





# Primary Research Part 2

Design Thinking & Innovation  
Process

Section: A6, Week 6



D'source Project



Open Design School



MoE's Innovation Cell



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# **Design Thinking & Innovation (DT&I)**

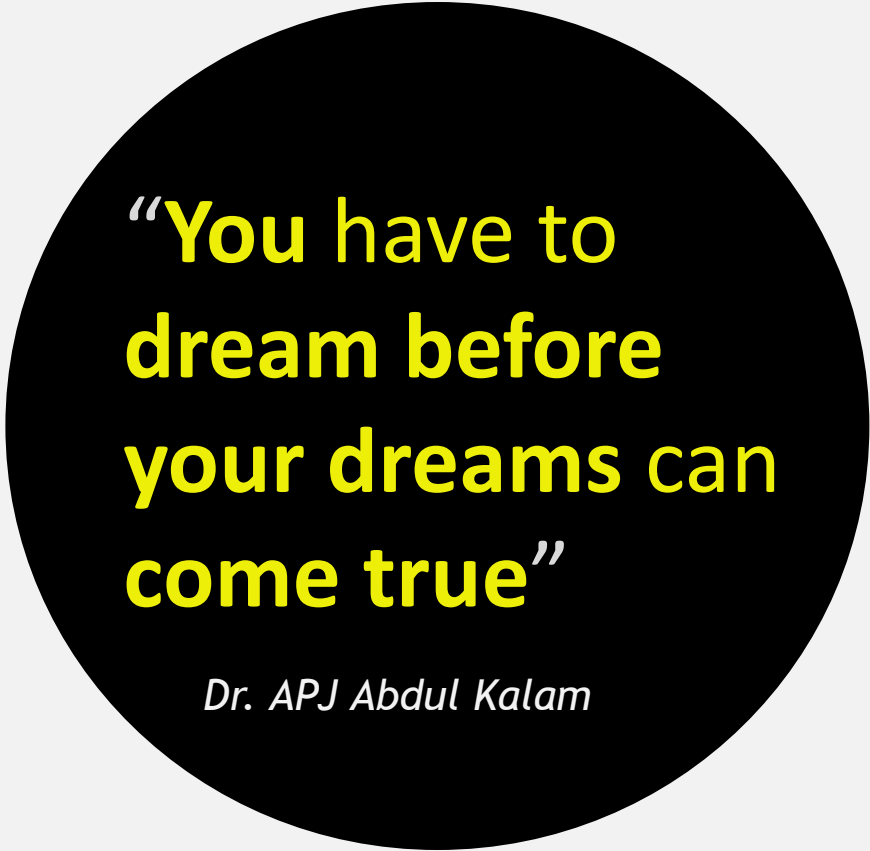
Section: A6  
Week 6



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# **Design Thinking & Innovation (DT&I)**

**Prof. Ravi Poovaiah**  
IDC School of Design, IIT Bombay



**“You have to  
dream before  
your dreams can  
come true”**

*Dr. APJ Abdul Kalam*

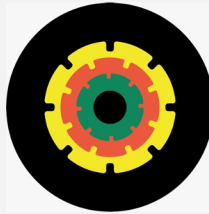
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# DT&I Course – Week 6:



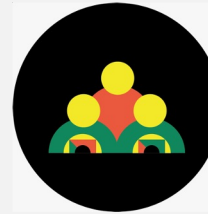
DT&I  
Process  
(20%)

- > Primary Research  
Part 2
- > User Studies



DT&I  
Tools  
(20%)

- > Questionnaires
- > Talking to Subject  
Experts



DT&I  
Project  
(50%)

- > Primary Research
- > Questionnaires
- > Talking to Subject  
Experts



DT&I  
Cast Study  
(10%)

- > Case Study  
Project



# DT&I Process

## A5 Primary Research – Part 2

Module A6:



# Primary Research – Part 2:

## Content

- A6.1: Which phase of DT&I process is Primary Research?
- A6.2: What are questionnaires and Surveys?
- A6.3: What are the different types of questionnaires?
- A6.4: How does Talking to Experts help?
- A6.5: Further Study and References

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A6.1

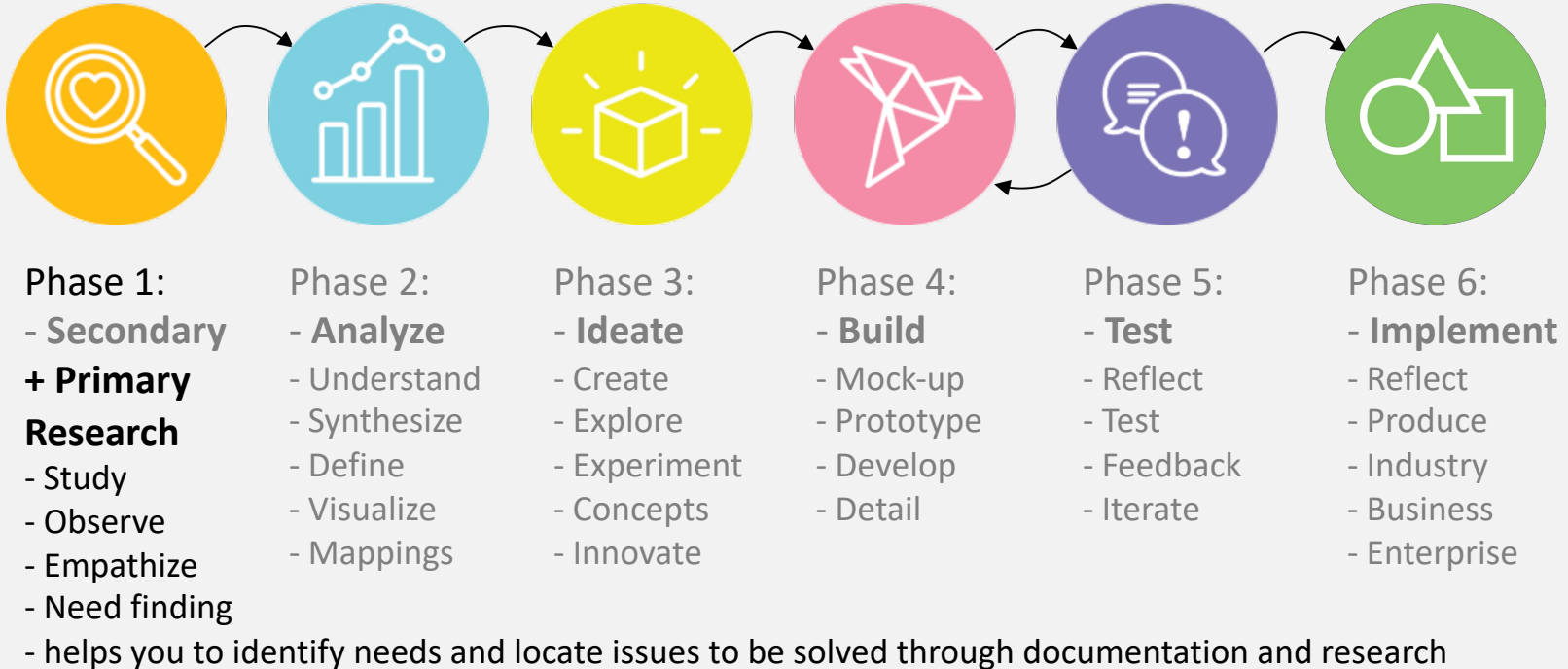
# DT&I Process and Primary Research

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# DT&I Process and Secondary Research

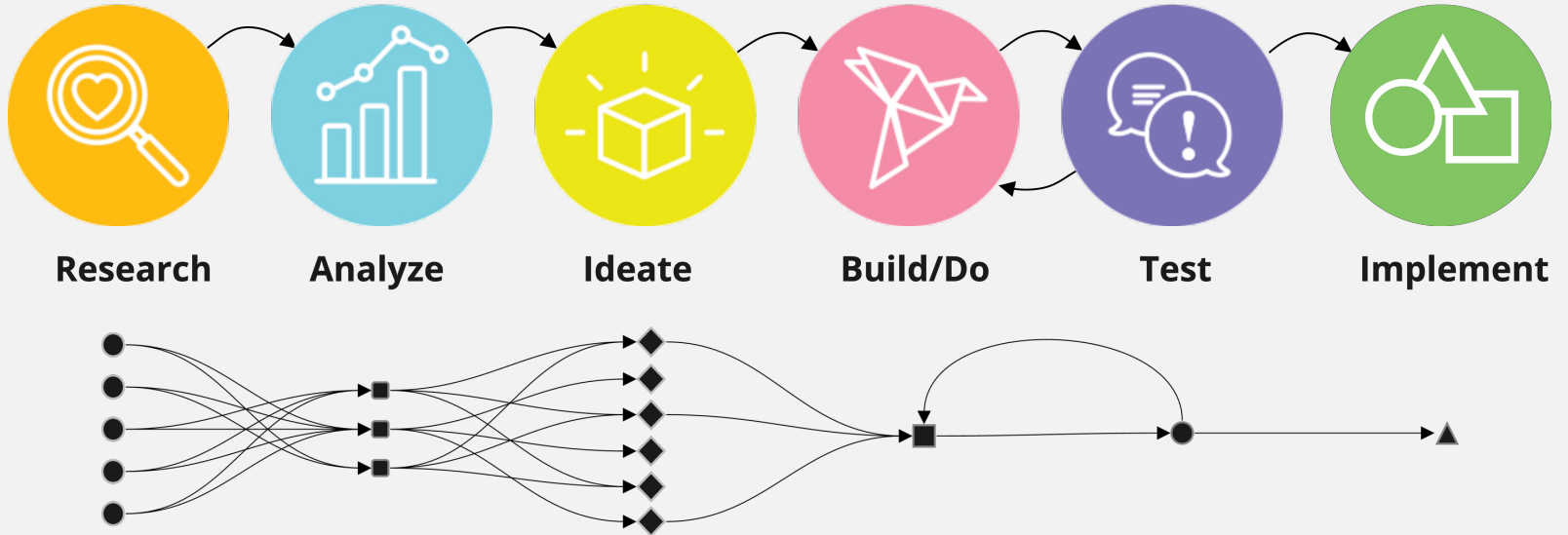
Secondary Research is the first phase of the DT&I process.





# What is the Design Thinking Process?

Let's summarise:



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A6.2

# What are Questionnaires?



# What are 'Questionnaires'?

Questionnaires have a set of **specific designed questions** that will help you **gather data/information from users**.

Questionnaires help you **gather data quickly** and can include both **quantitative and qualitative** information.

Questionnaires can have both **open ended** as well as **close ended** questions.

## Questionnaires and Surveys:

- Questionnaires refer to a set of questions and Surveys refer to the method of collecting, analyzing data/information from several respondents.



# Why are 'Questionnaires' important?

- Questionnaires are helpful to **gather data/information** from several respondents.
- The collection of data/information can be **done quickly in a short time**.
- The data/information collected can be **done in a systematic organized manner**.
- The aggregate data/information can be **visualized in form of Charts and Diagrams** which makes it easy to compare and analyze.
- **It is scalable** to get inputs from large number of respondents.

*For example, the Indian Census Data includes information on all the households in India*

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A6.3

What are the  
types of  
Questionnaires?



# What are the types of Questionnaires?

The different types of questionnaires:

1. In-Person
2. Online

## 1. In-Person:

- In-Person Questionnaires are **administered face to face** with the **interviewer physically present** to ask questions and write down the responses. This is helpful for getting responses from respondents with low literacy levels and with multi-lingual backgrounds.

## 1. Online:

- Online Questionnaires are **administered online** on the internet and the responses are filled up by the respondents. This is helpful for **getting responses quickly** and from respondents in **distant and different locations**. This can be **cost-effective**.



# What are the types of Questions?

The different types of questions in questionnaires:

1. Open-ended Questions / Unstructured Questions
2. Close-ended Questions / Structured Questions
3. Dichotomous Questions
4. Multiple Choice Questions
5. Scaling Questions



# Types of Questions . . .

## 1. Open-ended / Unstructured Questions:

- Open-ended or unstructured Questions **allow for free expressions or opinions**. These are great for getting **qualitative feedback and responses**.

*Example: How do you like this course on DT&I so far?*

## 2. Close-ended / Structured Questions:

- Close-ended or structured Questions have **pre-defined set of answers to a question**

*Example: How much did you like the DT&I course? (1) Very much, (2) Somewhat and (3) Not at all*

## 3. Dichotomous Questions:

- Dichotomous Questions have **binary as answers** – usually an ‘Yes’ and ‘No’

*Example: Did the DT&I course talk about Tools? Answer: (1) Yes and (2) No*



# Types of Questions . . .

## 4. Multiple Choice Questions:

Multiple Choice Questions have **multiple choice of possible answers**.

*Example: Are these the phases of DT&I process? (1) Research, (2) Analysis, (3) Ideation (4) Marketing, (5) Prototyping*

## 5. Scaling Questions:

**a. Licher Scale Questions use a rating scale for selection.**

Example: The quality of DT&I course was good: (1) Strongly Agree (2) Neutral (3) Strongly Disagree

**b. Numerical Scaling Questions use a number rating scale.**

*Example: Rate the quality of the DT&I course on 1 to 5 scale (1 being very bad and 5 being very good)*

**c. Semantic Differential Scaling Questions use two opposite adjectives.**

Example: Rate the quality of the DT&I course from being (1) Easy - - - - - (5) Difficult



# Seeking Permission:

## Seeking Permission and respect for Privacy:

. Its is very important not to assume that you can go and administer questionnaire without their consent

- **seek permission before you start asking questions – its ethical.**
- It's essential to protect the users identity and be respectful of their privacy, more so if it involves children, the elderly or persons with disability.
- be sensitive to their concerns, be respectful of their culture, and traditions.
- **Do get the clearance for your study** from your institute/organization's **Ethics Committee** if the study involves the above mentioned user segment.

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A6.4

Why do you  
need to Talk  
to Experts?



# Talking to Experts:

## Why do you need to Talk to Experts:

Subject experts are **knowledgeable and have expertise about the topic** that you are trying to understand. Conversing with them could **provide you with in-depth information** relevant to your topic.

## How do you locate Experts:

This depends on the topic that you have chosen.

The expert that you are looking for could be Scientists, Faculty Researchers, Field Officers, Managers, and others.

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A6.5

# Further Study and References



# Further Study and References:

- [www.dsource.in](http://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>
- Contextual Design: Defining Customer-Centered Systems  
by Karen Holtzblatt, Hugh Beyer, academic Press, 1998
- The Humane Interface: New Directions for Designing Interactive Systems  
by Jef Raskin, Addison Wesley, 2000

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Design Quote:  
“One eye sees and  
the other feels”

*Paul Klee,  
German-Swiss Artist*





**Thanks for  
Listening**

**DT&I Project**  
Section: A2  
Week 2

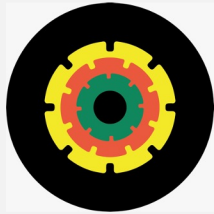
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DT&I  
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- > Case Study  
Project



## Supporting Organizations:



D'source Project  
IDC, IIT Bombay



Open Design School  
IDC, IIT Bombay



MoE's Innovation Cell  
AICTE, New Delhi



**Credits:**

**Content:**

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:

End Title Music:  
C P Narayan



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