**SAMPLE**

**TECHNICAL DESIGN DOCUMENT**

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#### Game Development Team

PRODUCER

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PRODUCTION MANAGER

…

PRODUCTION COORDINATOR

…

GAME DESIGNERS

…

SYSTEMS/IT COORDINATOR

…

PROGRAMMERS

…

TECHNICAL ARTISTS

…

AUDIO ENGINEERS

…

UX TESTERS

…

# Executive Summary

## Game Overview

Pac-Man is a maze chase video game; the player controls the eponymous character through an enclosed maze. The objective of the game is to eat all of the dots placed in the maze while avoiding four colored ghosts — Blinky (red), Pinky (pink), Inky (cyan), and Clyde (orange) — that pursue him.

## Technical Summary

Pac-Man will be developed in approximately 2 weeks by 4 people using the C++ and OpenGL only. For 2D asset creation, Adobe Photoshop CS will be used. The total production cost of the game will exceed S$10,000.00. Revenue from the game will offset the investment. The remaining costs will be amortized through the release of future game titles.

The game will be deployed for PC only. The minimum requirements include:

PC STANDALONE

OS: Windows XP SP2+,

Graphics card: OpenGL 3.0 onwards (Shader Model 2 .0) capabilities.

# Equipment

## Hardware

Members of the team will utilize a collection of 14” Windows 10 notebook computers as the primary hardware platform for game development and asset creation . Additional hardware choices include Windows PC computers, and miscellaneous hardware already owned by the team .

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PRODUCT | TASK | COST\* | QUANTITY | TOTAL |
| Windows 10 14” | Asset Creation Game Development Texture Painting | $1,400 .00 | 4 | $5,600 |
| *\*values listed are general approximations in SGD* | | | TOTAL | $5,600.00 |

## Software

All the software used for the development of Pac-Man will be able to produce high end visuals, while still being able to deploy across different platforms . Not all team members will utilize all software tools. Software requirements and selections will vary based on team member roles and responsibilities.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PRODUCT | TASK | COST\* | QUANTITY | TOTAL |
| Adobe Photoshop | Texture painting | $300 .00 | 4 | $1200 .00 |
| *\*values listed are general approximations in SGD* | | | TOTAL | $1,200.00 |

# Evaluation

## Game Engine

The game engine utilized for the development of Pac-Man is C++ and OpenGL because we can create a 3D game with ease, we can make it highly-optimized and beautiful.

## Target Platform

Pac-Man will be deployed to PC only. The PC platform is the perfect target for this game as it is designed to educate new game developers on how to create a PC game .

# Scheduling

## Development Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PRODUCT | Week 1 – Mon to Wed | Week 1 – Thu to Fri | Week 2 – Mon to Wed | Week 2 – Thu to Fri |
| 2D Art | Characters Concept designs  Props references Sketching level design | Character texturing  Props and environment textures | HUD prototype | Final HUD design for PC and Mobile |
| Coding | Character control PC  Navigation and enemy agents | Player attacks Enemy attacks Game manager Ally behavior  Final 2D assets integration | Defining the walkable  area  Creating spawn points Adding audio | Refinement |
| Audio | Main soundtrack | Main soundtrack  Audio fx | Audio fx variances |  |
| Misc |  |  | Prepare beta testing reports  Beta testing | Trailer and images for publishing  QA |

## Milestones

|  |  |
| --- | --- |
| Week 1 – Thu to Fri | Prototype test-out |
| Week 2 – Mon to Wed | Final 2D asset integration to the game |
| Week 2 – Thu to Fri | First Beta |
| Week 3 – Mon | Gold |

## Updates, Maintenance & DLCs

|  |  |  |
| --- | --- | --- |
| Week 3 | Tron skin | Create a skin representing the Tron movie theme |
| Week 4 | Avatar skin | Create a skin representing the Avatar movie theme |
| Week 5 | Star Wars skin | Create a skin representing the Star Wars movie theme |

# Work Environment

## Collaboration

The team will work in the Labs and also at home. During Work-From-Home, they will use Zoom to do team discussions. They will use Trello to do project management.

# File Formats & Naming Convention

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ASSET TYPE | SUBTYPE | NAMING CONVENTION | FILE FORMAT | ANNOTATIONS |
|  | Props | PropName | TIF |  |
| Environment | EnvironmentName | TIF |  |
| 2D Asset |  | CharacterName\_TextureChannel PropNameTextureChannel | JPG PNG TIFF |  |
| Codes | Cherries | CherriesType | C++ |  |
| Characters | CharacterNameBehavior | C++ |
| Player | PlayerBehavior | C++ |  |
| UI |  | UIElementState | TGA PNG |  |

# Levels

## Level 1

Pac-Man will consist of one level. The level will consist of walls, with dots all over the place, and cherries in 4 corners of the level to collect. The walls are designed so that there won’t be any dead ends for the player or ghosts to get trapped in.

There will be only 1 spawn points for the player and another spawn point for the ghosts in the level. The ghosts’ spawn point is a room in the middle of the level, while the player’s spawn point is just beneath it.

## Asset List

|  |  |
| --- | --- |
| Players | Pac-Man |
| Enemies | four colored ghosts —   * Blinky (red), * Pinky (pink), * Inky (cyan), and * Clyde (orange) |
| Props | Dots |
|  |  |
|  |  |