

# Dementia Care

BETTER HOME SAFETY MODIFICATIONS AND EASY  
MANAGEMENTS OF SCHEDULES FOR DEMENTIA  
PATIENT

# Our Team Members

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Researcher and Project Manager
- ▶ Sandip Samantaray  
Researcher and Designer
- ▶ Quan The Tran  
Researcher and Documenter

# Overall Problem

- ▶ World Health Organization estimates 35 million people are living with dementia in 2012\*
- ▶ This number may triple in 2050\*
- ▶ Most caregivers have no time for themselves
- ▶ Home safety becomes a critical problem since each patient suffers from memory loss differently

\*<http://www.prb.org/Publications/Articles/2012/global-dementia.aspx>

# Initial Paper Prototype

## Task 1

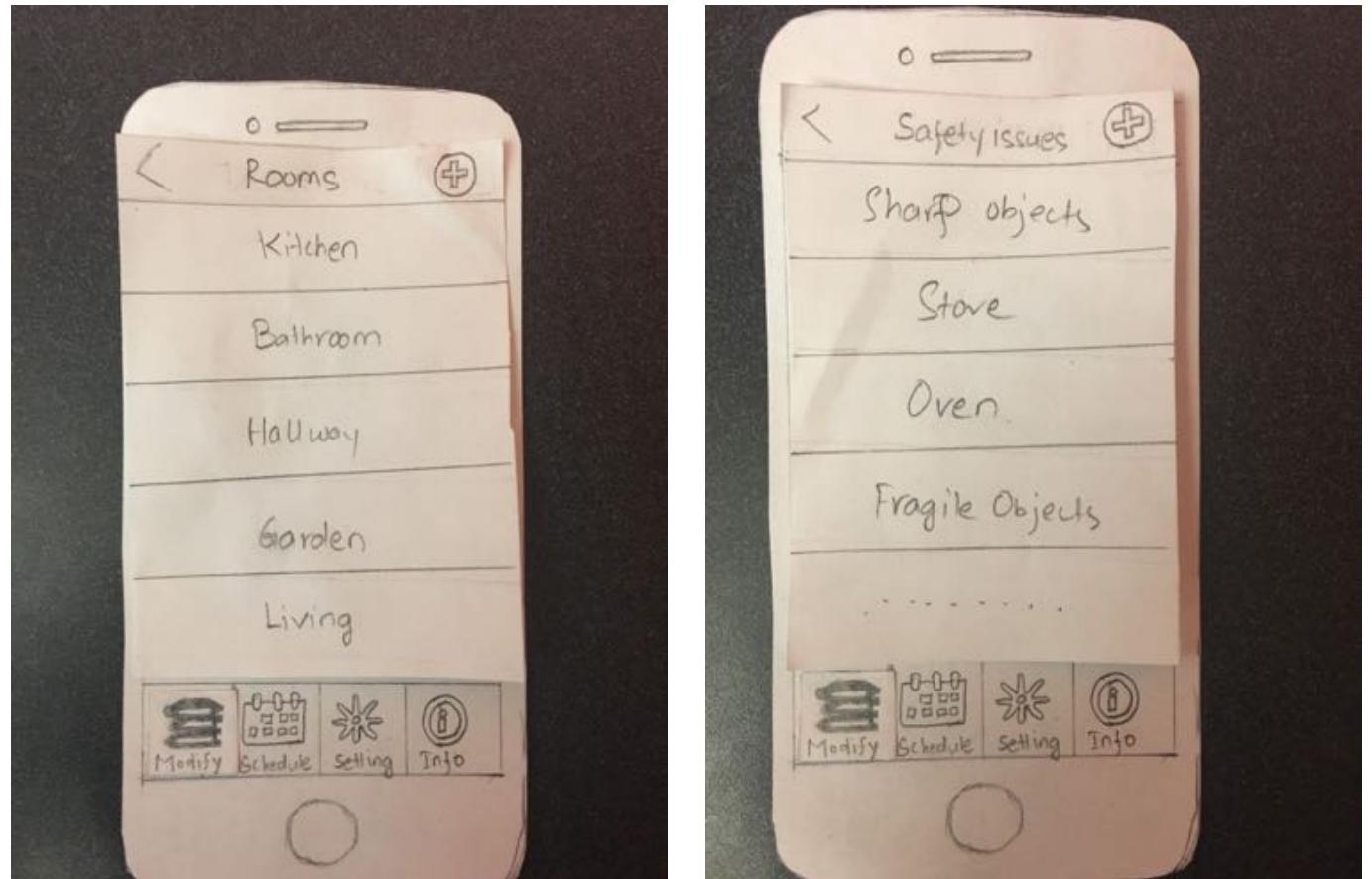
- ▶ Provide a platform for the caregivers to share home modification experiences

## Task 2

- ▶ Help the caregivers manage the schedules for their patients

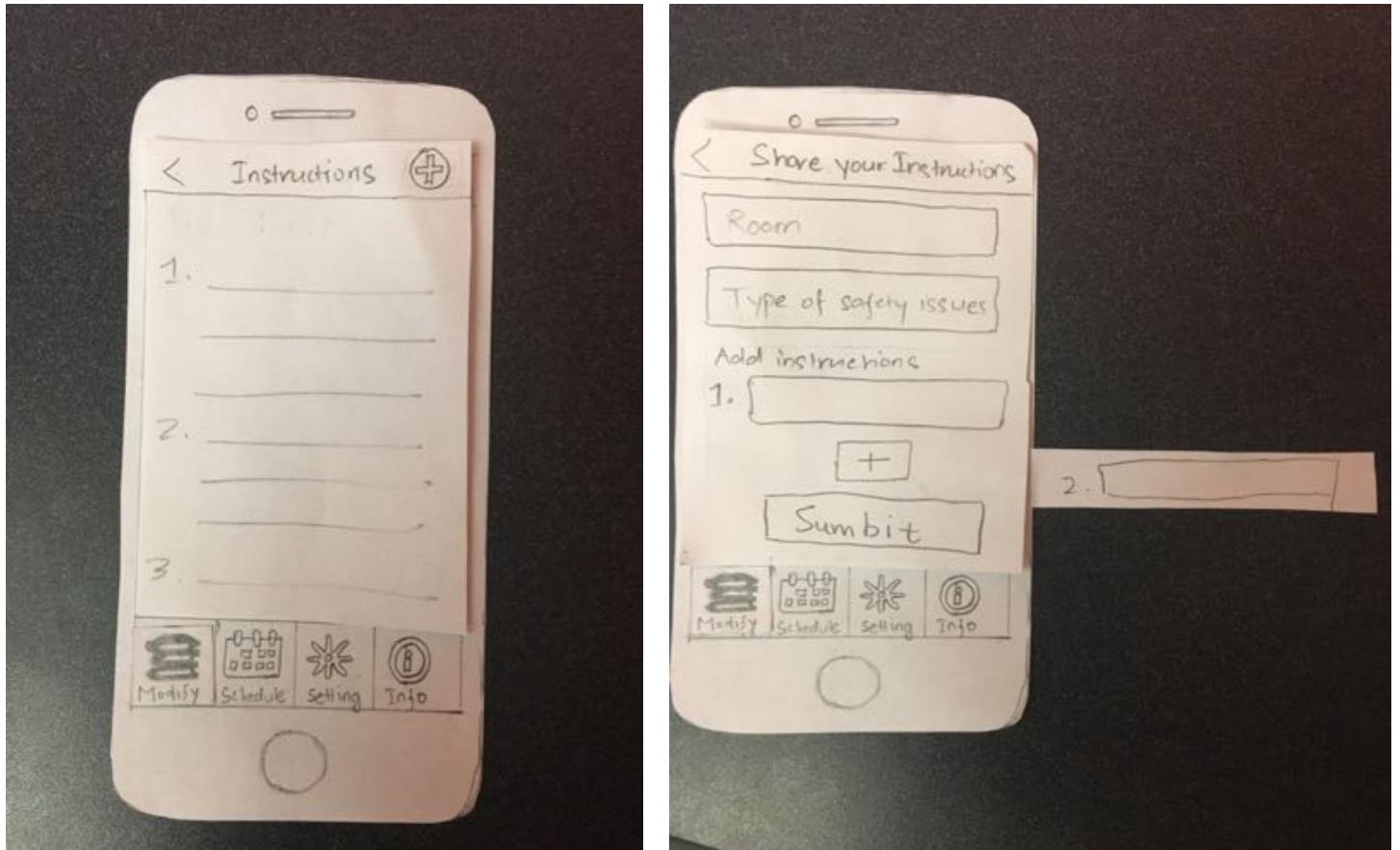
# Task 1

- ▶ Select the rooms for safety issues
- ▶ Select the type of safety issue



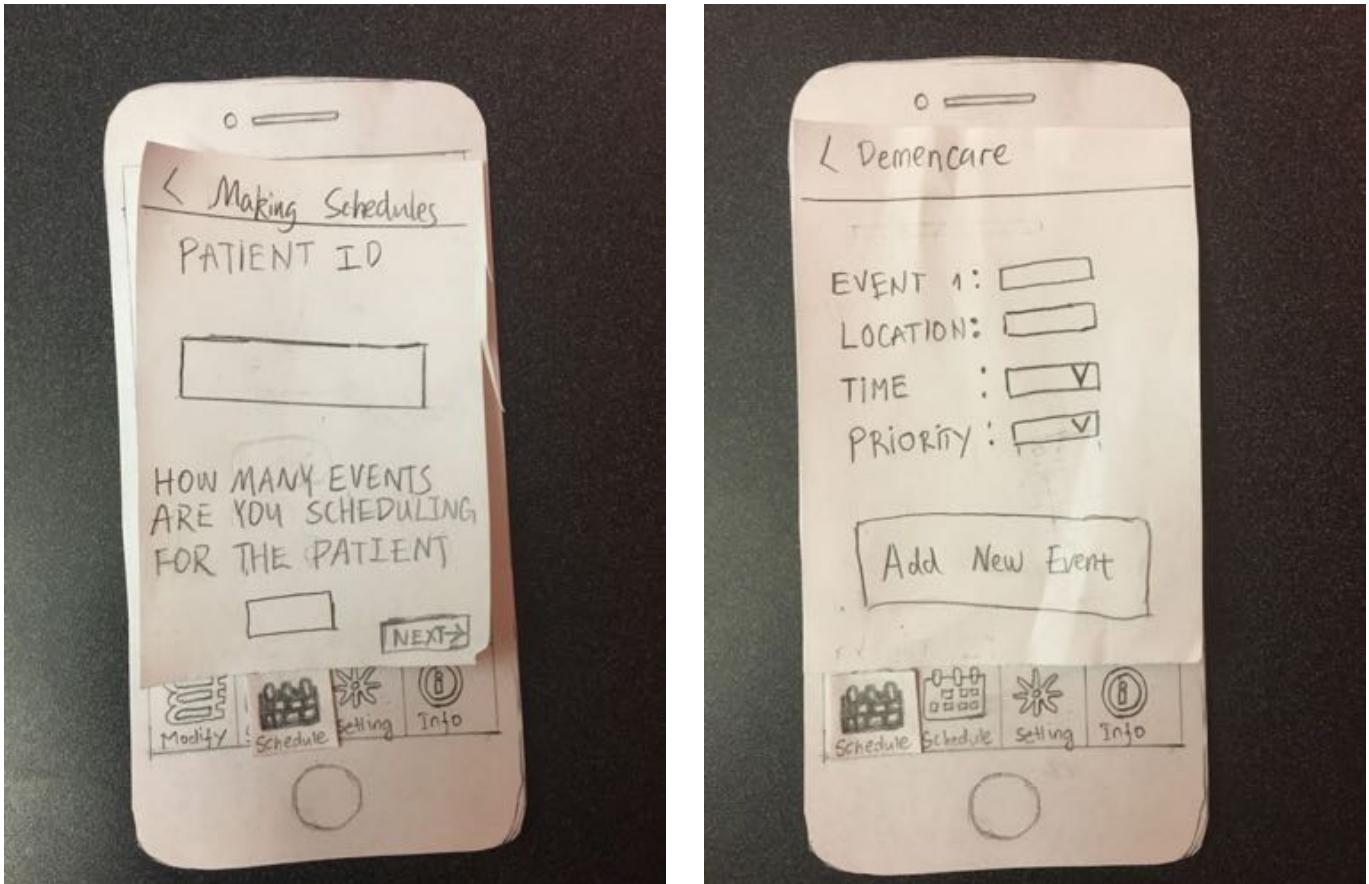
# Task 1

- ▶ Read the instructions to modify the house
- ▶ Add and share your own instructions



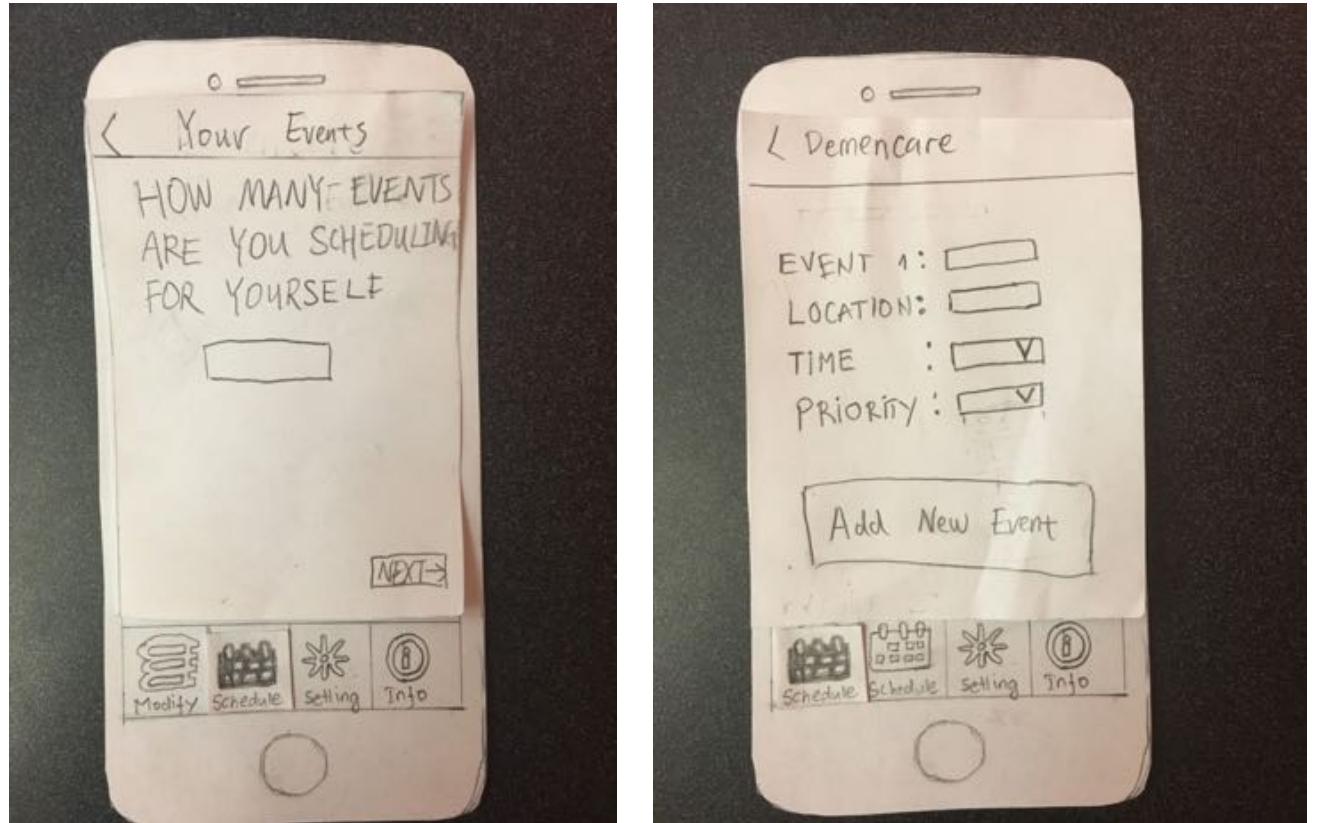
## Task 2

- ▶ Enter patient ID
- ▶ Edit the events information



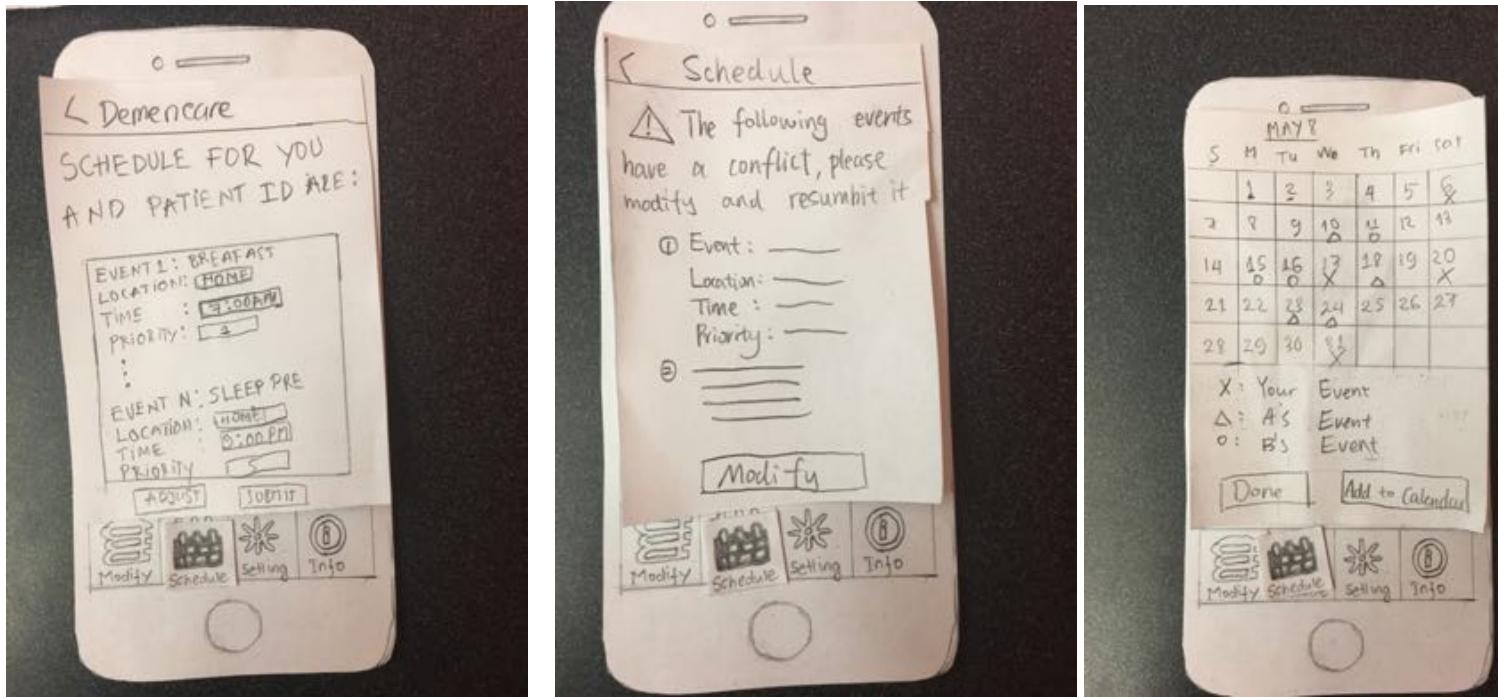
## Task 2

- ▶ Enter caregiver's information
- ▶ Edit caregiver's information based on patients' info



# Task 2

- ▶ App generates summary information and conflicts info if any
- ▶ App generates the schedule information



# Testing Process and Results

# Heuristic Evaluation

## Participants:

1. Members from another group

## Methods:

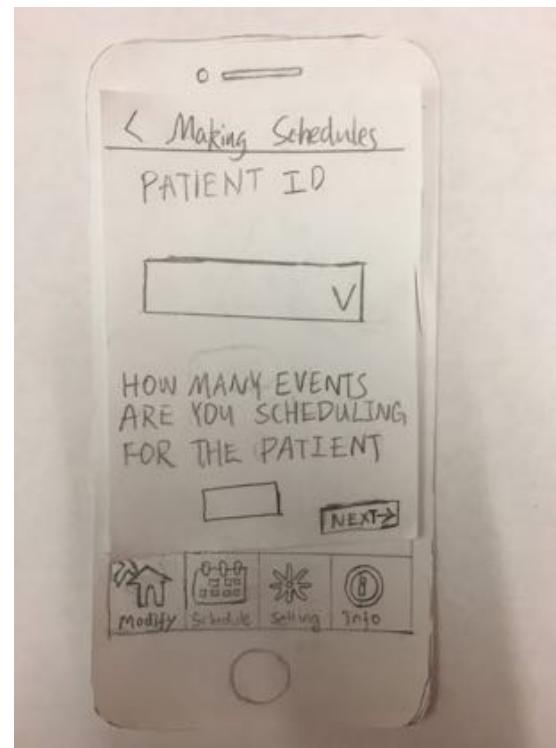
1. Debrief the evaluators about the design.
2. Let the evaluators discover it freely.



# **Results from Heuristic Evaluation**

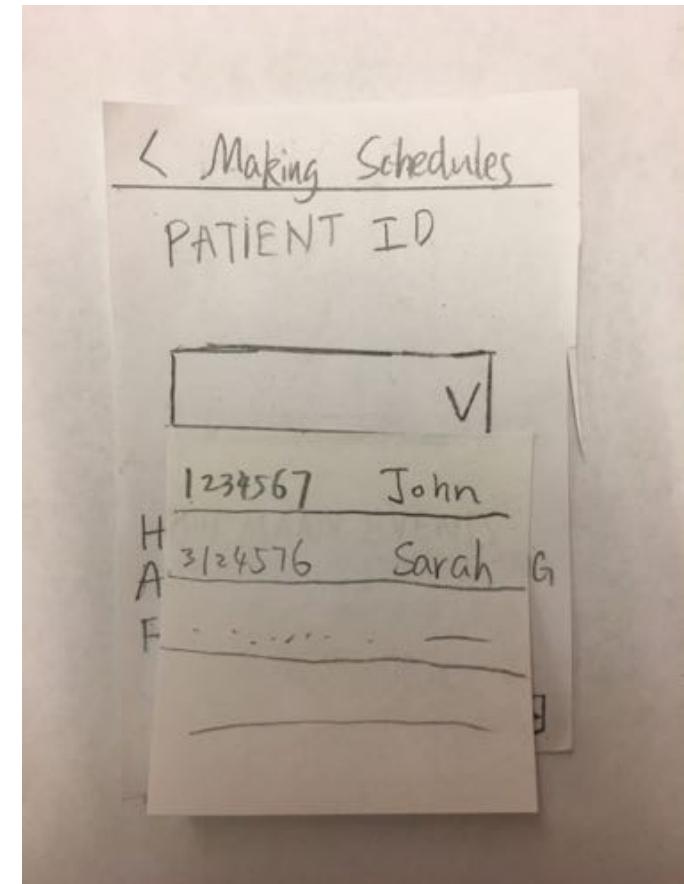
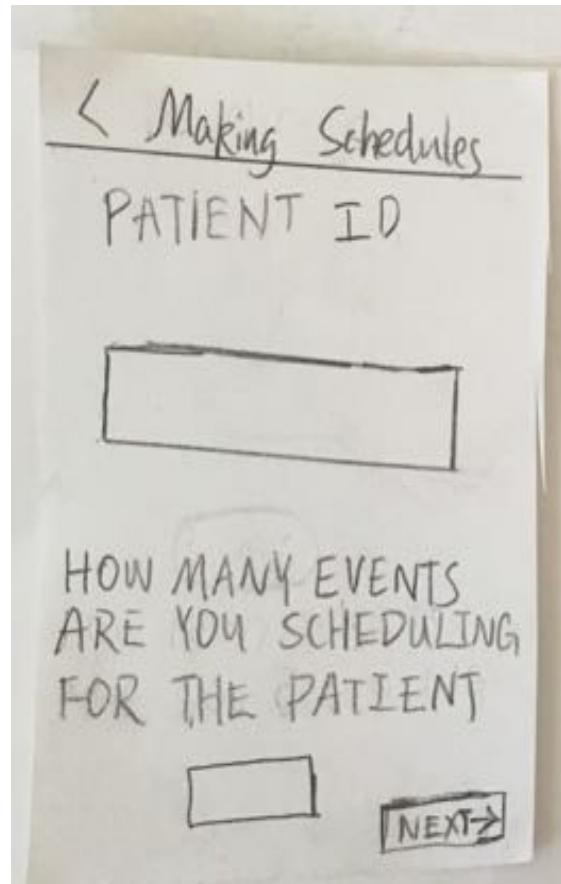
# Issue: Violates consistency and standards

- ▶ Fix: Change the layout of the schedule
- ▶ Fix: Include “make new schedule”



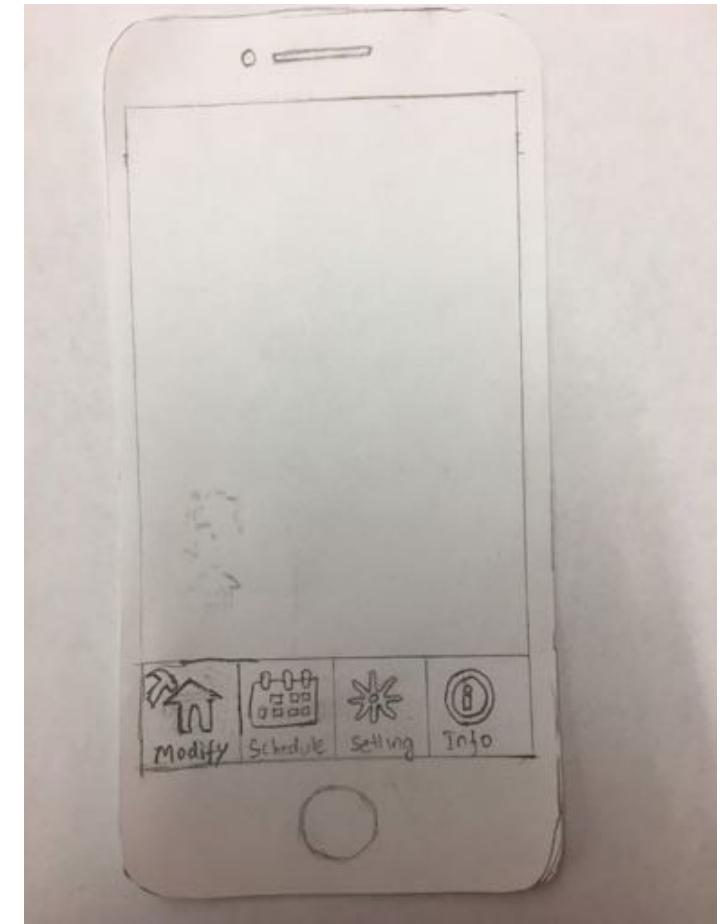
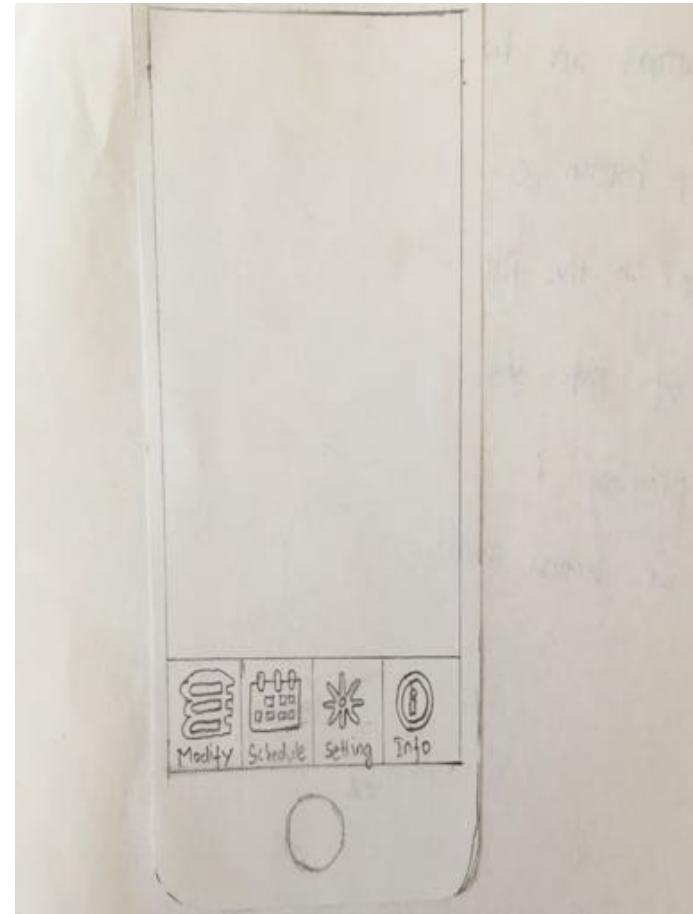
# Issue: Violates Recognition rather than recall

- ▶ Fix: Make a drop down list of patient ID
- ▶ Fix: Create a new user if empty



Issued: Violates  
Match between  
system and the  
real world and  
systems

- ▶ Fix: Revise the icon to  
match its real function



# Usability Tests

## Participants:

1. A UW student who is relative to a caregiver
2. A caregiver of a patient with dementia
3. A busy middle-age housewife taking care of her children

## Methods:

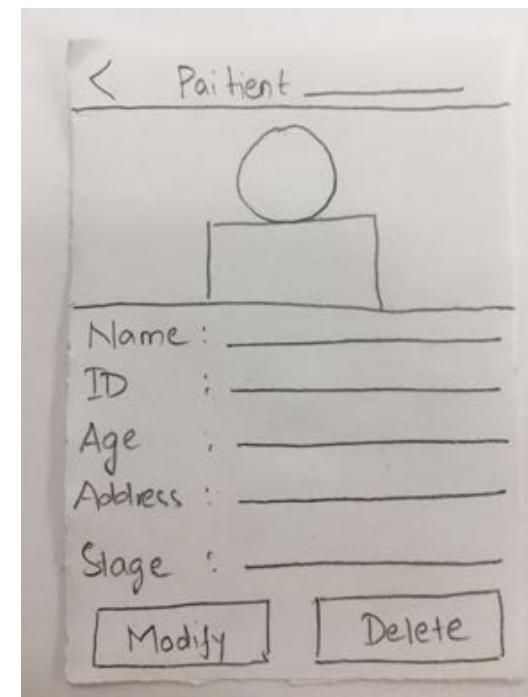
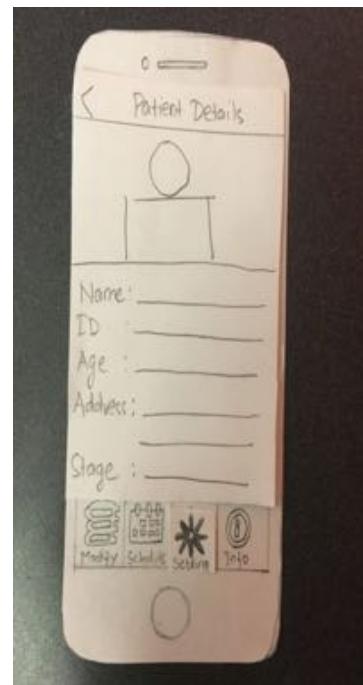
1. Give the participants various tasks to achieve.
2. No helps are given during the test
3. Debrief the participants in the end



# Results from Test 1

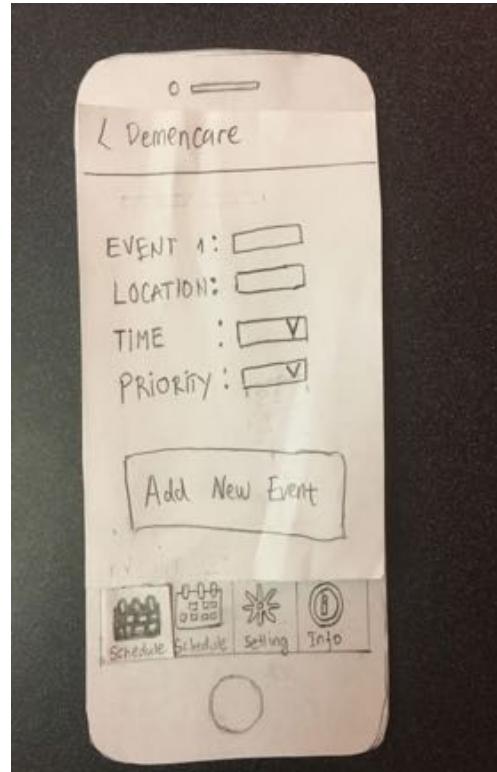
Issue: Unable to modify or delete the patient details

- ▶ Fix: Add the required buttons to modify the patient's details



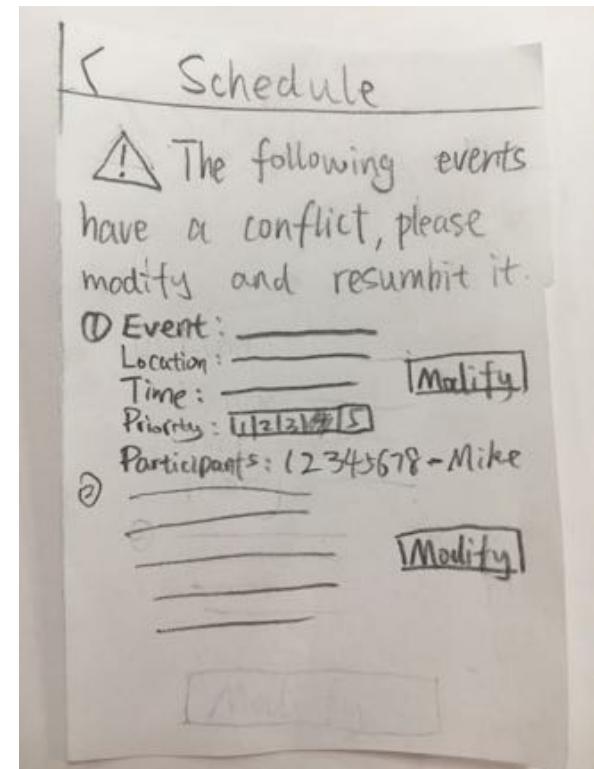
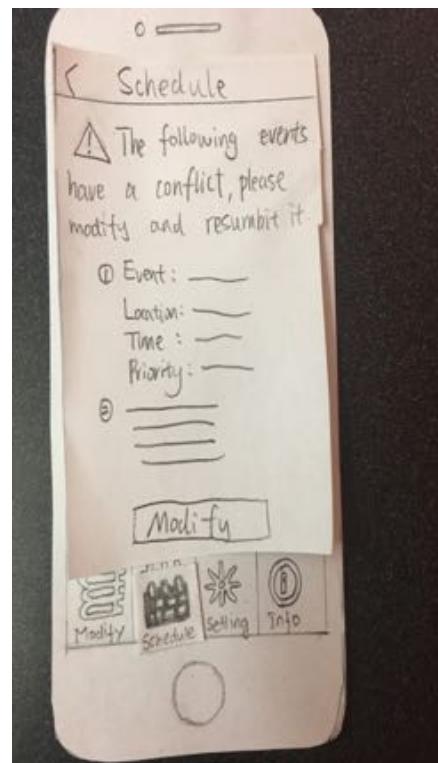
# Issue: Ambiguity about the priority section

- ▶ Fix: Add a scale for the priority so the user understands



# Issue: Unable to modify a specific schedule from the conflict

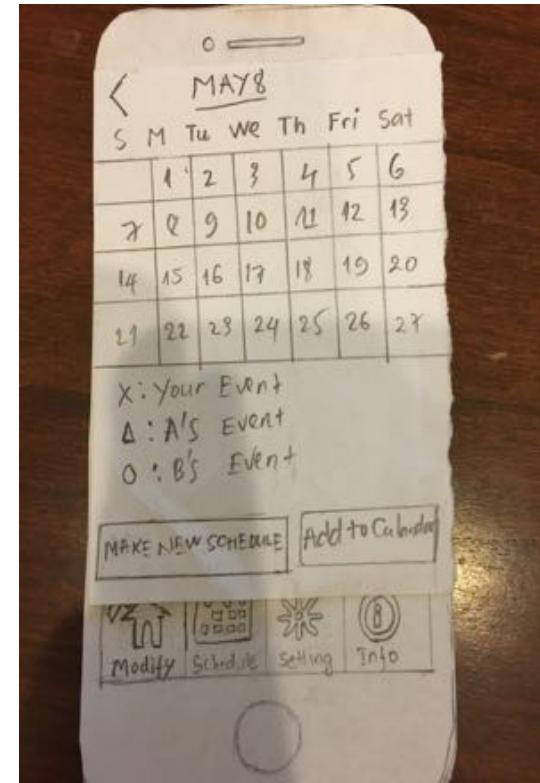
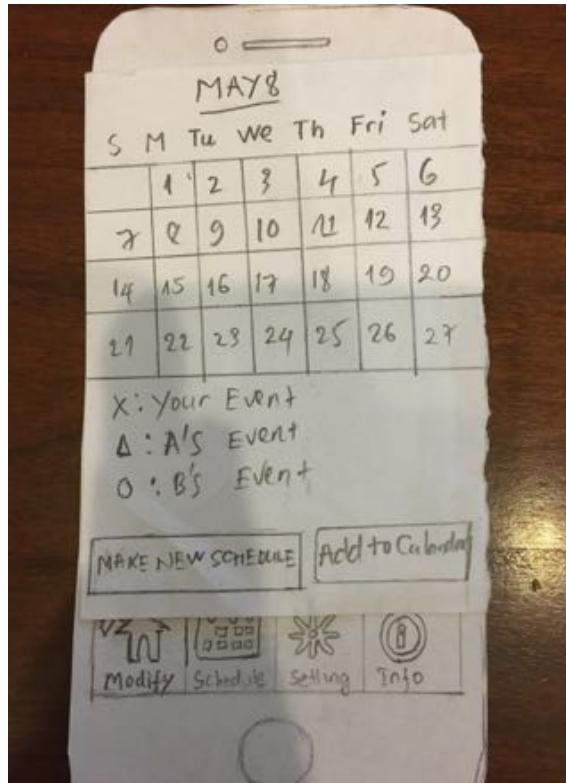
- ▶ Fix: Add a modify button to each event



# Results from Test 2

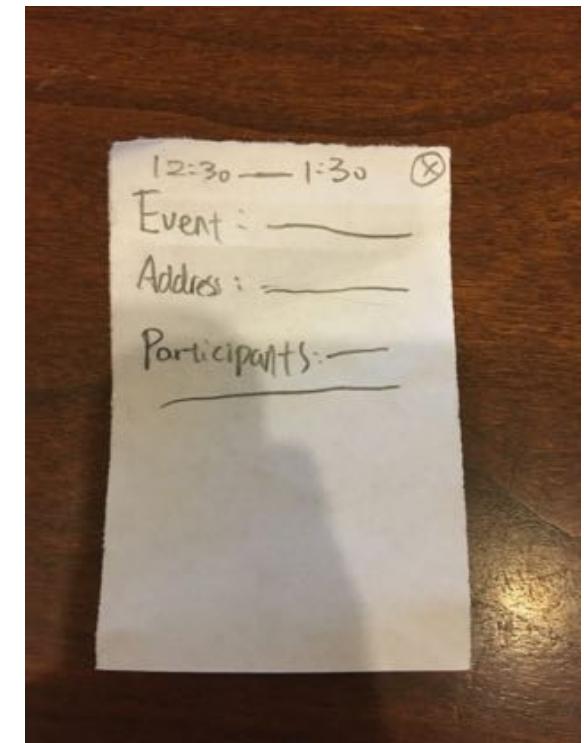
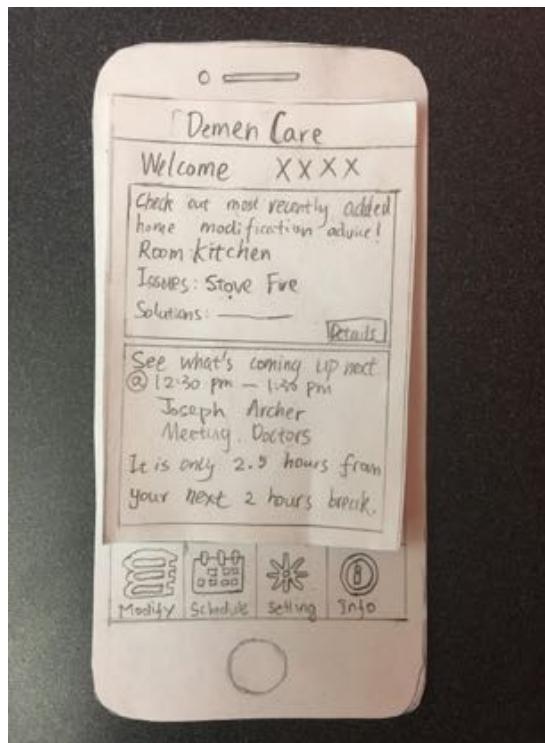
# Issue: No way to go back to the homepage

- ▶ Fix: Add a back button to this page



Issue: User wants to click on the coming-up event to see more detailed

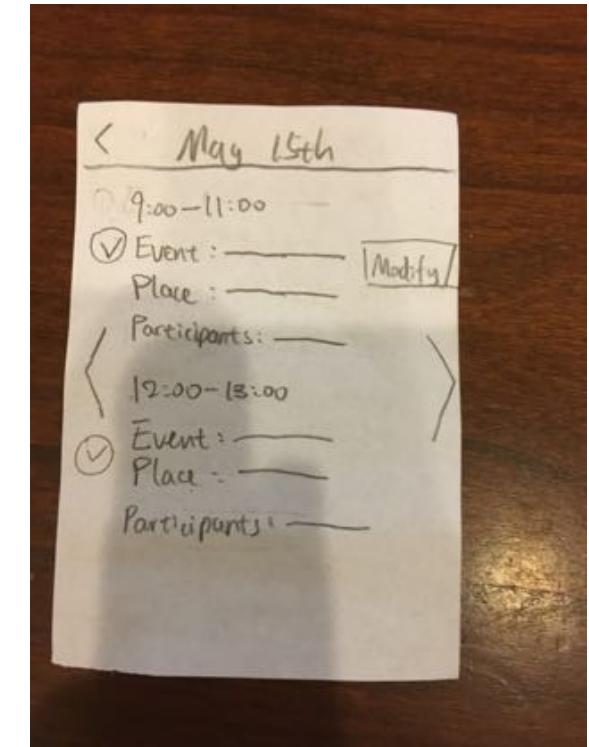
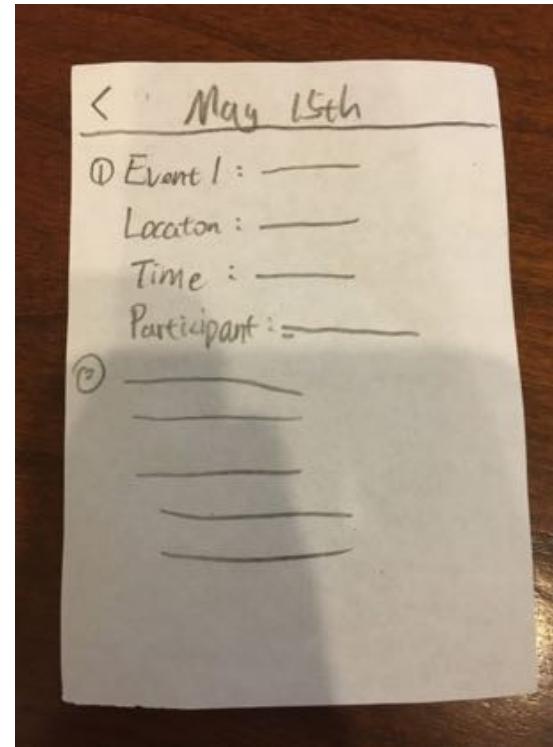
- ▶ Fix: Add a pop-up when that area is clicked



# Results from Test 3

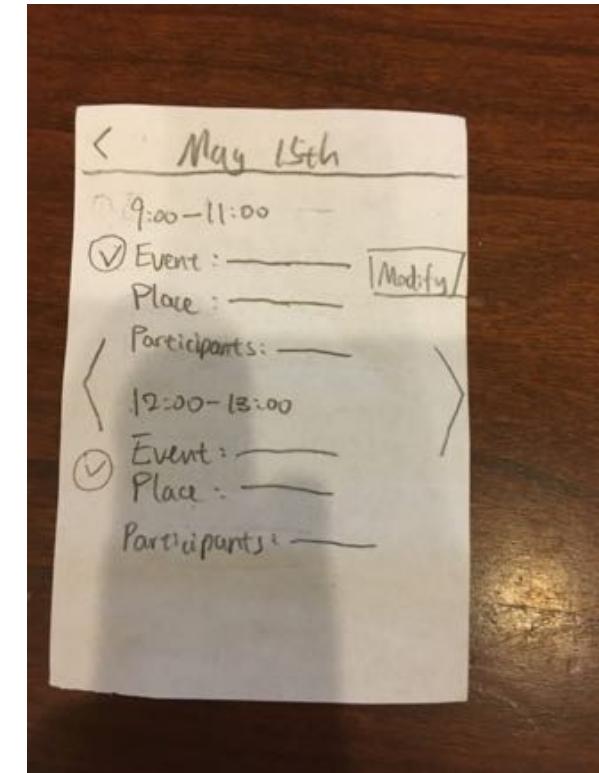
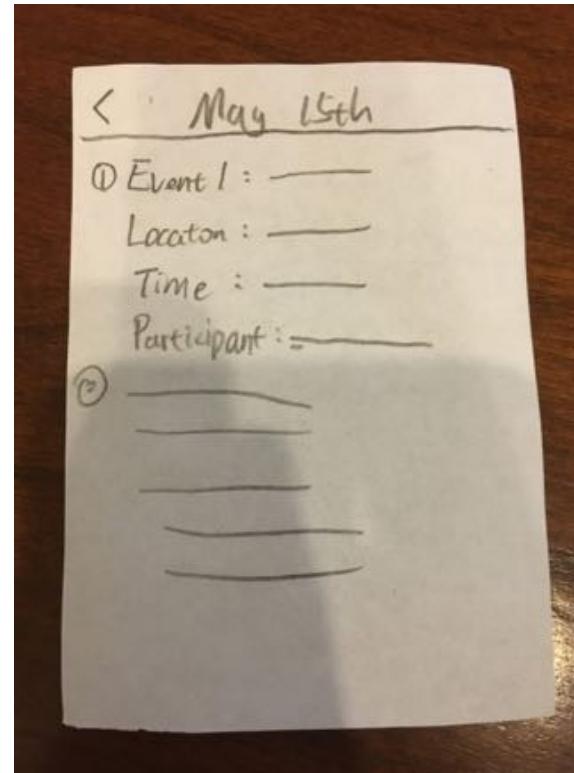
Issue: Tester can not edit detailed information of certain event

- ▶ Fix: Add a modify button so that the user could change each event



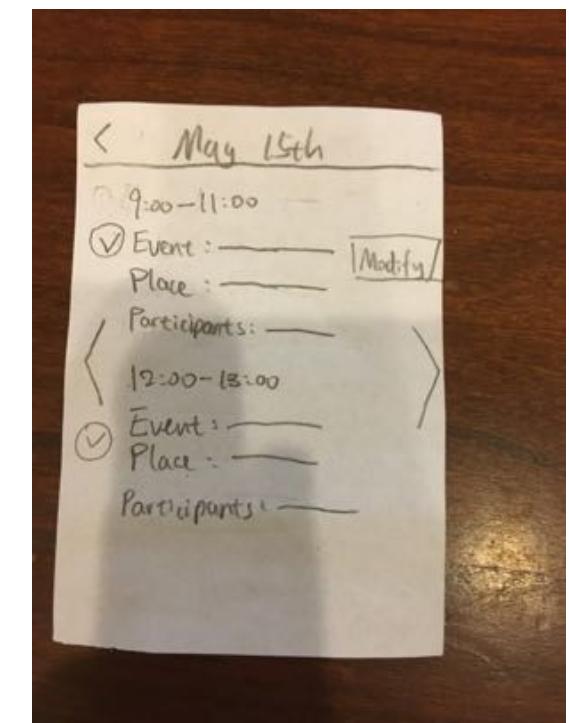
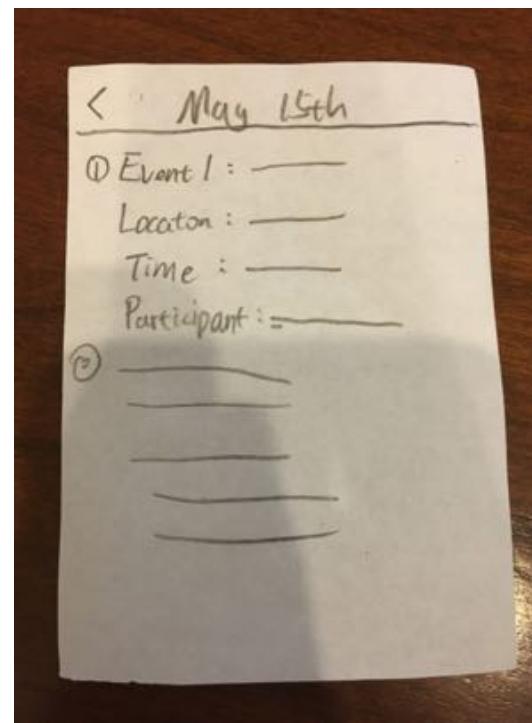
Issue: Tester wants to go to the next day by simply swiping the screen instead

- ▶ Fix: Implement this function so that the user can simply go back and forth



Issue: Tester wants to mark the things that are already finished

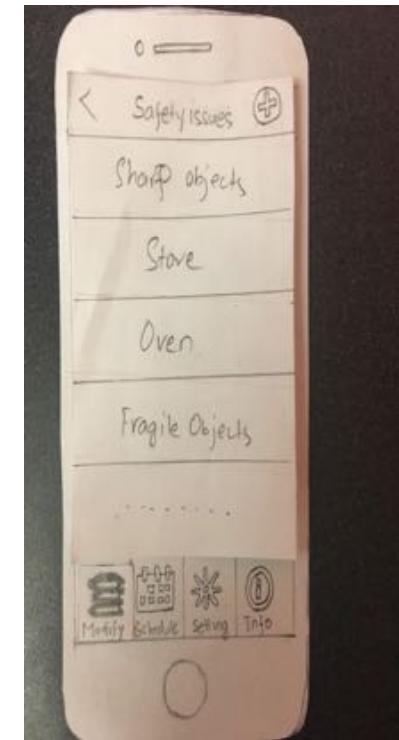
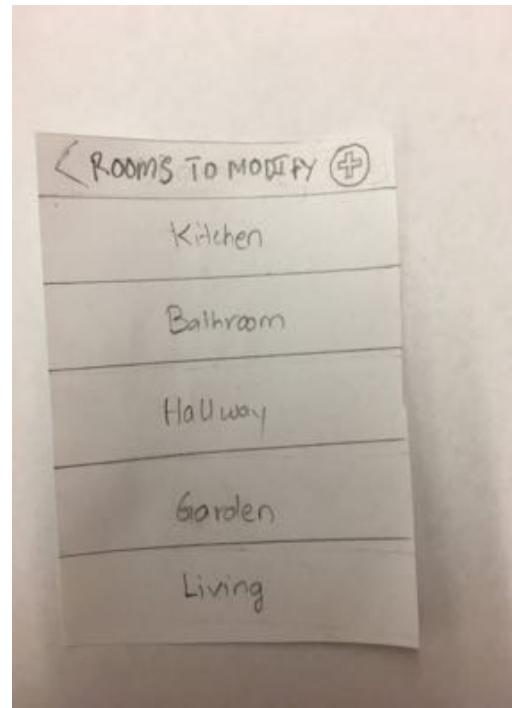
- Fix: Add a check button



# Final Paper Prototype

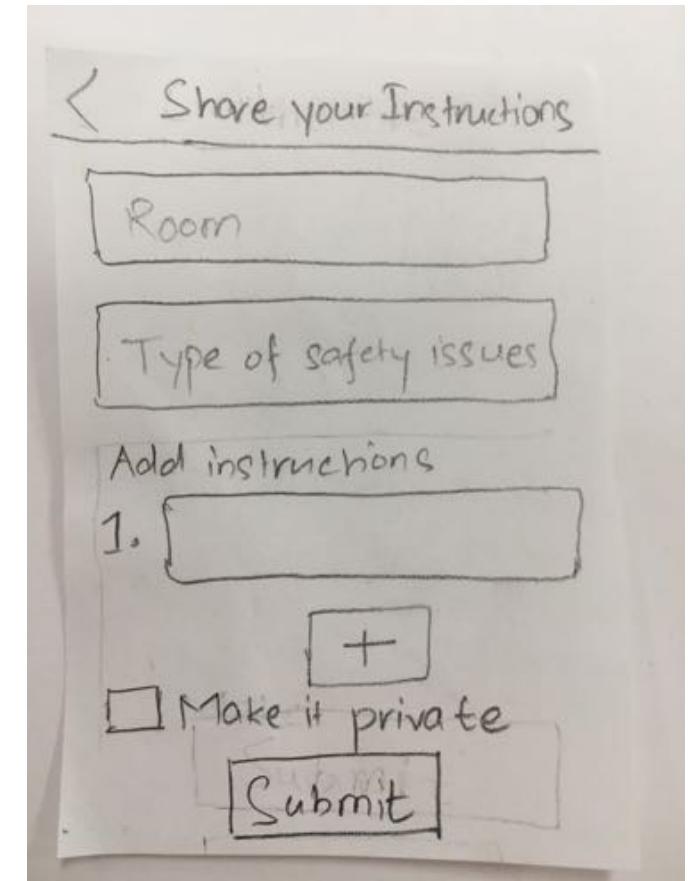
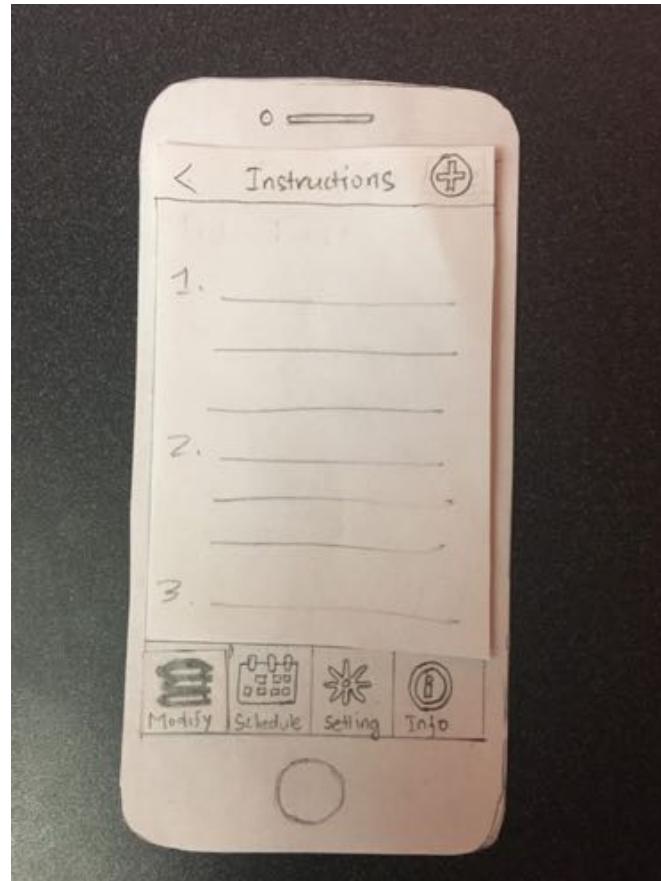
# Task 1

- ▶ Select the rooms for safety issues
- ▶ Select the type of safety issue



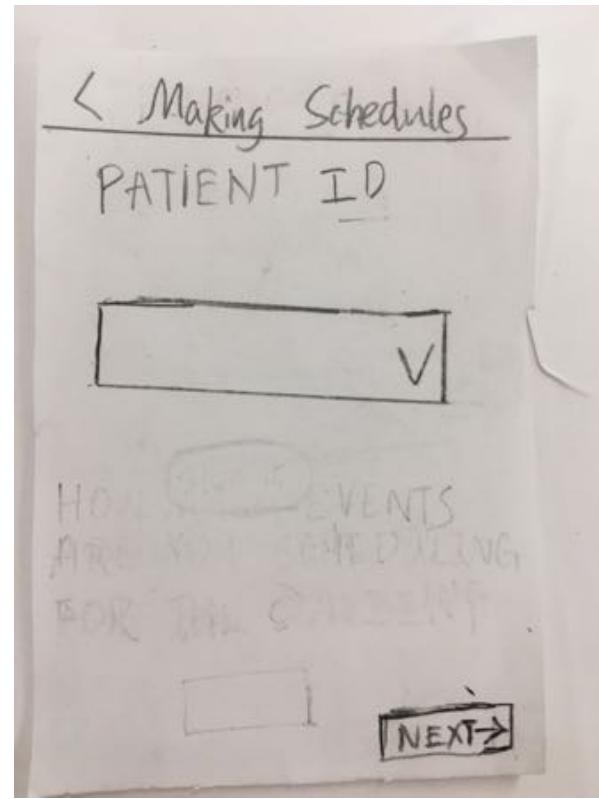
# Task 1

- ▶ Read the instructions to modify the house
- ▶ Add and share your own instructions



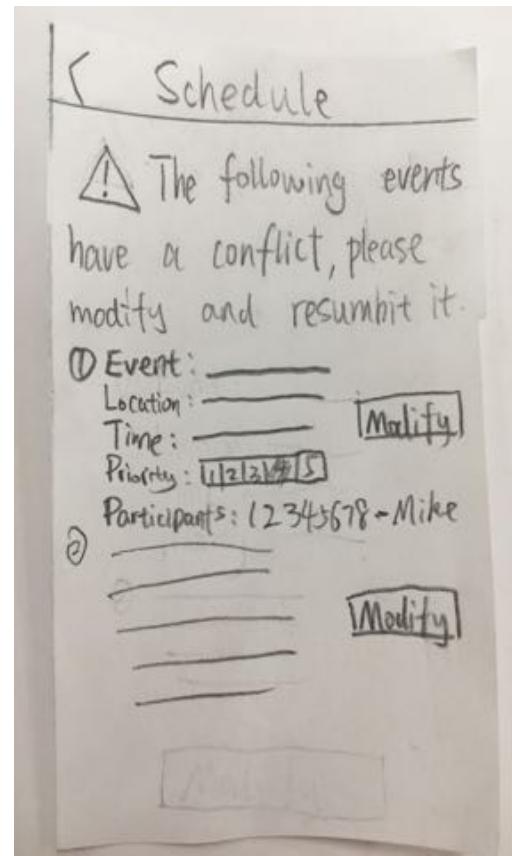
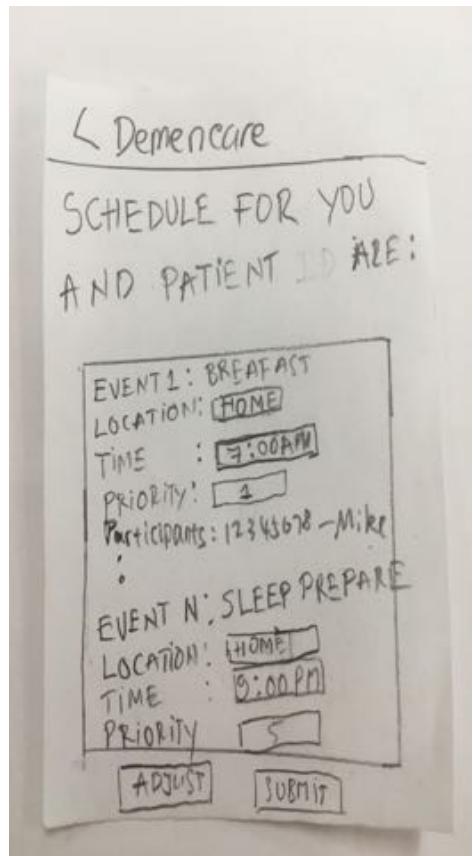
## Task 2

- ▶ Enter patient ID
- ▶ Edit the events information



## Task 2

- ▶ App generates summary information and conflicts info
- ▶ App generates the schedule information



# Digital Mockup



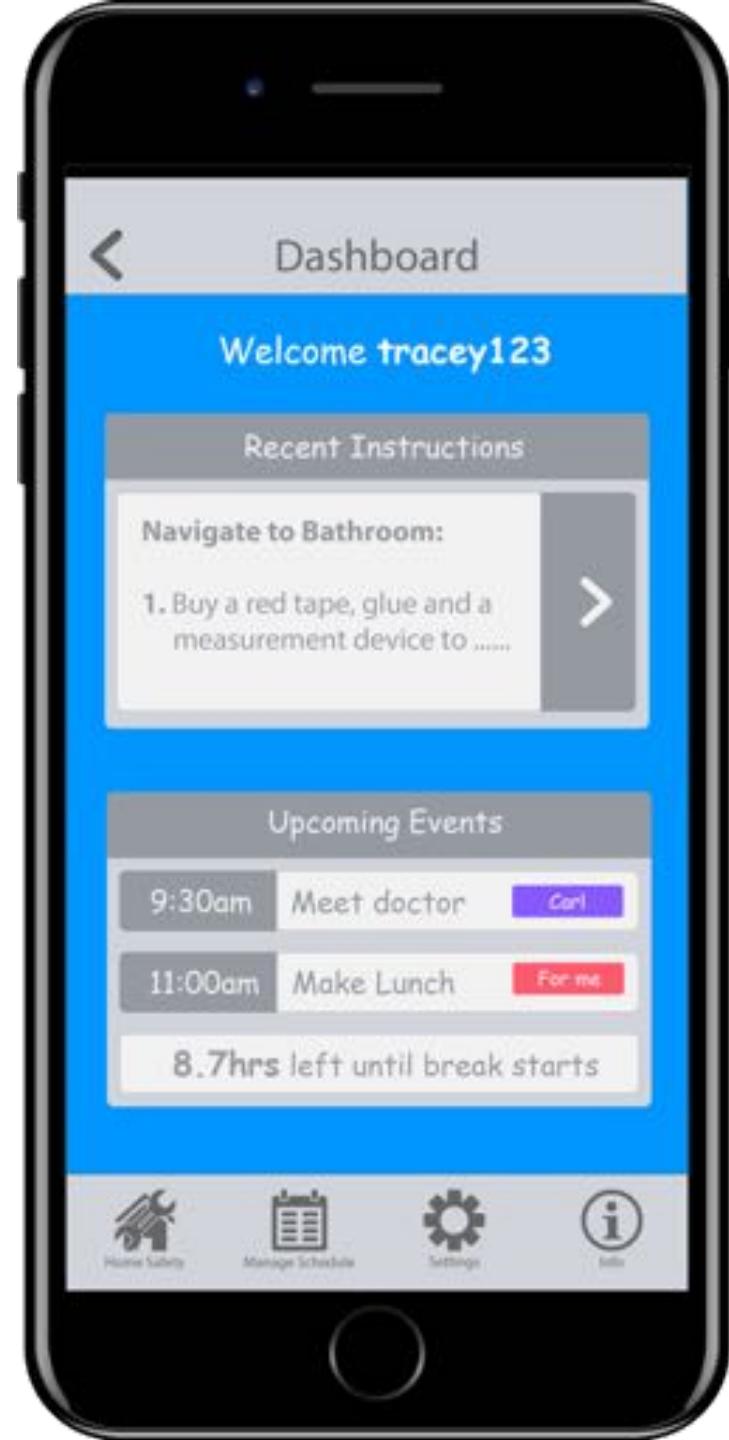
# Initial Login Screen

- ▶ User inputs the password and username to log in apps



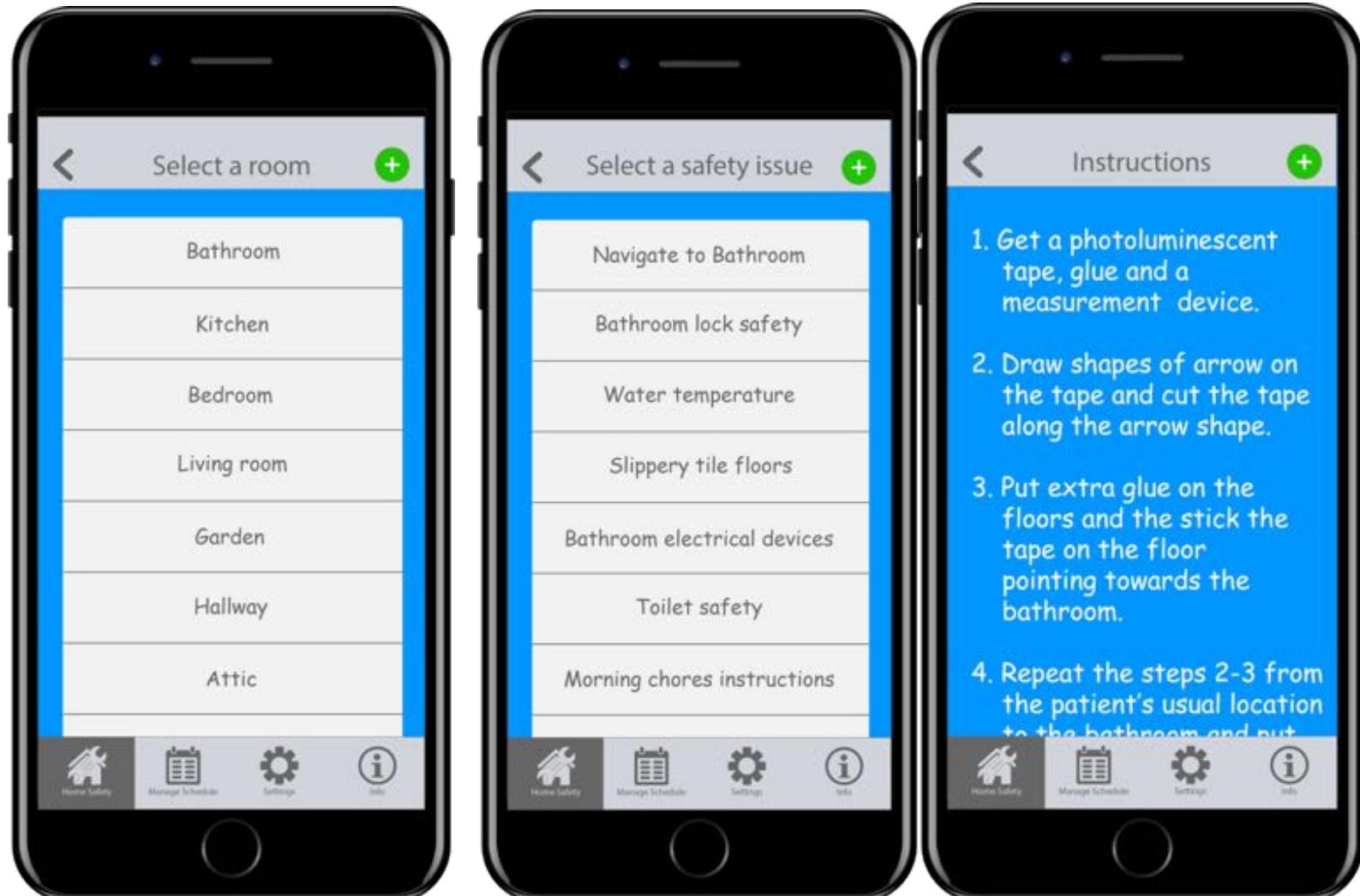
# Dashboard

- ▶ Show the recent instructions of based on user history



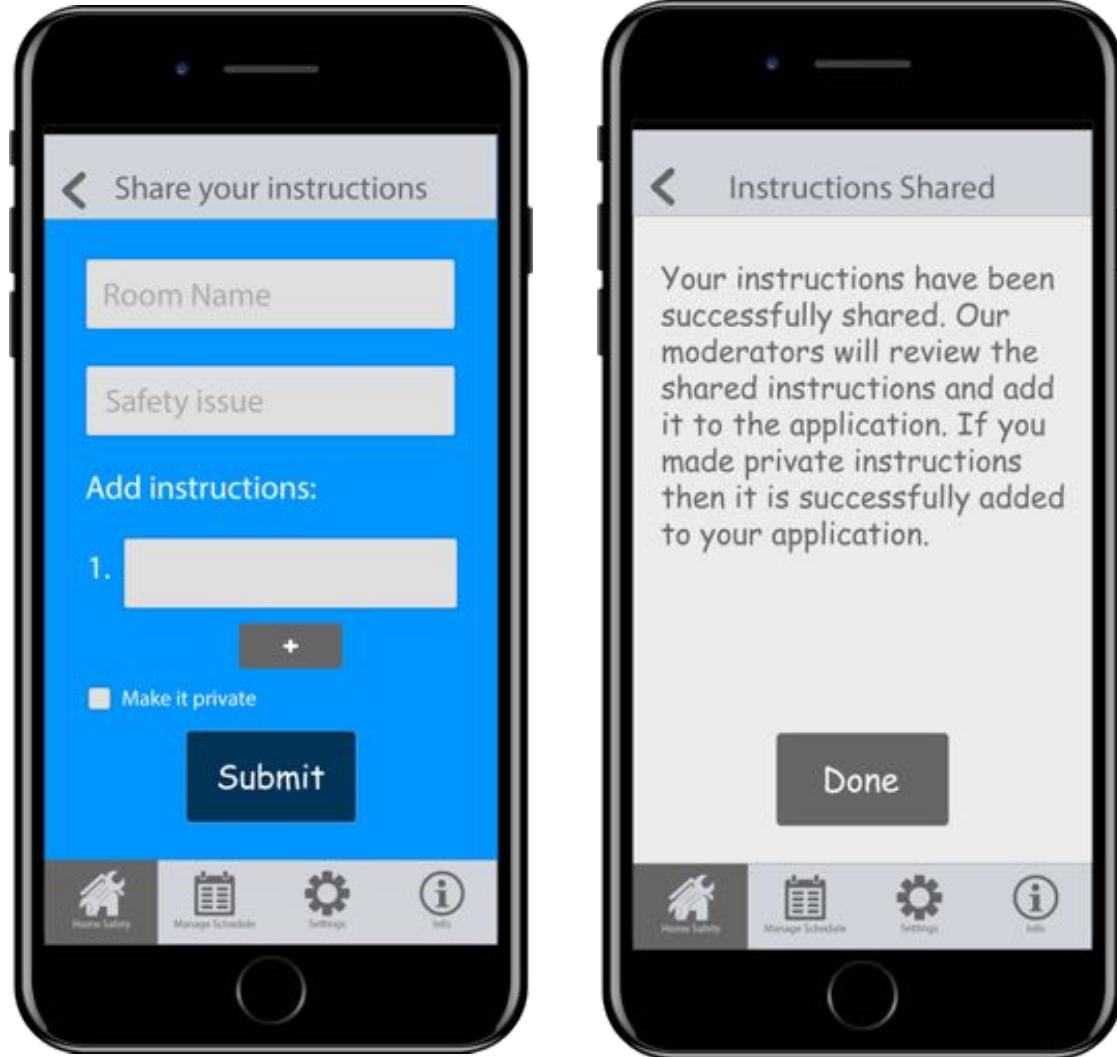
# Task 1 Step by Step

- ▶ Select the rooms for safety issues
- ▶ Select the type of safety
- ▶ Read the given instructions and modify the house



# Task 1 Step by Step

- ▶ Add and share your own instructions
- ▶ Show instructions share screen



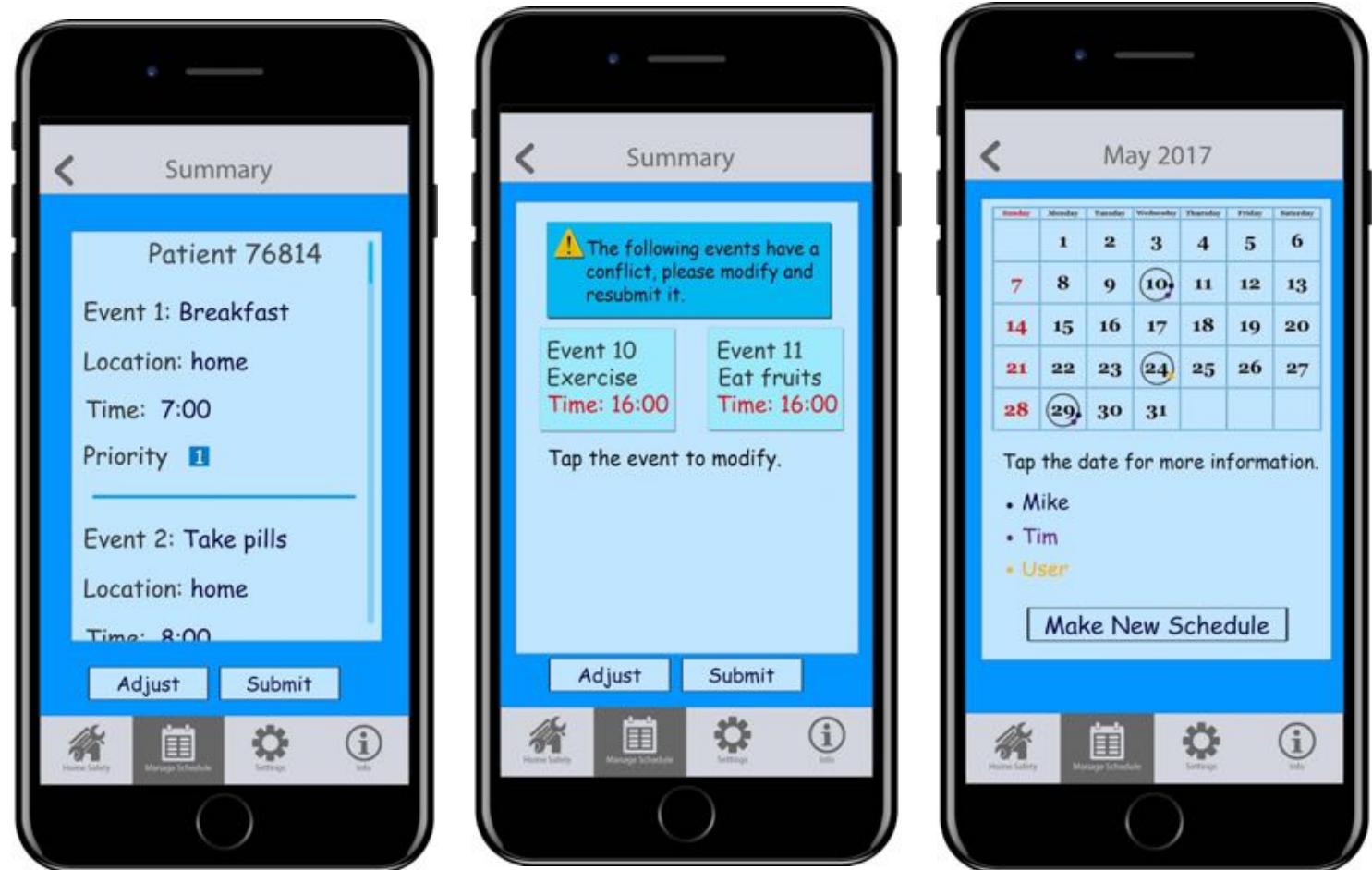
# Task 2 Step by Step

- ▶ Show the day and calendar to user
- ▶ Enter the patient ID
- ▶ User editing his or her info



# Task 2 Step by Step

- ▶ Show the day and calendar to user
- ▶ Enter the patient ID
- ▶ User editing his or her info



# Summary

- ▶ Trials and errors help us improve our design step by step
- ▶ Learn so much from users when we are conducting usability testing
- ▶ Users had mental systems different from what designers'