

Project Proposal

SE 101 - Introduction to Methods of Software Engineering

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Objectives:

- To create a library of games – such as Bop-It, Simon Says, Speed, and others (if time allows)

Bop-It

- On-screen instructions (such as bop it, twist it, or shake it) as fast as possible

Simon Says

- Players will follow on-screen instructions, but only when it says “Simon says...”

Speed

- A race against an opponent to press the designated button as soon as the screen displays a message

Major Software Components

- Implement LCD user interface: create a menu, commands
- Implement accelerometer data collection: to detect shaking and movement
- Implement potentiometer data collection: to detect rotation of the meter for twisting
- Implement button data collection: to navigate through menu and to use in games
- Score tracking, and high score records

Major Hardware Components

- Tiva LaunchPad microcontroller board
- Orbit BoosterPack

Possible Challenges

Overall

- Graphics and display of games on screen
- Keeping track of high scores, even after device is turned off

Bop-It

- For accelerometer, and potentiometer, different people may shake/twist a different amount
 - Must determine minimum and maximum changes in values to register as a shake/twist

Simon Says

- Implementing increasing difficulty as the game progresses

Speed

- Delay between button presses
- What happens if two people press at the same time?