

RoboDactyl Escape

Group: G8

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Vision

Create a hosted browser-based game accessible to anybody with internet access and a compatible browser. In the initial release, the user will control a flying character and attempt to scroll to the end of the game without being defeated by various enemies. Future iterations will support multiple difficulty levels, more level areas, powerup/enemy additions, enhanced graphics, and networked score tracking. While the game requires JavaScript and a compatible browser, zero configuration will be required on the part of the player before playing.

Description

RoboDactyl Escape is a side-scrolling videogame in which the player controls a flying robot pterodactyl. The game continuously scrolls through a variety of scenes and levels, and the player is under attack by ground-based enemies such as scientists and hunters. The player will have a set number of lives and the ability to drop projectiles as a weapon. There are three levels planned: the lab where RoboDactyl were created, the jungle outside of the lab, and the final chase over the ocean. Each level will have unique enemies and obstacles as well.

Use Cases

Name: User accesses game page

Primary actor: User

Main success scenario: User is displayed a menu with the option to start the game. If the user chooses to start, the game will start at the beginning of the first level and play through according to the rules.

Extensions:

1. Browser does not support HTML5 canvas element
 - a. Provided with links to browser upgrade pages
2. JavaScript disabled
 - a. Gracefully degrades and provides notification

Name: User plays game according to rules

Primary actor: User

Main success scenario: The player guides the Robodactyl through the game levels using the keyboard, combating various enemies and obstacles along the way without losing all lives before the endpoint.

Extensions:

1. User is shot by an enemy
 - a. Player loses a set amount of hitpoints
 - b. If player has no remaining hitpoints but has lives left, player respawns with one less life and game continues normally
 - c. If player has no remaining hitpoints and is out of lives, player is shown a death screen display the score achieved and given option to restart game
2. Player runs into an obstacle
 - a. If user has lives left, player respawns with one less life and game continues
 - b. If user is out of lives, player is shown a death screen display the score achieved and given option to restart game

Iteration Schedule

Iteration 1

The first iteration will be a stripped-down playable version of the game, with a basic sprite able to be controlled and manipulated by the player, along with a basic background, enemies, obstacles, and rudimentary hitpoint/life tracking. This release is a full implementation of the first use case ('access the game') and a basic implementation of the features encountered in the second use case.

Iteration 2

The second iteration will add features to the game framework such as enhanced levels and obstacles, more enemies and powerups, sound effects and improved score tracking. This iteration will also build on the hitpoint tracking system, adding multiple lives and a checkpoint respawn system.

Glossary

- **Player:** Synonymous with user; the person accessing the game page
- **Game:** Wrapper for browser-based interactions with the canvas element and its display
- **Control:** The ability of the user to input predefined game actions using the keyboard
- **RoboDactyl:** The game entity controlled by the player
- **Enemies:** Game entities who attempt to "kill" the player character, such as scientists or hunters
- **Level:** A discrete portion of the game with a certain theme (for example, the lab or the jungle)
- **Projectile:** The weapon the player uses to fight game enemies
- **Obstacle:** A fixed terrain point that the player can run into, causing either a life to be lost, or the end of the game if all lives depleted
- **Powerup:** Objects that the player can 'pick up' by flying through to temporarily enhance abilities or restore health points
- **Hitpoints/Health Points:** Each life has a fixed number of "health points", which are reduced or lost completely when the user takes damage from enemy attacks or obstacles
- **Life (lives):** Each game consists of a fixed number of lives that are lost when the player loses a defined number of hitpoints. If all lives are lost during gameplay, the game ends and the player is given the option to restart the game.
- **Respawn:** If a player dies during a level and still has lives remaining, they will reappear at predetermined previous checkpoint with one less life and continue with gameplay as normal
- **Score:** A metric to track player's success in defeating enemies and grabbing powerups, which increases as the player progresses further and further through the game levels.