CSC 193

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Title: A-MAZE-ING

Part 1:

* Abstract

A-MAZE-ING is a mobile game with a maze in each stage that has a ball from the start point that needs to find its way to the finish point. The ball then proceeds to the next stage as the mazes in the next stages get harder. Each stage has a corresponding amount of time given for the player to finish that certain stage. If the user failed to solve the maze within the time given, the game will restart at the current stage.

Part 2:

* Vision

A mobile game application in 2D for android users, that is compatible for any android versions. A mind game that will let users think quickly to solve the maze. Users in this game has no age limit.

* Mission

To develop a mobile game application with a user friendly UI that will allow the user to move the ball using gyroscope to finish the maze.

* Objectives
* From December 1 until 3rd week of December, the platform that will be used is already installed.
* By 3rd week of January, the initial UI design of the application, the database design, and the prototype design of the game is finished.
* By 4th week of January, the UI design and database design of the game is already implemented.
* By 1st week of February, the gyroscope to move the ball is already implemented.
* By 2nd week of February, the ball can already be moved.
* By 4th week of February, all the mazes designs are finished.
* By 1st week of March, all the functionality of the game is finished.
* By 2nd week of March, the prototype of the game is finished.

Part 3:

* Feature List
* Play game
* Pause game
* Resume game
* Restart game
* Move the ball using gyroscope
* Feature Acceptance Criteria
* Play game
* User will choose a stage that is unlocked to play.
* Pause game
* The game will pause when someone is calling on the mobile device, also when the pause and back buttons were clicked.
* Resume game
* The game will display a resume button after the call has ended, also when the user came back to the current stage after clicking the pause or back buttons.
* Restart game
* The game will restart on the current stage if the user runs out of time in solving that stage.
* Move the ball using gyroscope
* The user moves the ball sideways, upward, and downward.

Part 4:

* User Stories
* As a user, I want to click on the play button of the game so that I can play.
* As a user, I want to pause the game automatically if someone is calling on my phone so that I can answer the call.
* As a user, I want to click the pause button if someone sent me a text message so that I can read and reply to the text message.
* As a user, I want to resume the game after answering someone’s call on my mobile device.
* As a user, I want to resume the game after clicking the pause and back button.
* As a user, I want to restart the current stage I am playing if my time runs out and failed to solve that stage.
* As a user, I want to move the ball sideways, upward, and downward from the start point in the maze so that the ball can reach the finish point.
* As a user, I want to go to the next stage after completing the current stage I am playing.
* User Acceptance Criteria
* As a user, I want to click on the play button of the game so that I can play.
* When the play button is clicked the user will be redirected to the list of unlocked and locked stages. The user can only play the unlocked stages and can unlock the next locked stages if the user completed the current stage.
* As a user, I want to pause the game automatically if someone is calling on my phone so that I can answer the call.
* The game will pause automatically if someone is calling on the mobile device.
* As a user, I want to click the pause button if someone sent me a text message so that I can read and reply to the text message.
* The user can click the pause button if someone sent a text message.
* As a user, I want to resume the game after answering someone’s call on my mobile device.
* The game will display a resume button on the screen after the call.
* As a user, I want to resume the game after clicking the pause and back button.
* The game will display a resume button on the screen when the user comes back to the current stage after clicking the pause or back button.
* As a user, I want to restart the current stage I am playing if my time runs out and failed to solve that stage.
* The game will restart the current stage if the user failed to solve the stage and the time runs out.
* As a user, I want to move the ball sideways, upward, and downward from the start point in the maze so that the ball can reach the finish point.
* By using gyroscope, the ball can be moved sideways, upward, and downward starting from the start point until the ball reaches the finish point.
* As a user, I want to go to the next stage after completing the current stage I am playing.
* After completing a stage, the user will be redirected to the list of stages, can unlock the next stage, and click that stage to play.

Part 5:

* Roles
* User
* Plays the game.
* Role Attributes
* User
* Frequency of Use: Everyday
* Domain Expertise: Excellent
* Mobile Expertise: Good
* General Goals: Speed, to finish the stage before the time runs out.
* Persona

Maria is a student. She’s always busy with her studies and she thinks that she’s very slow in making her projects and assignments and to add, she’s stressed, so she thought of a game that is fun, can ease her stress, and will help her to be fast in making things. She wonders if the game will help her with those problems.

Part 6:

* Architecture
* Client-server architecture
* Technology to be Used
* Java

Part 7:

* Use Cases
* Use Case 1

Name: Play game

Actor: User

Pre-condition: User clicks the play button

Post-condition: User can choose an unlocked stage to play.

Main Course:

1. User clicks the play button.
2. User will choose an unlocked stage to play
3. User can play the game to unlock the other stages; the user must finish that current stage.

* Use Case 2

Name: Pause game

Actor: Device

Pre-condition: When someone is calling on the mobile device the game will automatically pause.

Post-condition: User can now answer the call.

Main Course:

1. User is playing.
2. Someone is calling, game automatically pause.
3. User can answer the call.

* Use Case 3

Name: Pause button

Actor: User

Pre-condition: Someone sent a text message; user can click the pause button.

Post-condition: User can now read and reply to the text message and resume the game after.

Main Course:

1. User is playing.
2. Someone sent a text message; user can click the pause button.
3. User can now read and reply to the text message and resume the game after.

* Use Case 4

Name: Resume game

Actor: User

Pre-condition: User clicks the resume button displayed on the screen after taking the call.

Post-condition: User can now resume the game.

Main Course:

1. User is answering the call.
2. The call ended; screen displays resume button.
3. User clicks on the resume button and game resumes.

* Use Case 5

Name: Pause and back button clicked - Resume game

Actor: User

Pre-condition: User clicks the pause or back button.

Post-condition: Screen displays resume button when user comes back to the current stage.

Main Course:

1. User clicks the pause or back button.
2. Screen displays resume button when user comes back to the current stage the user is playing.
3. User can now resume the game.

* Use Case 6

Name: Restart game

Actor: Device

Pre-condition: User failed to solve the current stage.

Post-condition: Current stage restarts.

Main Course:

1. User is playing.
2. Time runs out and user failed to solve the current stage.
3. Current stage restarts and user plays again.

* Use Case 7

Name: Move the ball

Actor: User

Pre-condition: Moving the mobile device sideways, upward, and downward.

Post-condition: User can now move the ball.

Main Course:

1. User moves the mobile device sideways, upward, and downward.
2. User can now move the ball.

* Use Case 8

Name: The next stage

Actor: User

Pre-condition: User will be redirected to the menu containing the unlocked and locked stages.

Post-condition: User clicks the next stage that is already unlocked after completing the current stage.

Main Course:

1. User finished a stage.
2. User will be redirected to the menu containing the list of stages.
3. User clicks the next stage that is already unlocked after completing the current stage.
4. User can now start playing the next stage.

* Test Cases
* Test Case 1

Name: Play game

User has the following data:

3

2

1

🡪

6

5

4

9

8

7

When: User clicks the play button

Then: User can choose an unlocked stage to play

* Test Case 2

Name: Pause game

User has the following data:

John is calling….

Back

Pause

Stage 1 00:05

# 🡪

Accept

Decline

When: Someone is calling while playing the game

Then: The game will pause automatically and user can now answer the call.

* Test Case 3

Name: Pause button

User has the following data:

Stage 2 00:02



Back

Pause

New message

Stage 2 00:03

From: John

* 🡪

When: Someone sent a text message; user can click the pause button

Then: User can now read and reply to the text message and resume the game after.

* Test Case 4

Name: Resume game

User has the following data:

Stage 1 00:04

John is calling….



Decline



Resume

When: User clicks the resume button displayed on the screen after taking the call.

Then: User can now resume the game.

* Test Case 5

Name: Pause and back button clicked - Resume game

User has the following data:

Stage 3 00:04 Stage 3 00:04

Back

Pause

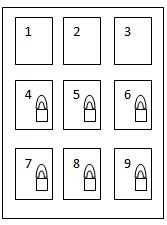
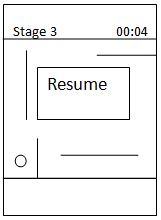
Resume

🡪

Back

Pause

Stage 3 00:04

When: User clicks the pause or back button.

Then: Screen displays resume button when user comes back to the current stage.

* Test Case 6

Name: Restart game

User has the following data:

Stage 4 00:10

Stage 4 00:00

Back

Pause

Back

Pause

When: failed to solve the current stage.

Then: Current stage restarts.

* Test Case 7

Name: Move the ball

User has the following data:

Stage 3 00:10

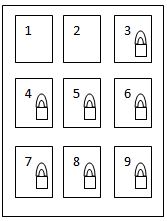
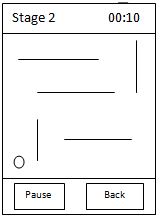
When: Moving the mobile device sideways, upward, and downward.

Then: User can now move the ball.

* Test Case 8

Name: The next stage

User has the following data:

When: User will be redirected to the menu containing the unlocked and locked stages.

Then: User clicks the next stage that is already unlocked after completing the current stage.