**CLIENT SIDE MODULE**

# CONTENTS

## This module has the following files:

1. MODULE\_CLIENT\_SIDE.doc
2. MODULE\_CLIENT\_SIDE\_MEDIA.zip

INTRODUCTION

In recent years, people are intrigued to know about playing game in their devices. A lot of people play the game that has a gameplay of plants against zombies.

You are asked to develop a game called **LKS PVZ** using HTML and CSS and develop client-side programming using JavaScript. Some media files are available to you in a zip file. You can create more media and modify anything in the media if you want. Your game needs to be developed in a tablet resolution (1000x600 pixels). In bigger resolution, the game must be centred in the screen both horizontally and vertically.

# DESCRIPTION OF PROJECTS AND TASKS

This is a module of 4 hours. Your first 2 hours must be used to create the initial layout using HTML/CSS. Your layout should follow the design that you created. The final 2 hours you will create the functionality of the game using JavaScript that allows the game to work correctly in different web browsers.

**PVZ** game screen should have meet these requirements below:

1. Player Name
2. Gameboard
3. Plants Character
4. Zombie Character
5. Total Score
6. Total time elapsed
7. Leaderboards

**Design and Initial layout**

1. **Develop the initial markup (HTML + CSS) of your game application.** Overall screen must be within 1024x1024 pixels and centered on the screen.
2. **The design should be delivered in dark mode color.** You are free to choose dark color as long as it has the user convenience.
3. **You are free to decorate** the game screen design as long as it meets the requirements.
4. **The HTML and CSS** code must be valid in the W3C standards for HTML5 and CSS3 rules in accordance with the WCAG and standard ARIA (Accessible Rich Internet Applications Suite)

**Game functionalities**

1. **Show game welcome** in the center after page are loaded.
2. **Player can go to game** after fill username field and click “**Play Game**” button at the bottom of welcome page.
3. **The “Play Game” button should be disabled** if the user did not input username.
4. User can choose one of three level (easy, medium, hard).
5. User can show instruction after click **“Instruction”** button.
6. User can close instruction after click **“X”** button.
7. **Show countdown for three seconds in the center of screen** after user clicked the play button before the game started playing.
8. When the game starts, the player will get 50 suns.
9. Timer will start from 0.
10. Game has a random **four** plant cards.
11. **Zombies should move left** the border vertically at the exact given time.
12. Zombies can eat plants when zombies are near plants.
13. The plant will be destroyed when the zombie bites it 3 times.
14. **Zombies should show random** every 5 second.
    1. ‘1 zombie’ for easy level
    2. ‘2 zombies’ for medium level
    3. ‘3 zombies’ for hard level
15. **Drops suns randomly** every 3 seconds.
16. When the game starts, **there will be 2 random suns**.
17. **To set the plants in the field**, user can click the plant card then click the location to be placed.
18. The user can only set the plant in an empty place.
19. The user can remove plant with clicking on the **shovel icon** and **selecting the plants to be removed.**
20. Player can set four plants with the following :
    1. Sunflower to produce sun every 10 seconds
    2. Wallnut can destroy after 5 zombie bites
    3. Pea can destroy zombie in 5 shoots
    4. Ice Pea can destroy zombie in 7 shoots and slow zombie movements
21. Walking animation when the zombies is moving.
22. **The score will be increased** if player can destroy zombies.
23. Zombie will have animation effects when hit by pea and ice pea.
24. When the zombie touches the left border, Lawnmower will move to right and hit zombies.
25. Zombies hit by a lawnmower will have the effect of falling and disappearing.
26. Player can **pause** the game.
27. Press **Esc** to open the **pause popup**. The game should be in paused state when opening the popup.
28. Press **Esc** again to **continue** or click the **continue** button.
29. **Game Over** if zombie can pass left border and no lawnmower.
30. **Show popup after game over** to display the player username, time elapsed, score, save high score button and restart button.
31. Highscore should be saved in database after player click **Save high score** button.
32. Players can see the leaderboard on the right of the game board and see details of players on the leaderboard by pressing the **details** button.
33. The leaderboard can be sorted by score and username.
34. **Show popup detail** to display the player username, time elapsed and score after player click **Detail** button.
35. The game needs to work correctly in Google Chrome.

# INSTRUCTION FOR COMPETITORS

1. The media files are available in the ZIP file. You can modify the supplied files and create new media files to ensure the correct functionality and improve the application.
2. The entry file should be ‘**client-side/index.html’**
3. You should create additional images for each of the requested resolutions to highlight hidden elements, animations, interactions, or any additional information that will assist in the presentation of the game design.
4. Save any image source files to a folder named "**source**" inside the "**client-side/design**" folder. The source files are the files that contain the design layers, development files, i.e. xd, fig, psd, ai, or svg.
5. Save the working game to the directory on the server named "**client-side**". Be sure that your main file is called index.html.
6. You are responsible for the time management in your development. If you finalize some tasks you can continue to other tasks.

**Example**

These following images are for example purpose only. You may design your own game layout.

