



D'source

D'source Project



Open Design School



MoE's Innovation Cell



Usability Studies, Iteration, Finalise Design

Design Thinking & Innovation
Process

Section: A14, Week 14



**THINK!
DESIGN**

Design Thinking & Innovation (DT&I)


Section: A14
Week 14



**THINK!
DESIGN**

Design Thinking & Innovation (DT&I)

Prof. Ravi Poovaiah
IDC School of Design, IIT Bombay



**“The future
depends on what
we do in the
present. ”**

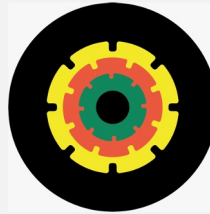
Mahatma Gandhi

DT&I Course – Week 14:



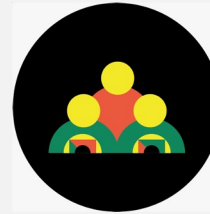
DT&I
Process
(20%)

- > **Usability Studies, Feedback and Iterations**
- > Make use of user feedback and iterate
- > Methods of getting User Feedback
- > Finalise Design



DT&I
Tools
(20%)

- Usability Studies
- > Observation
- > Conversations
- > Think-aloud protocol
- > Feedback
- > Iterate
- > Finalise Design



DT&I
Project
(50%)

- Apply
- > Usability Studies
- > Iterate and Finalise



DT&I
Cast Study
(10%)

- > Case Study Project:
Redesigning a Solar Powered Cookstove



DT&I Process

A14 Module A14:
**Usability Studies,
Iteration,
Finalise Design**

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A14.1

Usability Studies



Usability Studies:

Content

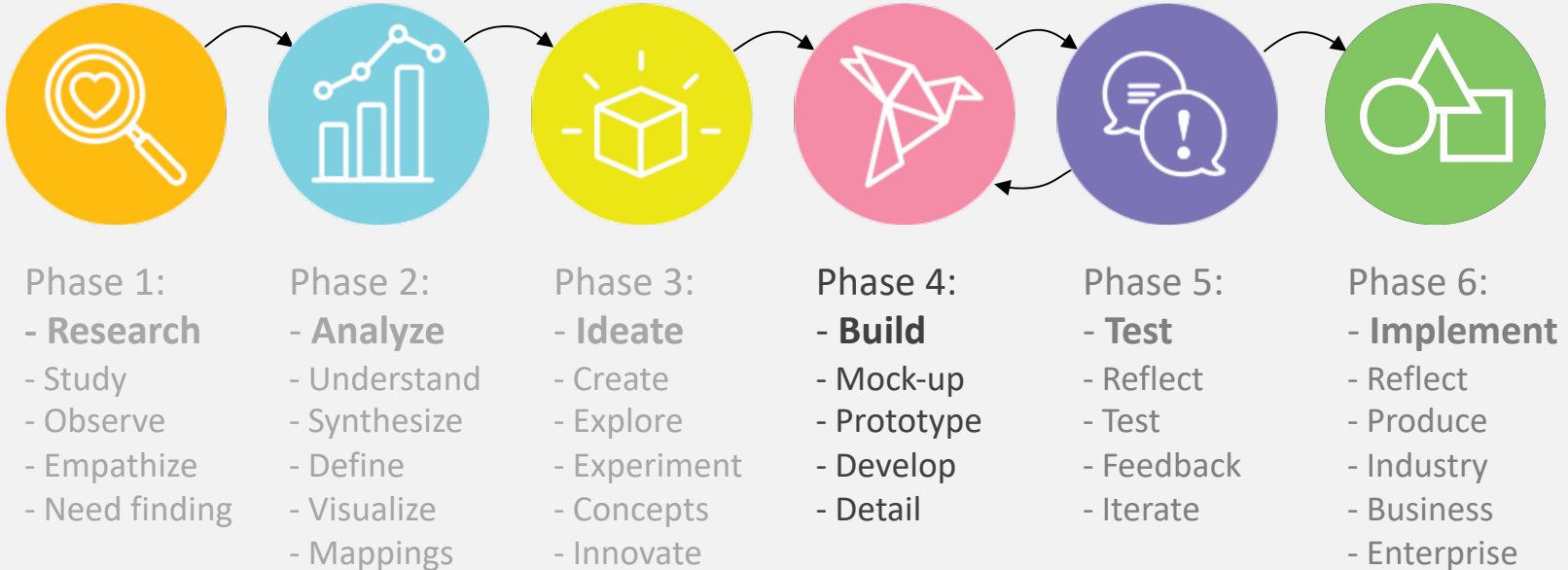
- A14.1: What is Usability Studies
- A14.2: How to do Usability Studies?
- A14.3: Why do Usability Studies?
- A14.4: Further Study and References

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DT&I Process and Testing:

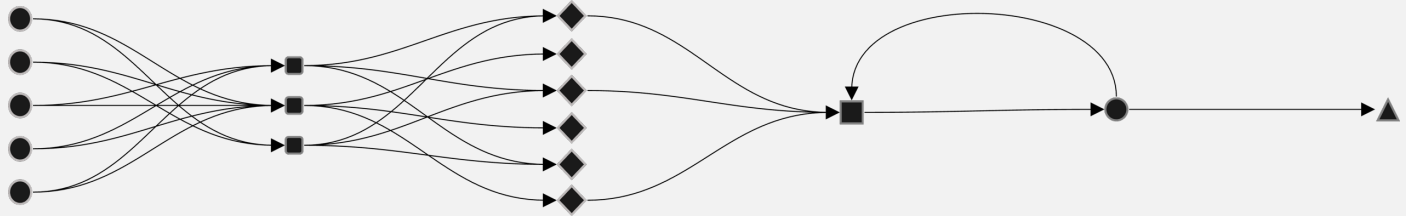
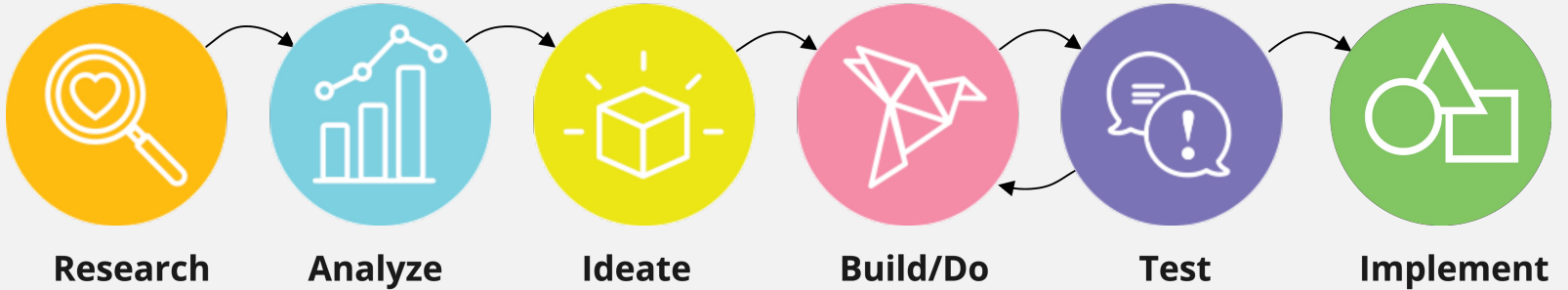
Usability Studies is the Fifth phase of the DT&I process.





DT&I Process and Ideation:

Let's summarize:



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A14.2

What is Usability Study?



What is Usability Study?



Usability Studies are **useful to get a feedback on the usefulness of the design.**

Usability Studies are useful at any stage of the design process

- Concept level,
- Soft-Medium-hard prototypes level,
- Final design Level



What is Usability Study . . .

It could be about any of these factors:

- **Efficiency**
- **Human Factors/Ergonomics**
- **Experiences, Interactivity**
- **Ease of Use, Intuitive to use, Affordances**
- **Aesthetics,**
- **Learnability**
- **Sustainability**
- **Comfort levels**

It could be about the design of any of these:

- **Products,**
- **Services,**
- **Digital interfaces,**
- **Communication medias,**
- **Environments**

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A14.3

How to do Usability Studies?



How to do Usability Studies?



Usability studies can be done in many ways.

Here are a few suggested methods:

- **Observation and Conversations** - before using, while using, after using
- **Think Aloud Protocol** - while using
- **User Testing** - while using

The feedback that one gets can be both qualitative or quantitative:

Qualitative: Comfort, Feelings, Ease of Use, Experiences, Aesthetics

Quantitative: Efficiency, Error/mistake numbers, Time taken, Efforts, Recollection



Usability Studies



Observation and Conversations

- before using and while using

Think Aloud Protocol

- while using

User Feedback

- after using

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A14.4

What are the
variables in
Usability Studies?



What are the variables in Usability Studies?



These are the different variables in Usability Studies:

1. Observation **by Designer** and Observation **by the User**
2. **Offline** and **Online**(remote) Observation
3. Observation **in Natural settings** and Observation **in Laboratory/Workshop settings**
4. Observation **In person** and Observation **Unobtrusively**

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A14.5

Why do Usability Studies?



Why do Usability Studies?



Usability studies helps identify issues or problems with the designed solution (at any stage of the design process).

This feedback in turn can be useful in iteratively rectifying the problems and in turn redesigning.

It does **save time and efforts** as one can get feedback early on in the design process.

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A14.6

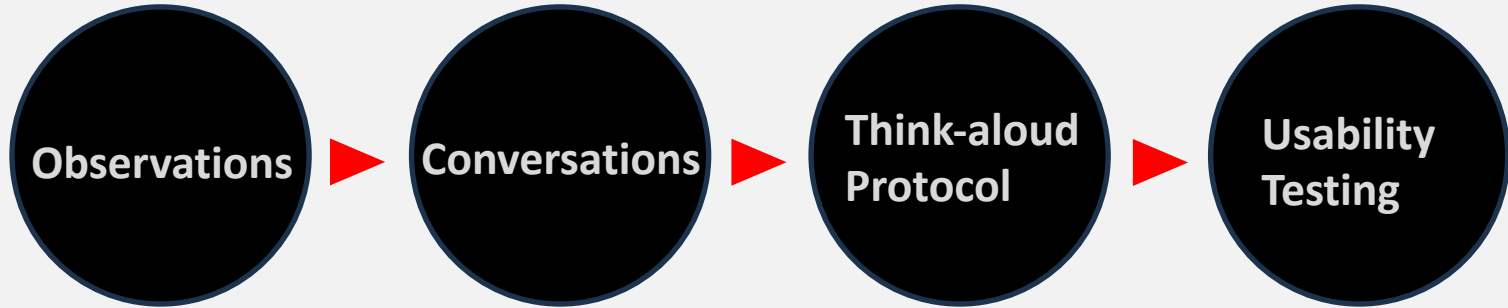
What does
User Studies
involve?



Usability Studies:

(Observations > Conversations > Talk –aloud Protocol > Usability Testing)

Here are a few suggested methods:



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A14.7

Further Study and References



Further Study and References:

- www.dsource.in
DT&I, Case Studies, Courses, Tools, and Resources
<https://dsource.in/dti>
<https://dsource.in/case-study>
<https://dsource.in/course>
<https://dsource.in/tools>
<https://dsource.in/resource>
- The Elements of User Experience
by Indian Jesse James Garrett, New Riders, 2010
- Measuring the User Experience
by Tom Tullis, Bill Albert, Morgan, 2013
- Observing the User Experience
by Mike Kuniavsky , Morgan Kaufmann, 2012

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Design Quote:

“We all need people
who will give us
feedback. That’s
how we improve.”

Bill Gates

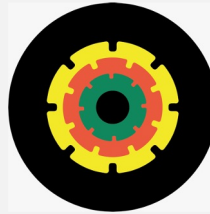


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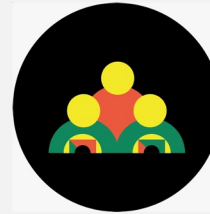
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DT&I Cast Study (10%)

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Supporting Organizations:



D'source Project



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MoE's Innovation Cell



Credits:

Presented by:
Prof. Ravi Poovaiah



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Credits:

Camera & Editing:
Santosh Sonawane



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Credits:

Think Design Animation:
Rajiv Sarkar



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Credits:

Graphic Icons:
Shweta Pathare



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Credits:

End Title Music:
C P Narayan



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