Understand Your Users

- Observe
- Register Features
- Ask Questions
Field

Lab

Behavioral

Attitudinal

Quantitative

- Fixed & measurable reality
- Analyzed numerically and statistically

Qualitative

- Dynamic & descriptive reality
- Analyzed by themes

Field

- Natural Environment
- Uncontrolled

Lab

- Artificial Environment
- Well Controlled

Behavioural

- What people do

Attitudinal

- What people think / feel
# Data Triangulation

- One question - several methods
- Cross verification

## Field
- Natural Environment
- Uncontrolled

## Lab
- Artificial Environment
- Well Controlled

## Quantitative
- Fixed & measurable reality
- Analyzed numerically and statistically

## Qualitative
- Dynamic & descriptive reality
- Analyzed by themes

## Behavioural
- What people do

## Attitudinal
- What people think / feel

### Data Triangulation

- Field
- Lab
- Quantitative
- Qualitative
Understanding Your Users: Exploratory Studies

Validity of Research Design

- External Validity
- Internal Validity

Generalizability of outcomes

Trustworthiness of measurement
Understand Your Users: Exploratory Studies

Validity of Research Design

External Validity
- Selection of the sample
- Size of the sample
- Experimental Situation
- Time of the study

Internal Validity
- Consistency of instruments
- Reactivity

Generalizability of outcomes

Trustworthiness of measurement
Understand Your Users: Exploratory Studies

Validity of Research Design

External Validity
- Selection of the sample
- Size of the sample
- Experimental Situation
- Time of the study

Internal Validity
- Consistency of instruments
- Reactivity

Generalizability of outcomes

Trustworthiness of measurement
Understand Your Users: Exploratory Studies

Reactivity

- Hawthorne (observer) effect
- Expectancy effect (expectancy bias)
- Conformity effect
- Social desirability effect
Understand Your Users: Exploratory Studies

Exploratory Study

- Motivational system
- Contextual knowledge & beliefs
- Cognitive (Mental) model
Understand Your Users: Exploratory Studies

Exploratory Study

Motivational system
- Goals and tasks ("need")
- Desirability ("want")
- Emotional charge ("fears", frustration, pleasure, etc.)

Contextual knowledge & beliefs
- A cognitive representation (understanding) of how something works / organised
- Based on previous experience & beliefs; defines reasoning

Cognitive (Mental) model
Understand Your Users: Exploratory Studies

- Exploratory Study
  - Goals
  - Hypotheses
  - General directions
  - Open mind
Understand Your Users: Exploratory Studies

Goals

Hypotheses

Exploratory Study

There is a product

There is NO product

General directions

Open mind
Understand Your Users: Exploratory Studies

There is a product

- True-Intent Studies
- Remote Unmoderated Usability Studies
- Intercept Surveys
- Clickstream Analysis

There is NO product

- Questionnaires
- Observations
- Interviews
- Diary/Camera Studies
- Participatory Design
- Ethnographic Field Studies
- Contextual inquiry
Understand Your Users: Exploratory Studies

There is a product

- True-Intent Studies
  - Remote Unmoderated Usability Studies
  - Intercept Surveys
  - Clickstream Analysis

- Ask about user’s goals and/or intentions when they entering the service
- Track their subsequent behavior
- Ask if they were successful in achieving their goal

- Questionnaires
- Observations
- Interviews

- Diary/Camera Studies
- Participatory Design

- Ethnographic Field Studies
- Contextual inquiry
Understand Your Users: Exploratory Studies

There is a product

- True-Intent Studies
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- Observations
- Interviews

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- Ethnographic Field Studies
- Contextual inquiry

There is a product - Quantitative/qualitative automated method
- Captures behaviors (through software on participant device) and attitudes (through embedded survey questions)
- Usually includes goals/scenarios
Understand Your Users: Exploratory Studies

There is a product

- True-Intent Studies
- Remote Unmoderated Usability Studies
- Intercept Surveys
- Clickstream Analysis

- A survey triggered during the use of a product
- Usually very short

- Questionnaires
- Observations
- Interviews
- Diary/Camera Studies
- Participatory Design
- Ethnographic Field Studies
- Contextual inquiry
Understand Your Users: Exploratory Studies

There is a product

- True-Intent Studies
- Remote Unmoderated Usability Studies
- Intercept Surveys

- Analyzing the record of elements that users clicks on/views, as they use a software product
- Requires proper software instruments / tools for telemetry data collection enabled

- Questionnaires
- Observations
- Interviews
  
- Diary/Camera Studies
- Participatory Design
  
- Ethnographic Field Studies
- Contextual inquiry
Understand Your Users: Exploratory Studies

There is a product
- True-Intent Studies
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There is NO product
- Questionnaires
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Understand Your Users: Exploratory Studies

- Questionnaires
- Observations
- Interviews
- Diary/Camera Studies
- Participatory Design
- Ethnographic Field Studies
- Contextual inquiry
Understand Your Users: Exploratory Studies

- Questionnaires
- Observations
- Interviews

- Predefined series of written questions
- Usually relatively large samples - fast and cheap method
- Often used remotely
- Better to keep within 20-25 questions
Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

Open-ended
Understand Your Users: Exploratory Studies

Survey questions

Closed-ended
- Multiple choice questions
- Matrix questions
- Scaled questions
  - Semantic Differential
  - Likert scale

Open-ended
Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

- Multiple choice questions
  - Matrix questions
  - Scaled questions
    - Semantic Differential
    - Likert scale

Example:
What color is your favorite ice-cream?
- Red
- Blue
- White
- Other: ______
Understand Your Users: Exploratory Studies

Survey questions:

- **Closed-ended**
  - Multiple choice questions
  - Matrix questions
  - Scaled questions

- **Semantic Differential**
- **Likert scale**

**Example:**

Where do you usually eat the following food?

<table>
<thead>
<tr>
<th></th>
<th>Home</th>
<th>Work</th>
<th>School</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ice-cream</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salad</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Understand Your Users: Exploratory Studies

Survey questions

- Closed-ended
  - Multiple choice questions
  - Matrix questions
- Scaled questions
  - Semantic Differential
  - Likert scale

Example:
Where would you describe this ice-cream?

- Tasty …. …. …. …. …. …. … Tastless
- Cheap …. …. …. …. …. … … Expensive
- Satisfying …. …. …. …. …. … … Disappointing
Understand Your Users: Exploratory Studies

Survey questions

Closed-ended

- Multiple choice questions
- Matrix questions

Scaled questions

- Semantic Differential
- Likert scale

Example:

Ice-cream is my favorite food at this restaurant:

Strongly Agree, Neutral, Strongly Disagree

- Typically 5, 7 or 9 point scale
Understand Your Users: Exploratory Studies

Survey questions

Open-ended

Unstructured questions

Explanation questions

Completion questions

Association questions

Example:
Any of us can sometimes unexpectedly run out of ice-cream. What do you usually do in such situations?

______________________________________

______________________________________

______________________________________

______________________________________
Understand Your Users: Exploratory Studies

Survey questions

- Open-ended
  - Unstructured questions
  - Explanation questions
  - Completion questions
  - Association questions

Example:
In previous question you said you prefer salads. Please, explain why:

______________________________________
______________________________________
______________________________________
______________________________________
Understand Your Users: Exploratory Studies

Survey questions

Open-ended
- Unstructured questions
- Explanation questions
- Completion questions
- Association questions

Example:
My favorite taste of ice-cream is __________. I like it the most because it is __________. I usually eat it at (in) _________________ when I am ______________________.
Understand Your Users: Exploratory Studies

Survey questions

Example:

What is the first word that comes to mind when you see the following:

Summer, Tasty, Cold, Flavour

______________________________

Open-ended

Unstructured questions

Explanation questions

Completion questions

Association questions
Understand Your Users: Exploratory Studies

Survey questions

Closed-ended
- Multiple choice questions
- Matrix questions
- Scaled questions
- Semantic Differential
- Likert scale

Open-ended
- Unstructured questions
- Explanation questions
- Completion questions
- Association questions
Understand Your Users: Exploratory Studies

- Observing participants performing some type of activity (ongoing behaviour)
- Can be controlled (lab) or naturalistic (field)
- Different possible levels of participation
- Written or video recording (requires consent!)

[DIAGRAM WITH OPTIONS]
Understand Your Users: Exploratory Studies

- Naturalistic Observations
  - Non-Participatory Participation
  - Passive Participation
  - Active Participation
- Controlled Observations
  - Complete Participation
Understand Your Users: Exploratory Studies

- In depth discussion of the topic with a participant
- Usually one-on-one
- Written, audio, video recording options (requires consent!)

- Questionnaires
- Observations
- Interviews
- Diary/Camera Studies
- Participatory Design
- Ethnographic Field Studies
- Contextual inquiry
Understand Your Users: Interview

- Structured
- Semi-Structured
- Narrative (Unstructured)
- Focus Groups
Understand Your Users: Interview

**Structured**
- Same set of questions
- Standardized process
- Little freedom of expression
- Often self-reported

**Semi-Structured**
- List of guiding questions / topics
- Trajectories in a conversation
- Often preceded by observation
- One of the most popular

**Narrative (Unstructured)**
- Focus and goal guide the discussion
- Open-ended questions
- Freedom of expression & little control
- Popular in ethnography

**Focus - Groups**
- Semi-structured in a group
- Moderated
- 6-10 homogeneous strangers
- May permit discussion
- Emerged in the 1940s