



# User-Centric Mobile Application for Long-Term Data Collection: Design and Strategy





# Introduction



## Background and Motivation

- Data Collection in Randomized Controlled Trials (RCTs) and longitudinal studies.
- Attrition bias
- Survey fatigue
- Cumbersome reporting prone to human error

## Aim

- Mitigate survey fatigue
- Streamline data collecting

## Stakeholders

- Study participants
- Researchers
- Organizations
- Future target groups

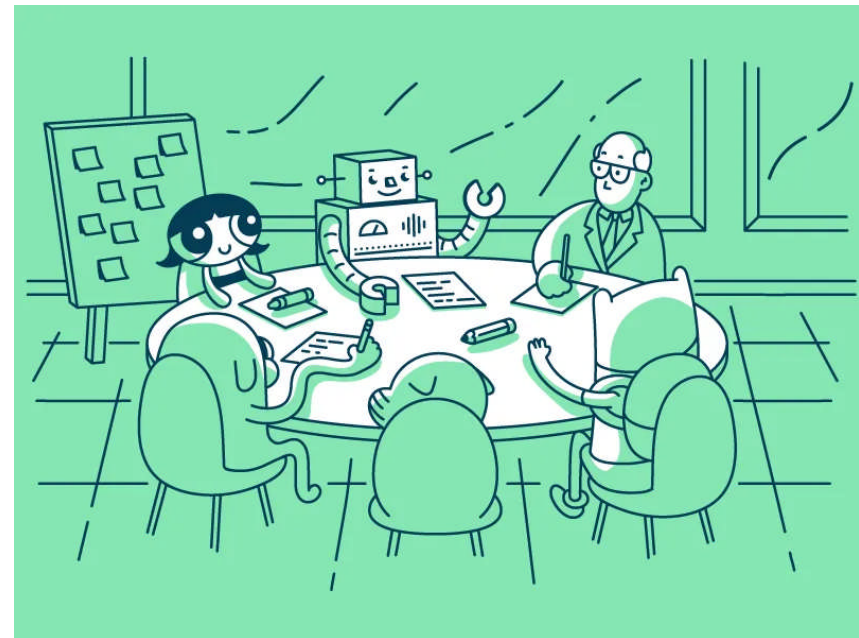


Photo: Sanin, A. (2020, September 4). Co-Creation How-To's. *Design Globant*.



# Scenario



Researchers aim to follow the social development of children from kindergarten through their first year of school. This study requires the participation of both kindergarten teachers and first-year school teachers, as well as the parents of the children.



## Stakeholders

- › Researchers
- › Teachers
- › Parents
- › Children
- › School

## Participants and Their Roles

- › **Teachers:** Both kindergarten and first-year school teachers must fill out weekly surveys about the child's behavior and well-being at school.
- › **Parents:** Parents are required to complete weekly surveys regarding their child's behavior at home.



## Survey Requirements

- **Standardized Questions:** The surveys consist of standardized questions that cannot be changed, altered, or skipped.
- **Weekly Reporting:** Both teachers and parents must submit their surveys every week.

## Data Collection Challenges

- **Non-Report Consequence:** If a parent or teacher forgets to submit a report for a week, they cannot provide that data later. This results in a week of missing data in the dataset





# Challenges with data collection in randomized controlled trials (RCTs) and longitudinal studies.



## Survey fatigue

- › Questionnaire Fatigue
- › Frequency Fatigue
- › Repetition Fatigue
- › Design Fatigue
- › Incentive Fatigue

## Attrition bias

- › Participant Dropout
- › Survey Fatigue
- › Inadequate Engagement
- › Technical/Access Issues
- › Privacy Concerns
- › Lack of Immediate Feedback or Rewards
- › Life Events and Personal Circumstances
- › Misalignment of Participant Expectations
- › Lack of Support or Communication



# Theory



## Questionary design

- › Clear and Engaging Surveys
- › Unbiased Questions
- › Reducing Survey Fatigue
- › Order-Effect Bias Mitigation
- › User-Friendly Layout
- › Compatibility Across Platforms
- › Option to Skip Questions
- › Feedback and Continuous Improvement

## Gamification

- › Incorporation of Game-Like Elements
- › Positive Reinforcement
- › Challenges and Goals
- › Visual and Interactive Feedback
- › Social Features and Competition
- › Customization and Personalization
- › Loss Aversion Techniques
- › Balancing Difficulty and Reward
- › Frequent Updates and New Content
- › User Feedback and Iteration

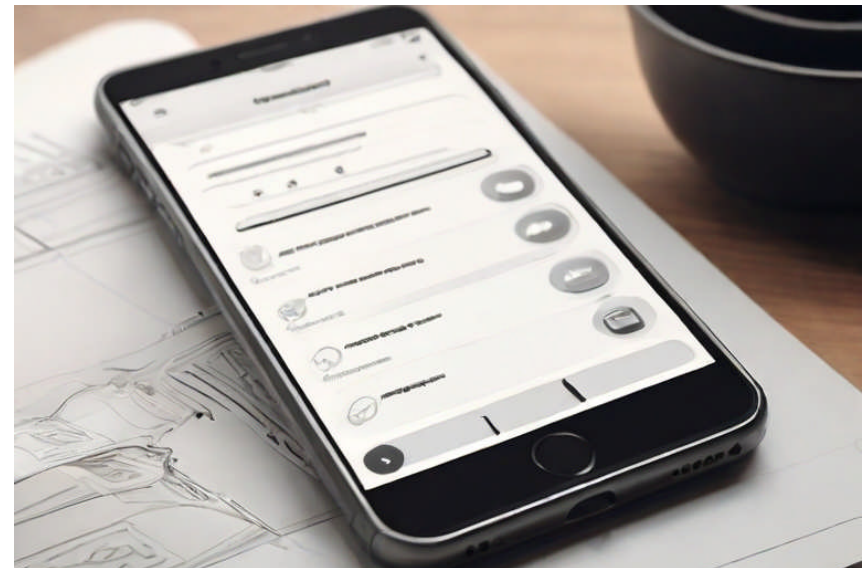


# Solution



## Mobile Application

- Data Collection
- Motivating participant
- Streamline data collecting and processing
- Mitigate attrition bias and human errors



## Future work

- Involving all stakeholders throughout the process
  - Observations
  - Interviews
  - Questionary design and usability testing
  - Co-creation workshops

## Specific elements to research and some challenges

- Question order and bias
- Design layout, instructions and options
- Participant motivation

