ASIA PACIFIC UNIVERSITY OF TECHNOLOGY & INNOVATION

DM505-3-M-DT DESIGN THINKING

Topic 7

PROTOTYPING

Learning Outcomes

At the end of this lesson, students will be able to:

- Develop proficiency in using prototyping tools and software relevant to the field
- Apply creative thinking to generate unique and effective prototype designs
- Demonstrate the ability to articulate the purpose and functionality of the prototype.
- Demonstrate the practical application of SRP in developing the prototype

DESIGN THINKING: GET STARTED WITH PROTOTYPING

Stage 4: Prototype—*Start to Create Solutions*

Prototyping is an integral part of Design Thinking and User Experience design in general because it allows us to test our ideas quickly and improve on them in an equally timely fashion. The Institute of Design at Stanford (d.school) encourages a “bias towards action”, where building and testing is valued over thinking and meeting.

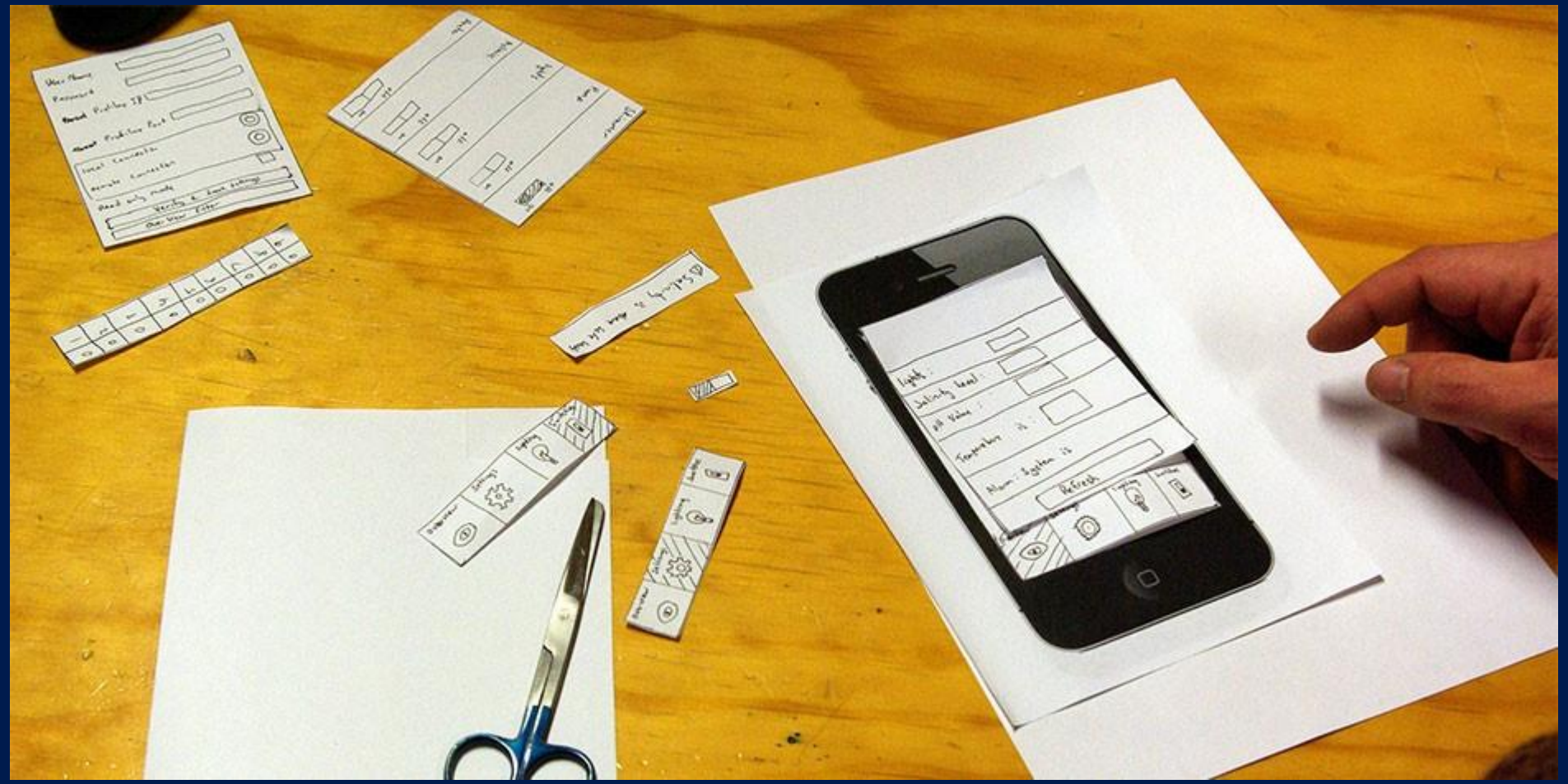
However, why is prototyping so important in the design process? Moreover, how does it help you create human-centred design solutions? Before we start making prototypes to test our assumptions, let's get a closer understanding behind the what, how and why of prototyping.

Imagine this situation: It’s an exciting new project, something you had spent months brainstorming and planning, then building and crafting to perfection. You did all you could to ensure it was just right, with all the necessary features. You tried to ensure that you gave design more focus and that your message was crafted well. The website / app / e-manual attracted attention but somehow your target audience just weren't interested in testing it out.

They seemed comfortable just to keep doing things as usual, uninterested in the images and information. It made no sense to you, but there you were months later, having sweated and spent valuable time, money, and resources and even attracting attention, but no results that you want.

This is where **prototyping** comes in by providing a set of tools and approaches for properly testing and exploring ideas before too many resources get used. Many of us may recall the art of prototyping from our early childhood where we created mock-ups of real-world objects with the simplest of materials such as paper, card, and modelling clay or just about anything else we could get our hands on. There is not much difference between these types of prototypes and the early rough prototypes we may develop at the earlier phases of testing out ideas.

WHAT IS A PROTOTYPE?



A prototype is a simple experimental model of a proposed solution used to test or validate ideas, design assumptions and other aspects of its conceptualisation quickly and cheaply, so that the designer/s involved can make appropriate refinements or possible changes in direction.

Prototypes can take many forms, and just about the only thing in common the various forms have is that they are all *tangible* forms of your ideas. They don't have to be primitive versions of an end product, either—far from it. Simple sketches or storyboards used to illustrate a proposed experiential solution, rough paper prototypes of digital interfaces, and even role-playing to act out a service offering an idea are examples of prototypes.

In fact, prototypes do not need to be full products: you can prototype a *part* of a solution (like a proposed grip handle of a wheelchair) to test that specific part of your solution. Prototypes can be quick and rough — useful for early-stage testing and learning — and can also be fully formed and detailed — usually for testing or pilot trials near the end of the project.

Prototyping is about bringing conceptual or theoretical ideas to life and exploring their real-world impact before finally executing them. All too often, design teams arrive at ideas without enough research or validation and expedite them to final execution before there is any certainty about their viability or possible effect on the target group.

WHY WE NEED TO PROTOTYPE

Early Research isn't Everything

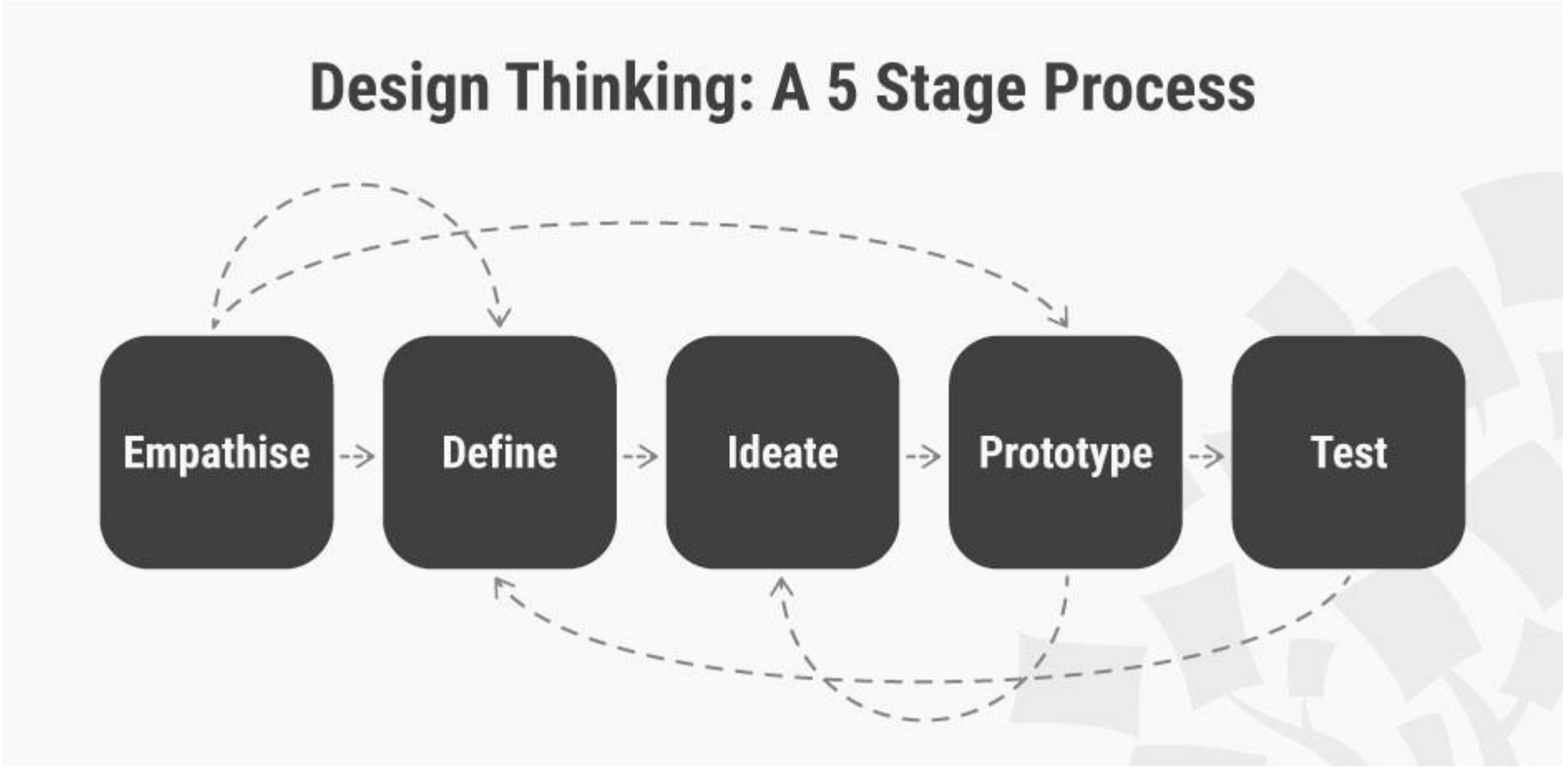
Research conducted during the early stages of your Design Thinking project does not tell you everything you need to know in order to create the optimal solution. Regardless of whether you have researched thoroughly and gathered a large body of information, or whether your ideation sessions have resulted in what many perceive as a world-changing solution, testing is still *crucial* for success.

Early Research isn't Everything

Design teams can easily become fixated on the research artefacts they have gathered during the earlier phases of exploration, creating a bias towards their ideas. By prototyping and then testing those prototypes, you can reveal assumptions and biases you have towards your ideas, and uncover insights about your users that you can use to improve your solutions or create new ones.

You can use prototyping as a form of research even before other phases in Design Thinking, allowing you to explore problem areas in interfaces, products or services, and spot areas for improvement or innovation.

Why We Need to Prototype


Design Thinking: A 5 Stage Process
Empathise
Define
Ideate
Prototype
Test

SOME OF THE PURPOSES PROTOTYPES FULFIL

Exploring and Experimentation

You can use prototypes to explore problems, ideas, and opportunities within a specific area of focus and test out the impact of incremental or radical changes.

Learning and Understanding

Use prototypes in order to better understand the dynamics of a problem, product, or system by physically engaging with them and picking apart what makes them work or fail.

Engaging, Testing, and Experiencing

Use prototyping to engage with end users or stakeholders, in ways that reveal deeper insight and more valuable experiences, to inform design decisions going forward.

Inspiring and Motivating

Use prototypes to sell new ideas, motivate buy-in from internal or external stakeholders, or inspire markets toward radical new ways of thinking and doing.

https://www.interaction-design.org/literature/article/test-your-prototypes-how-to-gather-feedback-and-maximise-learning

https://www.interaction-design.org/literature/article/stage-5-in-the-design-thinking-process-test

Link to Testing

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- You can also book a consultation with me or send me a message through Microsoft Teams