

Sample Test Project

Mobile Applications Development

Module A Functionality

Day 1 A.M.

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Introduction

As the organizer of the WorldSkills Competition, WorldSkills is looking forward to the upcoming event in France. Known as the capital of gastronomy, France boasts a rich and diverse culinary culture whose unique flavors attract food enthusiasts from around the globe. Therefore, we have decided to develop a food-themed mini-game called "French Dessert Collector." The game primarily involves players dragging the game character by touching the screen or tilting the device left and right to control the character's horizontal movement to catch falling desserts. There will be certain penalties if the character picks up trash or if the food items drop to the ground. At the end of the game, there will be a play summary list and a historical ranking leaderboard.

The product manager has provided you with product wireframes for both phone and tablet versions. As a developer of mobile applications, your task is to develop corresponding apps based on the given wireframes according to specific development needs.

Description of project and tasks

The developer does not need to consider the aesthetics of the program interface and the position of the elements. The work can be inconsistent with the given wireframes, but the developer needs to properly consider the ease of use. The development task is divided into two parts depending on the devices.

	Part	Name	Competition Time	Marking Devices
✓	A.M.	Functionality (phone)	2.5h	Emulator: Pixel 2 or iPhone 8 Plus
	P.M.	Functionality (tablet)	2.5h	Emulator: Pixel C or iPad Pro (9.7-inch)

Application wireframes

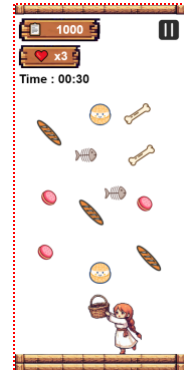
The App wireframes for reference only. You do not need to copy the same appearance, colors, decorative icons/images, or elements' positions/style.



Home page



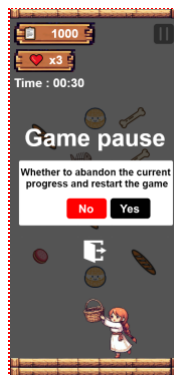
Username page



Game page



Game Pause page



Game Pause(restart) page



Game Pause(quit) page



Game Over page



Rankings page

General Demands

1. Finish the function of this application according to the demands.
2. You need to make this application easy to use.

Pages Demands

1 Home page

1.1 Elements include:

- 1) Title "French dessert collector";
- 2) "Game Start" button.

1.2 Functional requirements:

- 1) Click the button to navigate to Username page.




2 Username page

2.1 Elements include:

- 1) Title "Player Name";
- 2) Username input box;
- 3) "Start" button.


2.2 Functional requirements:

- 1) Username input box text is required;
- 2) Click the "Start" button to navigate to Game page.

A mobile application screen titled "Player Name". It features a text input field with the placeholder text "Input your name" and a black "Start" button at the bottom. The screen is framed by a red dotted border, and the top and bottom edges show a wooden texture.






3 Game page

3.1 Elements include:

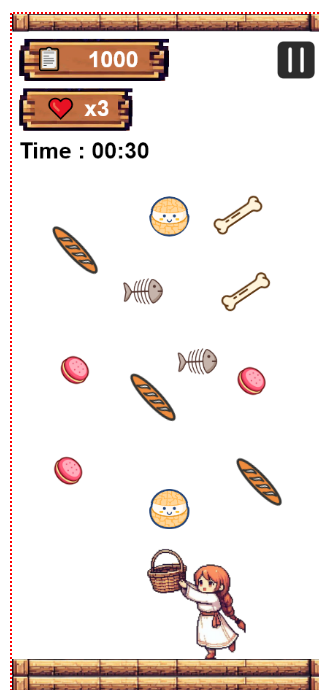
- 1) Health Points (HP, );
- 2) Score;
- 3) Time;
- 4) Character;
- 5) Falling items;
- 6) Pause button.

3.2 Functional requirements:

- 1) Falling items randomly fall from the top when the game starts;
- 2) Players can control the character to catch the falling item by dragging or tilting the phone;
- 3) Click the pause button to navigate to the pause interface;
- 4) Falling Item Reward Situation:

- a) Baguette (score +10) 
- b) Macaron (score +20) 
- c) Puff (score+30,time+30s) 
- d) Fishbone (score-20,HP-1) 
- e) Bone (score-10) 

- 5) Every 100 scores added, falling items fall at a higher speed;
- 6) The default HP is 3, lose 1 HP when any delicious item falls to the ground;
- 7) Every 50 scores added, HP adds 1;
- 8) The default game time is set at 30 seconds and start to count down;
- 9) The game ends when the time or HP reaches 0, and then navigate to Game Over page.



4 Game pause page

4.1 Elements include:

- 1) Title "Game pause";
- 2) Continue button;
- 3) Restart button;
- 4) Quit button.

4.2 Functional requirements:

- 1) Click the Continue button to resume the game;
- 2) Click the Restart button to trigger a prompt dialog asking the player if they want to reset the game progress;
- 3) Click the Quit button to trigger a prompt dialog asking the player if they want to quit the game.



5 Game over page

5.1 Elements include:

- 1) Title "Game over";
- 2) Item list;
- 3) Time;
- 4) Total score;
- 5) "Next →" button.

5.2 Functional requirements:

- 1) The item list displays pictures, quantities, score for each type;
- 2) Click the "Next →" button to navigate to Ranking page.



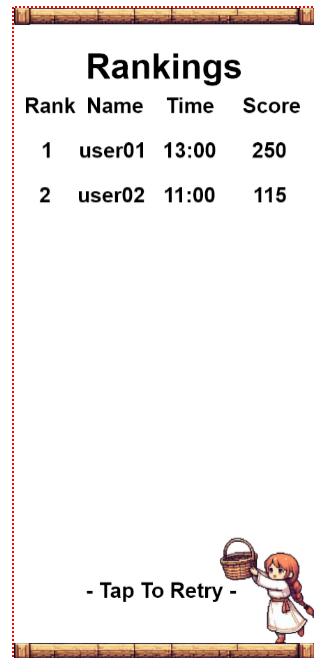
6 Rankings page

6.1 Elements include:

- 1) Title "Rankings";
- 2) Ranking Board ;
- 3) " Tap To Retry" button.

6.2 Functional requirements:

- 1) The ranking board displays (Rank, Name, Time, Score), with the ranking criteria based on the score;
- 2) Click the "Tap To Retry" button to navigate to Username page;
- 3) The ranking data is stored permanently.



The mockup shows a mobile app interface for the 'Rankings' page. It has a wooden-textured header and footer. The title 'Rankings' is centered at the top. Below it is a table with four columns: Rank, Name, Time, and Score. The table contains two rows of data. At the bottom, there is a button labeled '- Tap To Retry -' next to a cartoon illustration of a girl with red hair in a white dress, holding a brown basket.

Rank	Name	Time	Score
1	user01	13:00	250
2	user02	11:00	115

- Tap To Retry -

Instructions to the Competitor

- 1) Please create the project with correct package name (Android)/ Organization Identifier (iOS). Naming convention: edu.ws2024.aXX.am;
- 2) You should save the project in the folder: XX_Module_A_AM;
- 3) You should rename the generated apk (Android)/ app (iOS) file as XX_Module_A_AM.apk (Android)/ XX_Module_A_AM.app (iOS), and save it in the root of the XX_Module_A_AM folder;
- 4) The whole XX_Module_A_AM folder should be pushed to the provided remote Git repository;
- 5) Submit part A.M. in the morning and part P.M. in the afternoon, and the two parts will be marked independently;
- 6) Note: XX refers to your workstation code.