Technical Manual

For

[Game Name]

Ver. 1

22/04/15

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# Project Brief

For my project as part of my HND Software Development I will be creating a local multiplayer game in which multiple users cooperate in clearing waves of ‘bricks’ by controlling a ‘bat’ in order to bounce a ‘ball’ around the screen in a similar style to the classic “Breakout” which was released in 1972 by Atari Inc.

I have chosen C# for the development language. This is because C# is known for its versatility and portability, and is a commonly used language in game development.

**Maybe write a bit more here**

# Requirements

**Explain ease of use etc.**

## Hardware Requirements

|  |  |  |
| --- | --- | --- |
|  | Minimum | Recommended |
| Operating System: | Windows XP with SP2 | Windows 7 / 8(.1) |
| Processor: | 1GHz |  |
| Graphics Card: | Support for Shader Model 1.1 and DirectX9.0C |  |
| Memory: | 512MB |  |
| Sound Card: | N/A |  |
| Input: | Keyboard | Keyboard |

## Software Requirements

**Any software required**

Systems wishing to run **[GAMENAME]** will be required to have .Net Framework 4 installed.

Microsoft access runtime: http://www.microsoft.com/en-gb/download/details.aspx?id=39358

## Functionality

|  |  |
| --- | --- |
| Functional Requirements | |
| Requirement | **IMPLEMENTED?** |
| Players will be presented with a menu system to choose which mode the game will run in |  |
| Players will be able to rebind the control system in a separate menu which can be accessed when the game is run |  |
| Players will have a method of control which will allow the bats to be moved horizontally along the screen and release the ball when it gets reset |  |
| The Menu system will be able to be controlled by the keyboard and the mouse |  |
| Players will have 4 lives each to start with |  |
| High scores will be stored in a file which will be updated after each game over |  |
| High scores will be loaded at the high scores screen |  |
| High scores will be able to be viewed by a separate option in the main menu |  |
| Upon the ball making contact with the wall, bat or bricks the ball will ‘bounce’ and change its velocity |  |
| Player scores will be displayed on the game screen when the game is active |  |
| Player lives will be displayed when the game is active |  |

### Functional Comments

**Why you didn’t implement X = time constraints, thought of a better idea, difficulty greater than expected…**

|  |  |
| --- | --- |
| non-Functional Requirements | |
| Requirement | **IMPLEMENTED?** |
| The bats will initially be coloured red and blue |  |
| The blocks will be red, blue, green, and orange |  |
| Colour of the bats will be able to change in the settings menu |  |
| Systems wishing to run the game will require to have .Net Framework 4 to run the games created |  |
| Systems will require Windows XP or higher but primary focus will be on Windows 7 and Windows 8(.1) |  |
| Hardware requirements are a graphics card that can support a minimum of Shader Model 1.1 and DirectX 9.0c in accordance with the requirements of XNA framework |  |
| The game backdrop will be black in colour |  |

### Non-Functional Comments

**Why you didn’t implement X = time constraints, thought of a better idea, difficulty greater than expected…**

### Additional Functionality

**Anything you added that was “extra”**

# Class Design

**Fill these in**

|  |  |  |
| --- | --- | --- |
| Class Name | Player | |
| UsAGE | What this class is used for | |
| Initial Design | If applicable | |
| Changes from Initial Design | If applicable (i.e. if this is a new class or not) | |
| Variables | **NAME** | **USAGE** |
| … | What it does |
| Methods | **NAME** | **USAGE** |
| … | What it does |

|  |  |  |
| --- | --- | --- |
| Class Name |  | |
| UsAGE |  | |
| Initial Design |  | |
| Changes from Initial Design |  | |
| Variables | **NAME** | **USAGE** |
|  |  |
| Methods | **NAME** | **USAGE** |
|  |  |

|  |  |  |
| --- | --- | --- |
| Class Name |  | |
| UsAGE |  | |
| Initial Design |  | |
| Changes from Initial Design |  | |
| Variables | **NAME** | **USAGE** |
|  |  |
| Methods | **NAME** | **USAGE** |
|  |  |

|  |  |  |
| --- | --- | --- |
| Class Name |  | |
| UsAGE |  | |
| Initial Design |  | |
| Changes from Initial Design |  | |
| Variables | **NAME** | **USAGE** |
|  |  |
| Methods | **NAME** | **USAGE** |
|  |  |

## Class Diagram

**Draw an updated class diagram. Stick it here.**

## External Libraries

**Any external libraries used and why, i.e. your XNA**

# Database Design

ERD

|  |  |
| --- | --- |
|  | # - indicates the primary key  \* - indicates a not-null value  Indicates a mandatory one to many (1:M) relationship |
| Player MUST have one or more than one Score  Score MUST have one and only one Player | |

Player

|  |  |  |  |
| --- | --- | --- | --- |
| Database name | type | optionality | Description |
| Id | Integer (PK) | Not Null |  |
| name | String | Not Null |  |

## High Scores

|  |  |  |  |
| --- | --- | --- | --- |
| Database name | type | optionality | Description |
| id | Integer (FK/CK) | Not Null |  |
| score | Integer(CK) | Not Null |  |

## Mode

|  |  |  |  |
| --- | --- | --- | --- |
| Database name | type | optionality | Description |
| Id | String (PK) | Not Null |  |
| name | Integer | Not Null |  |

## SQL Commands

**Write your SQL commands used here, maybe explain them a bit**

# Testing

## Methodology

**Black box, white box etc.**

**In an ideal situation….**

**What pc was used to test etc. etc.**

**Bullshit**

## Testing Plan

**Your plan here**

## Test Cases

**The results etc.**

# Appendix

## Data Dictionary

**FILL THIS IN.**

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute | Data Type | Location | Description |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Code

**[PASTE CODE HERE]**