"Simple Simon" libGDX rapid prototype application

Setup

If you have not already, install Eclipse for Java developers, version 4.4 and JDK version 1.7 or above. Then follow the directions here:

http://libgdx.badlogicgames.com/documentation.html#gettingstarted

to create a libGDX project using Gradle and Eclipse. Make sure you run the basic demo project so that you know your setup works.

Assignment (Individual)

Due: February 22nd 11:55PM on Sakai. Please submit an archive of your entire libGDX project. Right-click the root libGDX project folder and create a .zip archive.

Introduction

A fully described software specification is advantageous in many established products and when dealing with larger products. However, in other less established settings, the client (customer/funder of software development) may only have an initial idea. Building a software prototype based on an inception report helps to mitigate the risk and deal with the difficulties of developing a software system for such a client. The remainder of this document is the inception report for a "Simple Simon" software product.

You (individually) are to build a rapid prototype that satisfies the functional and quality requirements included in the requirements section. In addition, you will be graded on your creativity and the user experience. Note that additional clarification or specification will not be provided. **This assignment purposefully is underspecified -- it is expected that student submissions will vary.**

Here is the grading rubric: [100 points total]

- [80 points] Satisfies all functional and quality requirements in the software requirements specification and does not crash
- [10 points] Creativity. Does it look cool? How different is it from a microwave?
- [10 points] User experience. Is it frustrating to play? Would my friends hate it?

Overall Description

The "Simple Simon" application is a psychological experiment that helps people train to press a button an unspecified number of times over an unspecified number of seconds.

The requirements provide a range for randomly generated number of touches and seconds. The application interacts with a user by displaying some visual cue, without using text or numbers, indicating that the screen must be touched. Once touched, the application continues to solicit touches until the experiment time has concluded.

The application will not interact with any external system. The only result from a run of the application will be a visual indication to the user of one of three results: success (touched the screen the correct times), failure too many touches, or failure too few touches.

Functional Requirements

ID: FR0
TITLE: libGDX
DESCRIPTION: The application must run on the libGDX platform.
RATIONALE: To allow the experiment to run on multiple back end platforms.

ID: FR1
TITLE: Start screen
DESCRIPTION: A text message indicating that the user should press the screen to begin the experiment is displayed. Pressing the screen begins the experiment
RATIONALE: The user needs to control the starting of the experiment

ID: FR2
TITLE: Experiment mechanics
DESCRIPTION: The experiment must record each touch of the screen by the user.
RATIONALE: This is the information needed later to measure the success or failure of experiment.
DEPENDENCIES: FR1

ID: FR3
TITLE: No text experiment
DESCRIPTION: During the experiment text or numbers must not be displayed.
RATIONALE: Client would like to test psychological phenomena and specifically is measuring user performance on learned processes where text or numbers are not used.
DEPENDENCIES: FR2

ID: FR4
TITLE: Experiment ranges
DESCRIPTION: The experiment must run for a random length between 5 and 10 seconds. The target number of presses must be a random number between 1 and 10 (inclusive).
RATIONALE: Client wants a fast, repeatable experiment.
DEPENDENCIES: FR2

ID: FR5
TITLE: Experiment end
DESCRIPTION: The experiment must end only when the time runs out. A simple ending screen must show the experiment result, one of:

- Success (the user pressed the screen exactly the number of target presses)
- Failure, too few touches (the user pressed the screen < the number of target presses)
- Failure, too many touches (the user pressed the screen > the number of target presses)

RATIONALE: To give feedback to the user.
DEPENDENCIES: FR2

ID: FR6
TITLE: Experiment restart
DESCRIPTION: The ending screen must include the text for the starting screen and allow the user to restart the experiment with a single touch.
RATIONALE: To allow the experiment to run multiple times.
DEPENDENCIES: FR1, FR5