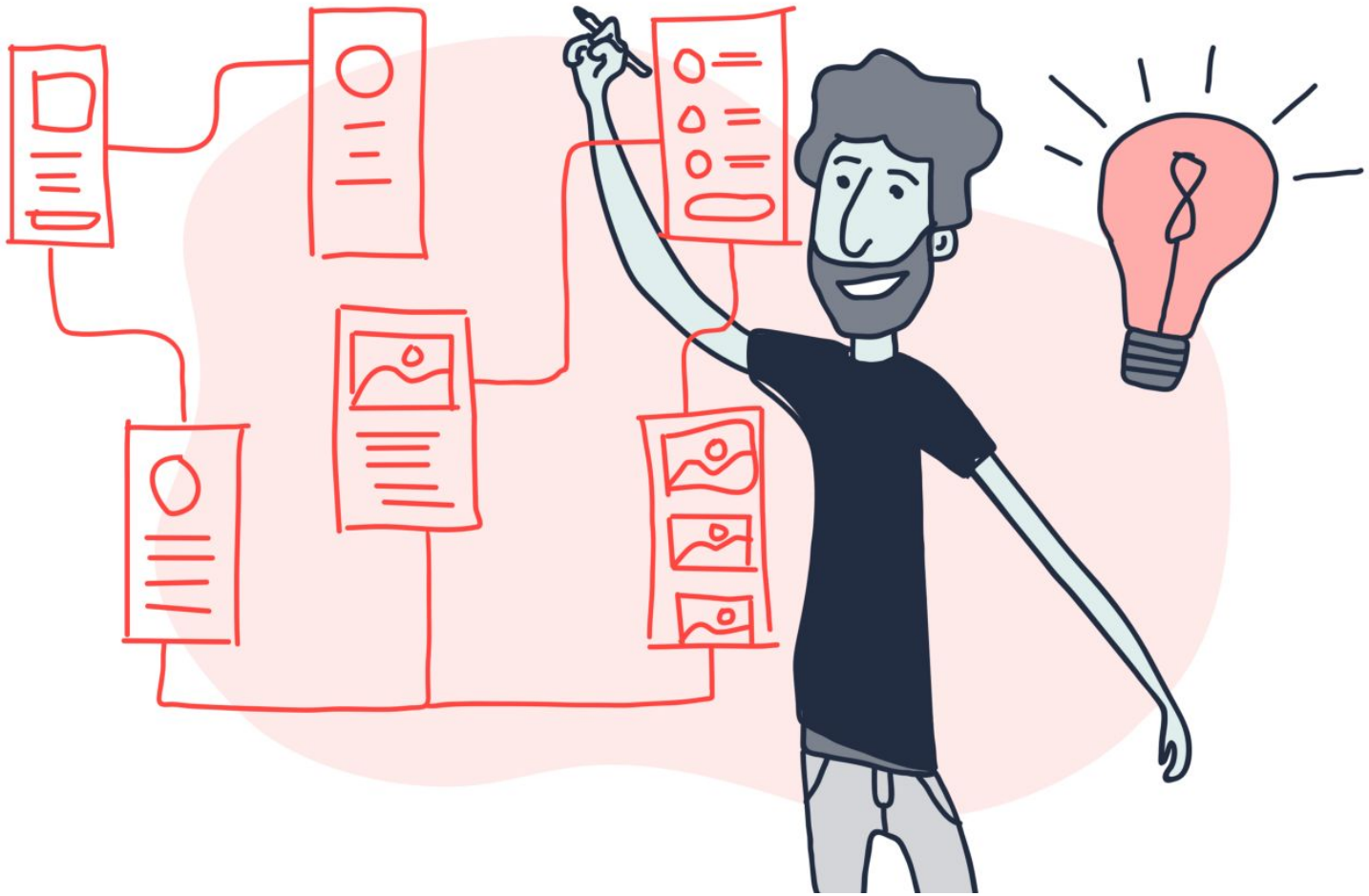
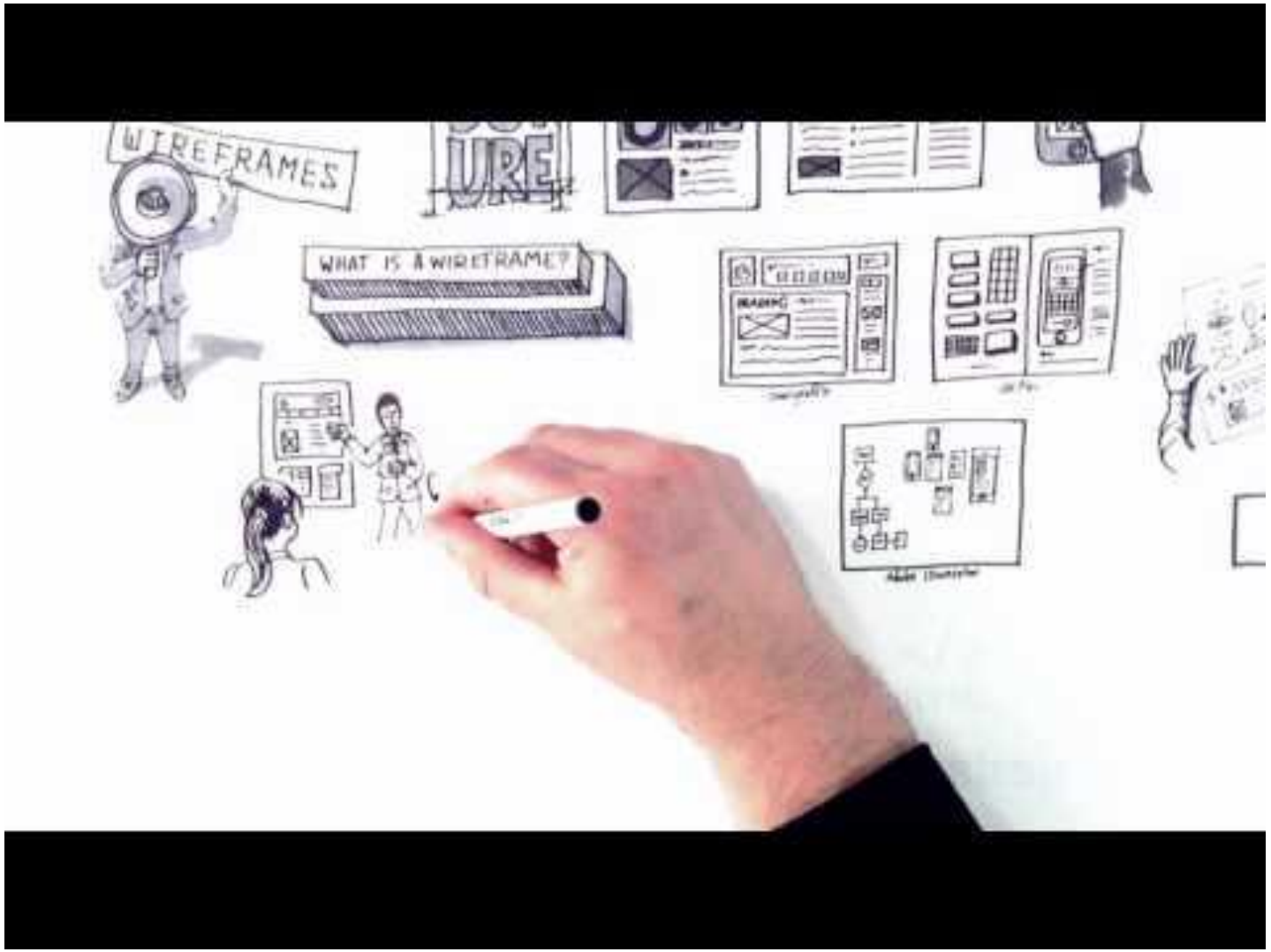


Wireframes



Wireframing



https://www.youtube.com/watch?v=8-vTd7GRk-w&feature=youtu.be

Wireframing

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Wireframing

https://www.youtube.com/watch?v=qpH7-KFWZRI&t=29s

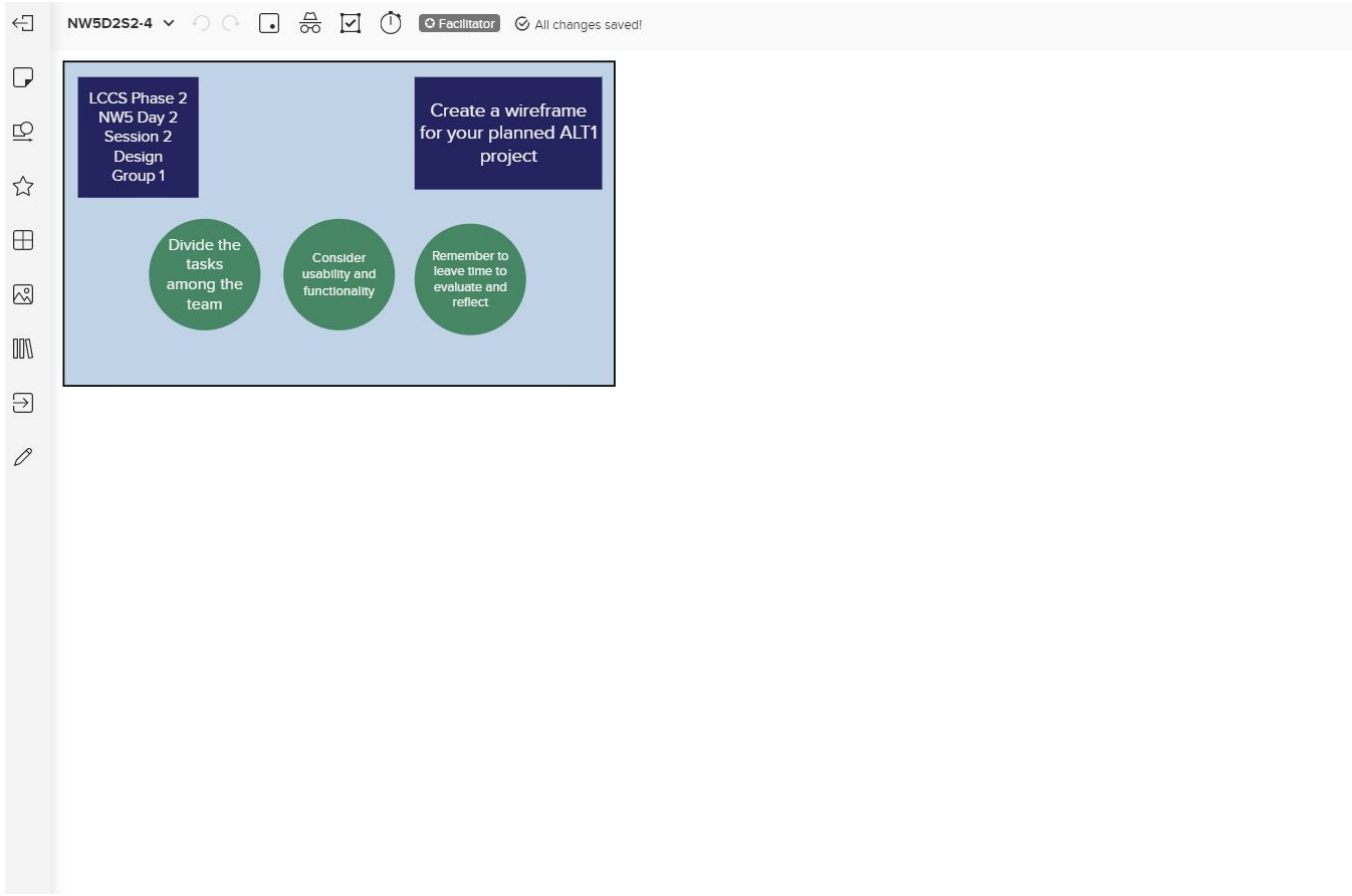
Wireframing Benefits

- Structure
- Layout (hierarchy)
- Content
- Functionality
- Refinement
- Understanding

Wireframing Tips

Keep them Simple
Use a Grid
Short, Sharp Annotations
Encourage Feedback

Introduction to digital wireframing tool



Page:

Project:

Client:

Author:

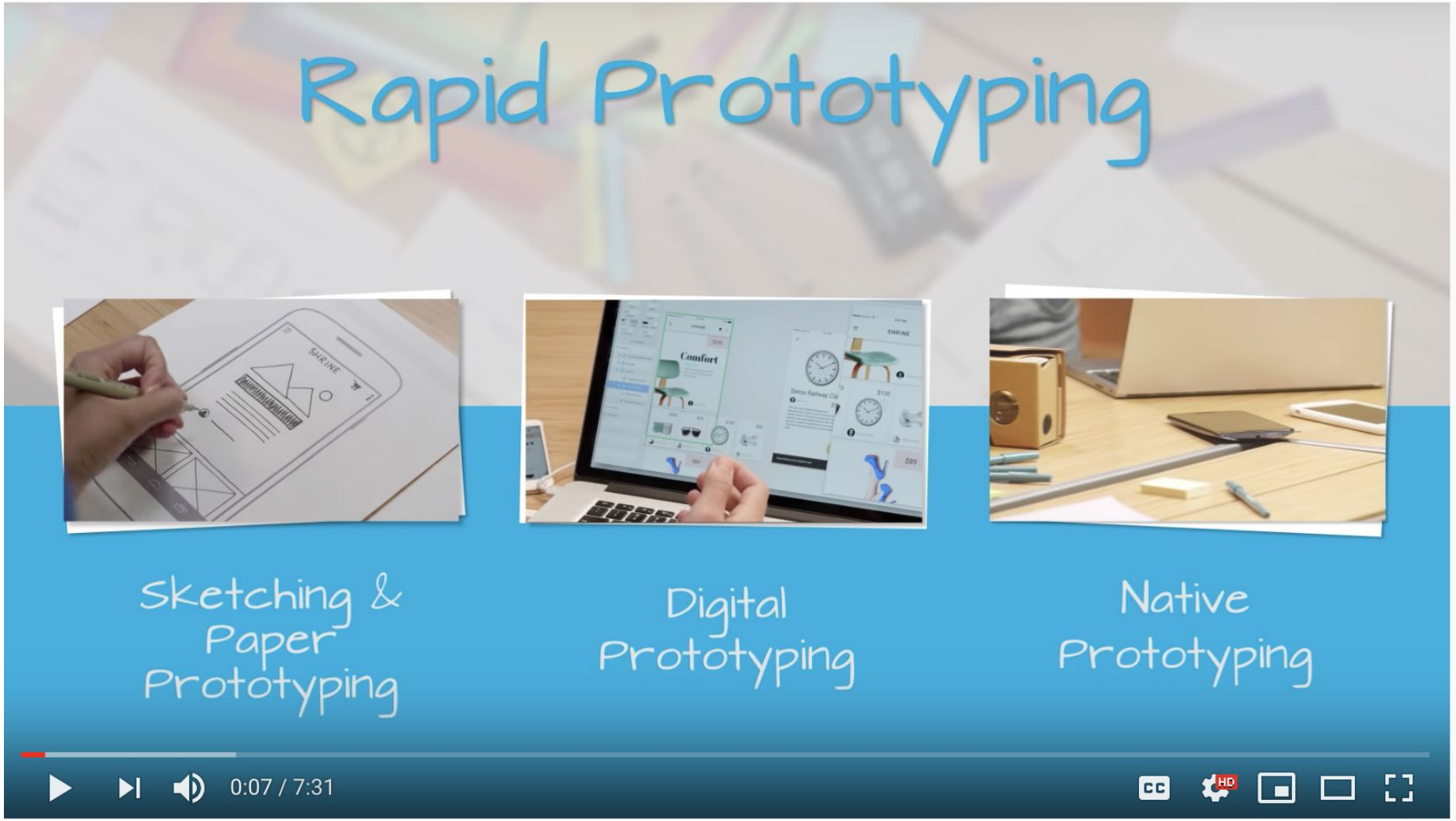
Notes:

Breakout Task: Create a wireframe for your planned ALT 1

Breakout Task: Create a wireframe for your planned ALT 1

Possible timeline for the next 45 minutes:

5 minutes to divide the tasks among your team
25 minutes to create respective elements of wireframe
15 minutes review in group and make necessary changes/refinements



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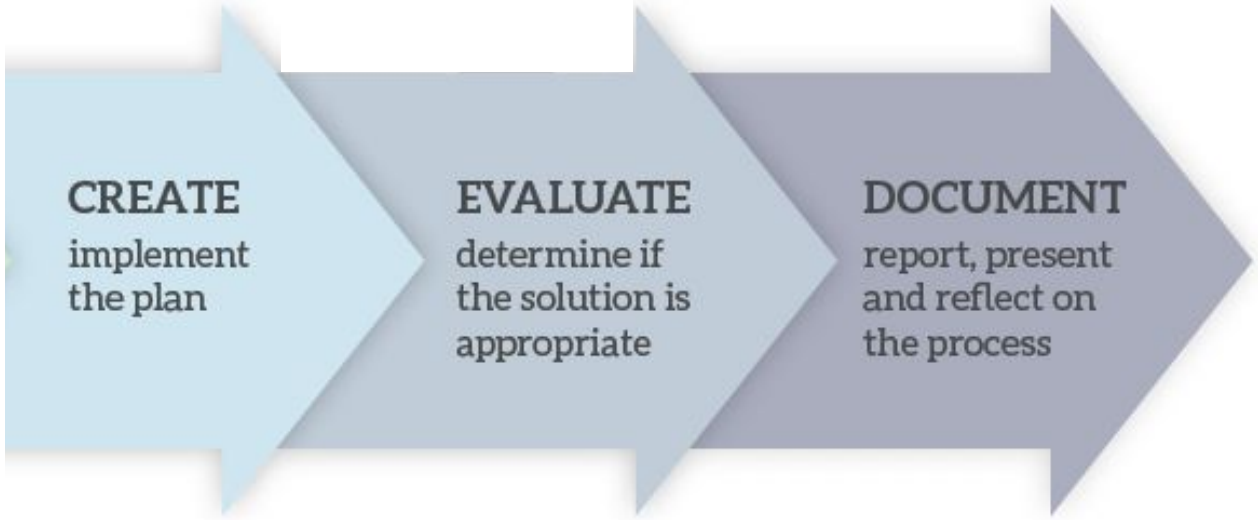
CREATE
implement the plan
EVALUATE
determine if the solution is appropriate
DOCUMENT
report, present and reflect on the process

Presentation & Debrief

What did you do?

How did you do it?

What has challenged your thinking?

Problems

Making Links

How will the backend work?

Which LOs did you use?

Roles & Group Dynamics