GAME DESIGN DOCUMENT

Flying Lilly

Software Design with AI in Cloud Computing
Game Development
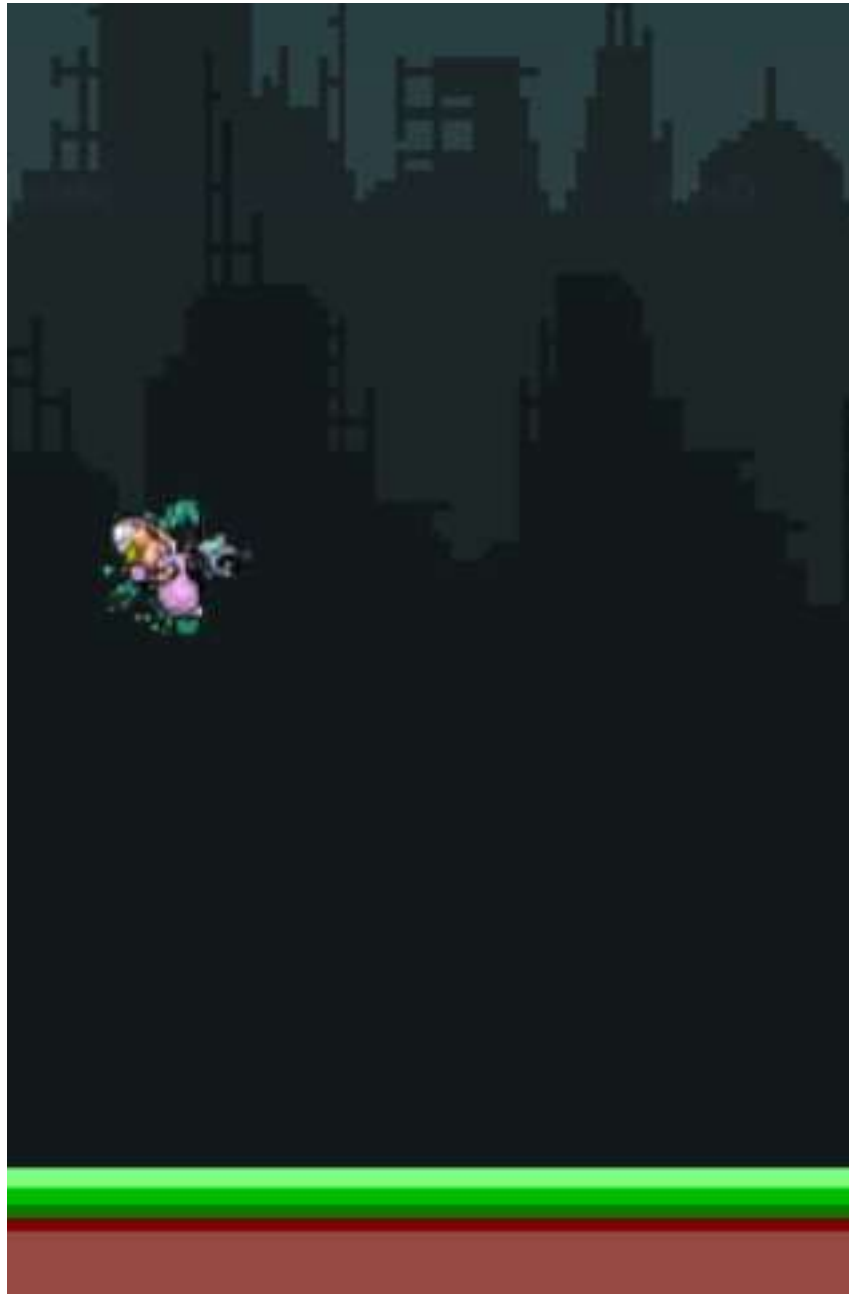Year 1
Semester 2

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Contents

🎮 **Name of the game: Flying Lilly**

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Overview

⚠️ Project scope

Timeline: 3 months

🧑‍💼 Elevator Pitch

PEGI rating: 3
Genre: Arcade, single player

Story

Flying Lilly is an arcade-style game. The player controls Lilly who is sitting on the bird, which moves to the right. The player's task is to control Lilly's bird through the gaps between walls. The longer the player survives - the harder the game gets.

Gameplay

The player will control Lilly who is sitting on flying bird. As they are moving to the right, the player needs to navigate Lilly's bird through the gaps of walls and make sure they do not hit them. There are bonus levels that will give a lot of lives or extra points. Player should pay attention to the objects around, not to lose out on extra points opportunities. The count of successful flights appears at the top middle of the screen. The further you progress, the harder the game gets.

Core Game Mechanic #1
Details: Gravity
How it works: Flying Lilly has a set gravity, once the game starts, she will automatically start falling.

Core Game Mechanic #2
Details: Jumping/flying
How it works: To fly, the player needs to press "space" key on the keyboard. Flying Lilly will raise up by few pixels. The player needs to make sure that Lilly's bird is at appropiate height for the upcoming obstacles to fly through the gap.

Core Game Mechanic #3

Details: Score/hits system

How it works: The player can keep track of the amount of times Lilly passes through the gaps (score), as well as number of times she hit the wall/ground (lives).

- **Score***:* adds one point after successful flight. If score reaches round amount (eg. 10/20/30 etc.), Lilly will change her color.
- **Lives***:* shows how many lives are left; the amount can be increased by collecting proper bonus objects (starting live 1, max lives 5)

Core Game Mechanic #4

Details: Walls

How it works: Main objective is to avoid flying into the walls or ground. Walls are generated randomly, at random height level. Each wall is different to the previous one. As the player increases score count, random wall frequency is increased which makes the game more difficult.

Core Game Mechanic #5

Details: Bonus level

How it works: During the game, player can observe objects that can be collected for extra lives/points, there are also bonus levels that will significantly increase score. Extra objects add relevant points and have appropriate sounds to inform user of successful pick-up.

Core Game Mechanic #6

Details: Damaging bonus level

How it works: If the player does not pay attention to additional objects, (s)he can fly into a bonus level that could be significantly damaging. It will consist of enemy bird waves that appear every few seconds. Enemies will appear from top, bottom and right - some of them can shoot. If Flying Lilly is hit, it reduces notable number of points (do not worry, you do not loose lives, unless your score reaches 0!). Once the player survives enemy bird raid, the game objective goes back to normal, and walls must be avoided again.

Core Game Mechanic #7

Details: Motion illusion

How it works: Player has the illusion of moving background. The background in the room has horizontal speed that will create moving effect. As the ground object moves 24px to the left, it reappears 24px to the right, giving motion effect as well. That is achieved by hard-coded if-statement in the step event. The ground also has horizontal speed.

Game elements

👤 Characters

Flying Lilly - main character controlled by the player. Lilly's main objective is to fly through gaps between walls and reach the highest score possible.

🗺 Locations

Forgotten Town - the gameplay takes place in Forgotten Town.

🏆 Levels / missions

• **Main mission:** go through gaps between the walls

• **Bonus level:** collect as many coins and lives as possible. Be quick - you do not have much time!

• **Damaging bonus level:** includes incoming enemy bird raid. Some of the birds can shoot, be careful as every hit decreases significant amount of points and once you hit 0, you will start loosing lives.

📦 Objects

• Bonus level
• Damaging bonus level
• Coins
• Lives
• Grass (ground)
• Walls
• Enemy Bird Flying
• Enemy Bird Shooting

Assets

🎨 Art (backgrounds)

• Main Menu
• Forgotten Town
• Bonus Level
• Damaging Bonus Level
• End Game

🔊 Sound

- Bonus Level
- Harmful Bonus Level
- Main background
- Lilly Pick Up
- Lilly Dead
- Lilly Hits Wall/Ground
- Lilly Lost Point
- Lilly Score (once reached round amount to indicate bonus animation of changing colour)
- Enemy Bird Raid

🏃 Animation

Lilly
- **Standing:** consists of 9 subimages in standing sprite
- **Flying:** consists of 14 subimages in flying sprite

Enemy Birds
- **Flying:** consists of 8 subimages
- **Shooting**: creates moving instance of a bullet that changes colour (5 sprite subimages)