

CSD3125

Assignment 1

UIUX Analysis of
ExerciseAtHome: ExerGame for the Elderly

By Tan Ek Hern 2100948

1. Introduction

The accelerated aging of populations is presenting notable societal and economic difficulties in numerous countries globally, including Singapore. As individuals grow older, the likelihood of illness and diminished physical capabilities rises, subsequently contributing to cognitive decline, frailty, and incidents of falling. Exercise regimens are advocated as effective preventive measures, supported by substantial evidence. An innovative approach to integrate physical exercise with cognitive training involves the use of exergames. These games normally entail physical activity within an interactive and mentally challenging digital, augmented, or virtual gaming environment.

2. Analyses

2.1. User Analysis

Elderly Users:

Age: 60 and above

Cognitive Condition: Various cognitive impairments due to ageing such as memory loss, loss of attention, etc.

Physical Condition: Various physical impairments such as Parkinson's, stroke, etc. Low dexterity which will cause potential issues when using mobile devices.

Technological Proficiency: Varies somewhat, commonly less technologically adept as they have limited experience with smartphones, being less comfortable with technology.

Motivation: Motivation levels may vary, with some users being highly motivated to engage in the exercises while others may require more external encouragement.

Caretakers:

Age: 20 - 50

Cognitive Condition: Still relatively sharp in terms of mental capacity

Physical Condition: Little or no physical impairments as they are the ones who are fit enough to perform caregiving duties

Technological Proficiency: Typically, more adept at using technology and proficient in using smartphones and smartphone applications.

Motivation: Relatively motivated to help primary users with the activities and may be able to assist elderly users in better understanding the application and its functions.

User Personas:



USER CLASS: Elderly User

Tan Sok Yeow

Retired Teacher

"Aiyah these new digital things I also don't understand one."

ABOUT

Sok Yeow is a retired teacher and grandmother. She currently lives with her youngest son but is usually alone at home on weekdays as the adults are at work and the children are at school. She recently underwent surgery for her knee and is slowly recovering at home.

INTERESTS

Drinking tea
Talking to friends
Doing maths to stimulate her mind

FEARS

Too old to really fear anything including death

IDENTIFIERS

Slow to learn new things
Likes to keep moving
Mentally resilient

FRUSTRATIONS

Complicated technology
Small text on screens
Complicated english

STATISTICS

Resiliency: ● ● ● ● ●

Respectfulness: ● ● ● ● ○

Friendliness: ● ● ● ● ○

NEEDS

Clarity of instruction

Simple tasks and steps



USER CLASS: Caretaker

Sim Mok Ling

Housewife

"I need to do everything in this house is it?"

ABOUT

Mok Ling is the eldest daughter in her family, a mother of 2, and a housewife by profession. On a typical day, she spends the morning preparing food for her children in primary school. She will then do household chores through the afternoon before preparing for dinner and cleaning up at night. Recently, her mother in law suffered a stroke and she volunteered to be her caretaker.

INTERESTS

Cooking
Going out with friends in her spare time
Sewing

FEARS

Being unable to help
Her children getting into trouble

IDENTIFIERS

Technologically adept
Multitasker
Easily worried

FRUSTRATIONS

Technology which does not work
Appliances breaking
Forgetting things

STATISTICS

Resiliency: ● ● ● ● ○

Respectfulness: ● ● ● ● ●

Friendliness: ● ● ● ● ●

NEEDS

Task Tracking

Simple instructions for her mother in law to understand.

2.2. Task Analysis

Since the app is targeted toward elderly audiences, the objective is to keep the app as simple and as accessible as possible. With this in mind, we will avoid more advanced features and attempt to minimise the number of steps required to achieve any given task.

Identified tasks:

Open app and do first time setup

Select training program based on user needs

Complete training module

Track progress of program

- **Goal**

Set up the app for an elderly user

- **User**

Elderly user or caretaker of elder

- **Preconditions**

App has been installed on the device

- **Subtasks**

Pick up device

Open app

Enter user details into app (name, password, age)

Select desired program based on type of impairment

Begin first module

- **Goal**

Complete a training module

- **User**

Elderly user or caretaker assisting elderly user

- **Preconditions**

App has been set up and program has been selected

- **Subtasks**

Log into app (enter name and password)

Select ongoing training program

Select option to continue program

Follow steps for first exercise

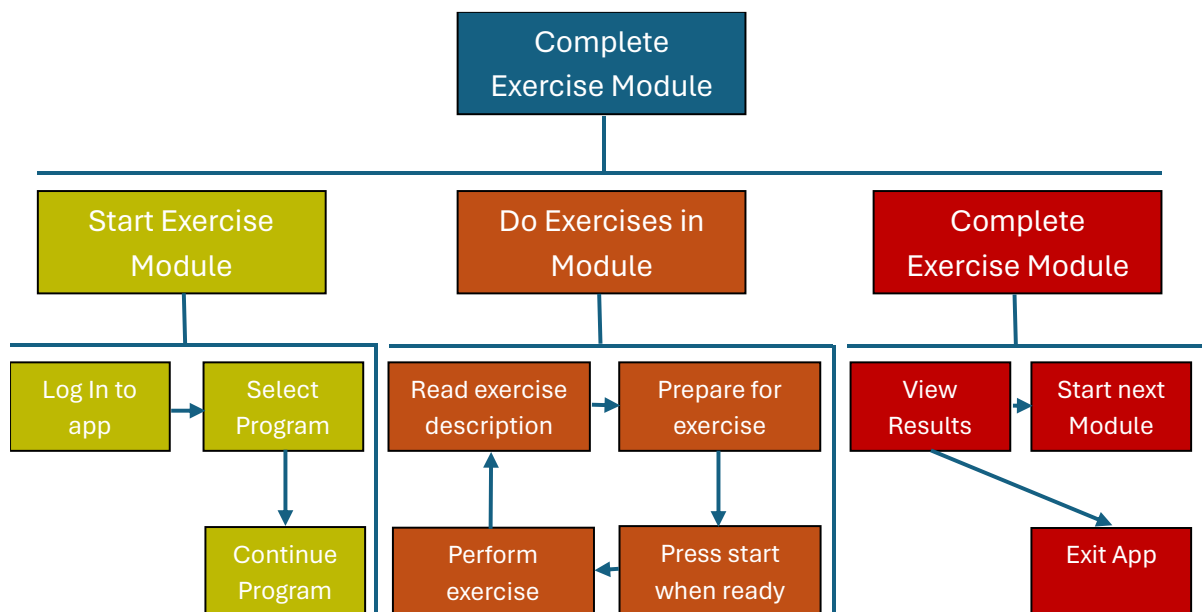
Press 'next' button to go to next exercise

Repeat above 2 steps until module is completed

- **Goal**
Check program progress
- **User**
Elderly user or caretaker assisting elderly user
- **Preconditions**
Training program has been selected and initiated
- **Subtasks**
Log into app (enter name and password)
Select ongoing training program
View progress of program on display

- **Goal**
Select new program
- **User**
Elderly user or caretaker assisting elderly user
- **Preconditions**
First time app setup has been completed
- **Subtasks**
Log into app (enter name and password)
Select option to start new program
Select new program based on type of impairment
Initiate new program

HTA Diagram:



2.3. Domain Analysis

