Study Report On

Pitch Dark Game

[Are you afraid of the dark?]

Submitted in the partial fulfillment of the requirement for the partial fulfillment of degree of
MASTER OF COMPUTER APPLICATIONS
[Semester 6]

Submitted by
Popat Rutvi [165023693081]

Under the guidance of
Prof. Ankit Faldu

Department Head
Dr. Parag Shukla

Submitted to
Atmiya Institute of Technology & Science
Yigidham Campus, Kalawad Road, Rajkot
Affiliated to
Gujarat Technological University
ACKNOWLEDGEMENT

I am happy to submit our idea of “Pitch Dark” in Gujarat Technology University, Ahmadabad for Masters Of Computer Application.

I am very thankful to all those who have helped me in preparing this Project Development. I am feeling a great happiness to present this Game. First of all I would like to thank Gujarat Technological University (GTU), our college Atmiya Institute Technology & Science, Rajkot and The Keshav Infotech who give me an opportunity to prepare a project.

This dissertation has been prepared under Prof. Ankit Faldu of Department of MCA, Atmiya Institute of Technology and Science, Rajkot.

Due to him continuous support, guidelines him helping nature, and very thankful him to any time resolving our queries and provides all necessary facilities during our work

I am also grateful to Dr. Parag Shukla Head of the Department and all the faculty members of the Department of Computer Engineering for their kind support throughout this journey.

I would like to add a few heartfelt words for the people who are part of this project in numerous ways. People who give unending support right from the stage this idea was conceived. In particular, I would like to thank Mr. Samir Trivedi & Ghanshyam Gadiya, CEO of The Free Bird who provides me such nice and encouraging environment, Mrs. Vidhi Rajdev, Team-leader, iPhone Game Development and Mr. Darshan Mehta and Mr. Mohib, Graphics Designer at The Keshav Infotech who guide/help me throughout my project training. I would like to thank all the faculty members of my college.I would also like to thank all my friends and family members who have always inspired me and has directed me towards the successful completion of this project. They have been guiding me throughout the project and their encouragement has left me indebted to them.

I also take the privilege to acknowledge the elite authors of numerous books and papers and blogs which we have referred during progress of this.

Popat Rutvi(165023693081)
## Contents

1. Introduction ........................................................................................................ 6

I. Existing System .................................................................................................... 6

II. Objective of the New Game ................................................................................ 6

III. Problem Definition ........................................................................................... 6
   a) Problem statement ......................................................................................... 6

IV. Project Profile .................................................................................................... 7

V. Assumption and Constraints ............................................................................... 8
   a) Assumptions .................................................................................................... 8
   b) Constraints ..................................................................................................... 8
   c) Hardware Limitations .................................................................................... 8

VI. Advantage and Limitation of Proposed System ................................................ 8
   a) Advantages .................................................................................................... 8
   b) Limitations .................................................................................................... 9

2. Requirement Determination & Analysis .............................................................. 10

I. Requirement Determination ................................................................................ 10
   a) System requirement study ............................................................................ 10
   b) Hardware and software requirement specification ....................................... 12

II. Targeted Users .................................................................................................... 14
   a) For Any People: ............................................................................................ 14

3. System Design ...................................................................................................... 15

I. Use Case Diagram ............................................................................................... 15

II. Class Diagram ................................................................................................... 16
   a) Class Diagram 1 : ........................................................................................ 17

III. Activity Diagram ................................................................................................ 18
   a) Activity diagram for Player : ......................................................................... 19
   b) Activity diagram for game : .......................................................................... 20
   c) Activity diagram for Chapter Page : ............................................................ 21
## List Of Tables

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Company Profile</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Project Profile</td>
<td>7</td>
</tr>
<tr>
<td>3.</td>
<td>Hardware Requirement</td>
<td>12</td>
</tr>
<tr>
<td>4.</td>
<td>Software Requirements</td>
<td>12</td>
</tr>
<tr>
<td>5.</td>
<td>Client-side Requirements</td>
<td>12</td>
</tr>
<tr>
<td>6.</td>
<td>References</td>
<td>77</td>
</tr>
</tbody>
</table>
List Of Images

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Name</th>
<th>Page. No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Use case diagram</td>
<td>15</td>
</tr>
<tr>
<td>2.</td>
<td>Class Diagram 1</td>
<td>17</td>
</tr>
<tr>
<td>3.</td>
<td>Class Diagram 2</td>
<td>18</td>
</tr>
<tr>
<td>4.</td>
<td>Activity Diagram for Player</td>
<td>19</td>
</tr>
<tr>
<td>5.</td>
<td>Activity Diagram for Game</td>
<td>20</td>
</tr>
<tr>
<td>6.</td>
<td>Activity Diagram for Chapter</td>
<td>21</td>
</tr>
<tr>
<td>7.</td>
<td>Activity Diagram for Score</td>
<td>22</td>
</tr>
<tr>
<td>8.</td>
<td>Activity Diagram for Help</td>
<td>23</td>
</tr>
<tr>
<td>9.</td>
<td>Activity Diagram for Game</td>
<td>24</td>
</tr>
<tr>
<td>10.</td>
<td>Data flow Diagram</td>
<td>26</td>
</tr>
<tr>
<td>11.</td>
<td>Sequence Diagram</td>
<td>28</td>
</tr>
<tr>
<td>12.</td>
<td>Screenshots &amp; User Manual</td>
<td>41 to 76</td>
</tr>
</tbody>
</table>
### Company Profile

<table>
<thead>
<tr>
<th>Name</th>
<th>Keshav InfoTech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>608, Dhanrajni Complex, 360001, Near Hotel Imperial Palace, Yagnik Road, Rajkot –Gujarat (INDIA ).</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:keshaydevelopers@gmail.com">keshaydevelopers@gmail.com</a></td>
</tr>
<tr>
<td>Contact No.</td>
<td>+91 9624434895</td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://www.keshavinfotech.com">www.keshavinfotech.com</a></td>
</tr>
</tbody>
</table>

### Table 1 : Company Profile

**About Keshav :**

Keshav Infotech provides services in various areas of the Information Technology field. These areas include iPhone application development, 2D Game development for Android and iPhone, Logo designing and Character modeling. Other than providing services and solutions, we also develop our own world class products.

At Keshav Infotech, we work passionately to find innovative, smarter & more efficient ideas to harness the power of the creativity, research & development. It enables us to transcend the present levels of development, solutions and services.

We believe that innovation and creativity are the base for uplifting the present technologies and take them to a new level, so at The Free Bird each and every one is free to express his/her innovative ideas and able to realize those ideas with the help of our dedicated team members.

Keshav infotech began from 23 walk 2008 and keshav infotech fundamental point is create different kind of Android application and ios application improvement

At the point when keshav infotech beginning to travel being developed recorded that time just 2 engineer in keshav infotech. What's more, display in keshav infotech 75 engineers .
Keshav Infotech gives u a wide range of IT arrangements. Keshav Infotech is a drive for flawlessness prompted our development from a straightforward plan to an effective organization. We are effective in numerous parts of web based marking and publicizing on account of our devoted group of experts. Their committed and efficient ways to deal with critical thinking has driven us to give brilliance and advancement to our customers, and we work energetically to breath life into their fantasies.

**Vision:**

We at Keshav Infotech desire to thrive as one of the top notch providers for IT solution and services, we believe in consistently delivering comprehensive and satisfactory IT solutions and services.

- Feel the difference between 99% and 100%
- To be one of the most valued and respected Technology company.
- Peruse latest trends in technology and quality driven approach.
- We aim refine the ideas of our customers and make them useful and beneficial depending on the latest market scenarios.
- We work together to create synergy.
- We support innovation and endeavor to do better than last time.
ABSTRACT

Since the new century, the Internet-based electronic commerce has evolved considerably, which is totally depends upon Internet. Internet has evolved because it manages end user data in easy manner which saves time and extra efforts like traditional systems.

Here I am representing a game named as “Pitch dark” which is for iPhone. Game is developing is for entertainment, concentration, memory purpose. In give two point in that one is start point and other is end point. In the game player should reach start point to end point. But in this start \( \frac{3}{4} \) seconds give for memorized path. And also player should focus in the game because when player move point in the path at that time not give whole path but display only point light in that part only. In the game total 5 chapter and each chapter has 20 Levels.

Like this way, my concept provides new way, new game for all type of people. In the game score manage of the time. In how much time take for reach the goal/destination point. so, this game is good for anyone.

Like this way, my concept provides new way, new game for all type of people. In the game score manage of the
1. Introduction

I. Existing System

This gaming application does not replace any other gaming application. So that it does not require replacing any other gaming system.

The gaming application for iPhone.

II. Objective of the New Game

New game is for entertainment, concentration and memory purpose. In the game many functionality new for the people.

- Simple touch controls
- 5 chapters, 100 Levels

III. Problem Definition

a) Problem statement

Pitch Dark is for memory buffs, puzzle solvers and thrill seekers. Compete and show you are the fastest, smartest most innovative player amongst thousands of players in the world.

Free to download and experience the unique gameplay with over 100 levels.

- Control the player by moving your finger around the entire screen
- Go through the labyrinth and reach the destination

The main objective of creating this game is to provide a good entertaining love and friendship based game for the iphone platform users that provide extreme fun. With the amazing graphics and sound it entertain the user.
## IV. Project Profile

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Pitch dark</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective Of Project</strong></td>
<td>Main objective of my game is entertainment, concentration, memory purpose with the new changes in each level with sharp of the mind.</td>
</tr>
<tr>
<td>Operating System</td>
<td>Mac</td>
</tr>
<tr>
<td>Hardware Requirements</td>
<td>Device: iphone</td>
</tr>
<tr>
<td>Front End</td>
<td>Unity</td>
</tr>
<tr>
<td>Other Software Used</td>
<td>Monodevelop, VSCode</td>
</tr>
<tr>
<td>Other Technology Used</td>
<td>Photoshop, Maya</td>
</tr>
</tbody>
</table>

Table: 1.0: Project Profile
V. Assumption and Constraints

a) Assumptions

• User is the person having enough knowledge for the game operation.
• They have iPhone on which this web application is used must meet its minimum requirements in terms of hardware and software.
• The availability and reliability of the system is at the level of security.
• The user of the system must aware about the various functionalities of the system and all the operations of it.

b) Constraints

• Player can’t move further when all level complete.
• Because the game is not endless.

c) Hardware Limitations

• iPhone main requirement for run the project.
• The problem in processing requests of client
• If appropriate storage is not there our whole database will crash due to less storage because our main requirement is large storage.

VI. Advantage and Limitation of Proposed System

a) Advantages

• Player can sharp his/her mind.
• Player can learn about concentration.
• Player can increase his/her memory power.
• Player can get entertainment.
• Control the player by moving your finger around the entire screen
• New challenges in each chapter.
• Simple touch game so anyone can play easily.
• 5 chapters, 100 Levels.
• Free to download.
b) Limitations

- Sometimes not time then player waste time.
- After 100 Levels not move further.
- Sometimes it effects on study when player is student.
2. Requirement Determination & Analysis

I. Requirement Determination

Project Planning is concerned with identifying and measuring the activities, milestones and deliverables produced by the project. Project planning is undertaken and completed sometimes even before any development activity starts. Project planning consists of following essential activities:

• Scheduling manpower and other resources needed to develop the system.
• Staff organization and staffing plans.
• Risk identification, analysis, and accurate planning.
• Estimating some of the basic attributes of the project like cost, duration and efforts. the effectiveness of the subsequent planning activities is based on the accuracy of these estimations.
• Miscellaneous plans like quality assurance plan, configuration management plan, etc.

Project management involves planning, monitoring and control of the people, process, and the events that occurs as the application evolves from a preliminary concept to an operational implementation. Cost estimation is a relative activity that is concerned with the resources required to accomplish the project plan.

  a) System requirement study

• Game Play
  o Game Play scene will have chapter number and stage number.
  o User can see the entire stage will start, end and obstacle for few seconds.
  o After that there will only start point and end point and user has to reach to the end point without touching obstacles.

• Start Scene
  o Start scene has game logo and four buttons.
    ▪ Enter
    ▪ RateIt
    ▪ Score
    ▪ Help
Enter button will take to the Chapter screen.
Rate It button will move the Rate It Screen.
Score button will be display Leader Board.
Help button will be move help / Instruction.

- Game Page
  - Actual game will be display.

- Chapter Page
  - Chapter Page has chapter number and stage 1 to 20.
  - There will be an option for next and previous chapter.
  - Selecting any stage will take to the game screen.

- Display score
  - It will be display scoreboard.

- Leader board
  - It will be Leader Board.

- Advertisement
  - It will be display advertisement by using Appodeal,

- Help Page
  - It will be display Help or Instruction about game.

- Win Panel
  - It will display wining message and also have next chapter button for moving.

- Loose Panel
  - It will display Replay button for replay game.
b) Hardware and software requirement specification

This shows minimum requirements to carry on to run this system efficiently.

i. Hardware Requirements

<table>
<thead>
<tr>
<th>Devices</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Iphone processor</td>
</tr>
<tr>
<td>RAM</td>
<td>4 GB</td>
</tr>
<tr>
<td>Memory(Internal/External)</td>
<td>8 GB</td>
</tr>
</tbody>
</table>

Table 2.1 Hardware Requirement

ii. Software Requirements

<table>
<thead>
<tr>
<th>For which</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Mac</td>
</tr>
<tr>
<td>Front End</td>
<td>Unity</td>
</tr>
</tbody>
</table>

Table 2.2 Software Requirements

iii. Client side Requirements

<table>
<thead>
<tr>
<th>For which</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>iPhone</td>
<td>Not particular</td>
</tr>
</tbody>
</table>

Table 2.3 client side Requirements
iv. Safety and Security Considerations

• Safety:

The Safety of the game is about organization part of concern as the system is going to be used in there but the solution for the safety of the system.

• Security:

As a developer of the game we are responsible for providing the system a higher level of security as we all know that either it is an iPhone application, system must be given a great level of security so that game will be used long last.

v. System Requirements

• Usability:

The interface should use terms and concepts, which are drawn from the experience of the people who will make most of the system.

• Efficiency:

The game should provide easy and fast access.

vi. Requirement Validation

A requirements validation is concerned to check whether the requirements actually define the system, which the player wants? Requirements validation is important because errors in requirements document can lead to extensive rework costs when they are subsequently discovered.

We have performed the following validation checks

• Consistency checks
  ▪ A requirement in a document is not conflicting. It should be in consistent manner.

• Completeness checks
  ▪ The requirements document includes requirement, which define all functions, o and constraints intended by the system user.
• **Realism checks**
  - Using knowledge of existing technology, the requirements are checked to ensure that they could actually be implemented.

• **Verifiability**
  - The requirements are given in verifiable manner (e.g.: Using quantifiable measures) to reduce disputes.

### II. Targeted Users

#### a) For Any People:

Anyone can play the game. The game hasn’t nothing wrong data or wrong message convey the game. So, any student, any edge Bal people, business man, Professor, any person can play. It give provide platform to play for the game.
3. System Design

I. Use Case Diagram

A use case diagram is used to represent the actions by the user in a system. It has roles and actions. Each user / role has different privileges and each perform different actions.
II. Class Diagram

The Class diagram is a static. It represents the static view of an application. Class diagram is not only used for visualizing, describing and documenting different aspects of a system but also for constructing executable code of the software application.

The class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object oriented systems because they are the only UML diagrams which can be mapped directly with object oriented languages.

The class diagram shows a collection of classes, interfaces, associations, collaborations and constraints. It is also known as a structural diagram.
a) Class Diagram 1:

Level Manager
+ Stage
+OpenScorePanel()
+GoToRate()
+QuitRequest()
+Back()
+LoadPlay()
+LoadNextLevel()
+QuitLevel()
+GoBack()
+GoHelp()

GameManager
+Lines[]
+GameOver
+Lose
+Win
+Time
+Backcounter
+TimerText
+TimeLeft
+Stop
+Timestop
+replay
+Scoretotal
+Play()
+LoadLevel()
+GameOver()
+Win()
+LoadInitialVal()

Start Dot
+GameOver
+win
+drag
+Point()
+GameManager()
-setPositionSet()

ColDetector
+atmiddlepoint
-gamemanager
OnTriggerEnter2D()

Outarea
OnTriggerEnter2D()
OnTriggerExit2D()

Line
-gameManager
+Exit()
OnCollisionEnter2D()
+GameRefer()

EndDot
OnTriggerEnter()
III. Activity Diagram

Activity diagram is basically a flow chart to represent the flow form one activity to another activity. The activity can be described as an operation of the system. It captures the dynamic behavior of the system. It does not show any message flow from one activity to another. Activity diagram is some time considered as the flow chart. Although the diagrams look like a flow chart but it is not. It shows different flow like parallel, branched, concurrent and single.

So the purposes can be described as:

- Draw the activity flow of a system.
- Describe the sequence from one activity to another.
- Describe the parallel, branched and concurrent flow of the system.
a) Activity diagram for Player:

```
Player

Game
- Score
  - Back to home page
  - Loose Game
    - Win Game

Chapter
- Next Level

Help
- Back to home Page

Previous Level
```
b) Activity diagram for game:

```
Go to Game

Quit

Play Game

Win Game       Loose Game
```

- Go to Game
- Quit
- Play Game
  - Win Game
  - Loose Game
c) Activity diagram for Chapter Page:
d) Activity diagram for Score Page:

![Activity diagram for Score Page](image-url)
e) Activity diagram for Help Page:

- Help Page
  - Instruction Text
  - Back to game
f) Activity diagram for Game:

- Go to Main Menu
- Tap on "Play"
- New Game Loaded
- Play Game
  - Pause
  - Resume
  - Exit
- Die
  - High Score
- Game Over
  - Restart
- Menu
  - Restart
IV. Data Flow Diagram

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of data processing.

A DFD shows what kind of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored.
a) Data flow Diagram for game:

Player

Jiang Kong Kun Stunt Runner: JK-KSR

Play

Load Play Scene
V. Sequence Diagram

A Sequence diagram is an interaction diagram that shows how processes operate with one another and in what order. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence diagrams are typically associated with use case realizations in the Logical View of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios.

A sequence diagram shows, as parallel vertical lines (lifelines), different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner.
a) Sequence diagram:

System Sequence Diagram

- Player
- System

play()
getScore()

score : int
getWin()

win : bool
VI. Data Dictionary

We have used “PlayerPrefs” to store Game Preferences. It stores and access data in form of Key Value pair between Game Sessions. Data is saved in ShaderPreferences on Android device.

We have used “PlayerPrefs” to store the following Game Preferences.

- HIGH_SCORE
- VOLUME_PREFERENCE
- LEVEL_MANAGER
4. Development

I. Coding Standards

Challenges identified for successful design and implementation of this project are dominated by: complexity, reliability/availability, transparent data access while respecting security. The project was a result of a group consensus. The team was having two members. The team was guided by project manager. The team structure depends on the management style of the organization, the no. of people in the team, their skill levels and the problem difficulty. After the completion of each module, a module testing was performed on each. When the development was completed, System testing was performed to test the system.

Normally, good software development organization requires their programmers to adhere to some well-defined and standard style of coding called coding standard.

a) Variable Standards:

- We have used meaningful variables name.

b) Comment Standards:

- The comment should describe what is happening, how it is being done, what parameters mean, which global are used and which are modified, and any registration or bugs. The standards I have followed are:
  - Every script should begin with a comment block, which describes the scripts purpose; any argument used (if applicable), and return values (if applicable), inputs-outputs, and name of script.
  - Comment may also be used in the body of the script to explain individual sections or lines of codes.
  - It is also used to describe variable definition or declarations.
  - Inline comments should be made with the // comment style and should be indented at the same level as the code described.
  - For multiple line comments we write between /* ....*/.
5. Agile Documentation

I. Agile Project Charter
While every project manager’s goal is to create a simple, short project charter, many of them take months to write and can include thousands of words.

On the other hand, an agile project charter is much more succinct and takes less time to create. An agile project charter is one page and is high level, yet specific. Its main three sections focus on the mission (the reason for the project’s existence), the vision (what will be done in the project), and success criteria (how the team should define a completed project).

II. Agile Roadmap / Schedule
An agile roadmap represents a strategic overview of where the product is headed in the mid-to long-term. It steers the direction of your product and sets expectations within your company. A traditional roadmap can sometimes act as a strict project plan, but in an agile organization, the roadmap just provides guidance and clarity.

The product roadmap can span months, quarters, or years. This template includes Q2, Q3 and Q4 for 2016 (you can always change the grey row to span the length of time you’d like). Each arrow represents a product and shows the estimated length of time required to deliver. You can color code the arrows by stream, by product type, by status, or more.

III. Agile Project Plan
An agile project plan is based on features. The plan estimates how long it will take for each feature to be delivered, without much detail on how it will be delivered. And because the project plans are focused on features, you can group similar features into sprints.

An agile project plan is always changing. Once the plan is developed, the project team needs to maintain it and update status and timelines accordingly.
Also known as an agile project schedule, this template lets you add your tasks, who is responsible, start and end dates, and status. The duration for each task will be automatically calculated. This template also features a Gantt chart (a visual representation of your project timeline), which will automatically adjust when you add your own data to the table.
IV. Agile User Story
A user story describes a feature from the end-user’s perspective. It includes the type of user, what they want, and why they want it. These short, one-sentence user stories create a super simple description of a requirement. Then, the development team develops code that will satisfy the requirements of the user story.

V. Agile Release Plan
Agile release planning happens during sprint zero, when there is no product to deliver and the team can instead focus on defining the release goal, the features that need to be delivered, assigning features to a sprint, and estimating the duration of each task. Release planning may change as new stories are added or deleted.

VI. Agile Sprint Backlog
Also known as a scrum backlog, the sprint backlog is created during agile sprint planning, where the team will select the top items in the product backlog and add them to their sprints. The sprint backlog includes all the work pushed into the development phase. It is a to-do list of backlog items that must be completed in the current iteration and this list should be very finalized (no one should be adding or removing tasks).

VII. Agile Test Plan
Instead of a static testing plan that must happen at a certain time, test plans in agile projects should be dynamic and iterative. The testing phase becomes an extension of the requirements prioritization process so that the most up-to-date information is used when defining tests and to avoid any misunderstanding about scope.

While you don’t need an extensive agile test plan, you still need to track the actions, expected results, actual results, and whether the test passed or failed. This template includes interactive checkboxes in the pass column, so when you check the box that the test passed, the whole row will be crossed out.
6. Testing

I. Test Case of Home Page:

<table>
<thead>
<tr>
<th>Test Case ID</th>
<th>UTC 1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Priority</td>
<td>High</td>
</tr>
<tr>
<td>Test Title</td>
<td>Pitch dark game home page</td>
</tr>
<tr>
<td>Description</td>
<td>Testing of pitch dark game home page</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Case Name</th>
<th>Expected Result</th>
<th>Actual Result</th>
<th>Status</th>
<th>Qa Result</th>
<th>Developer Result</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>_From (Open game )</td>
<td>• It should be open home page of pitch dark page.</td>
<td>Same as Expected output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
</tbody>
</table>
| 2    | Pitch dark game home page | • It should contain following thing.  
➤ Game Name – Image  
➤ Enter – Button  
➤ Help – Button  
➤ Rate It – Button  
➤ Score - Button | Same as Expected Output | Pass | Pass | Pass | None |
<p>| 3    | Game Name -Image | • It should be display top of the section | Same as Expected Output | Pass | Pass | Pass | None |
| 4    | Enter – Button | • It should be display after title image with red font color with uppercase. | Same as Expected Output. | Pass | Pass | Pass | None |
| 5    | Click on &quot;enter button&quot; | • It should redirect to Chapter screen. | Same as Expected Output. | Pass | Pass | Pass | None |</p>
<table>
<thead>
<tr>
<th></th>
<th>Help</th>
<th>Button</th>
<th></th>
<th>It should be display after enter button with red font with upper case.</th>
<th>Same as Expected Output.</th>
<th>Pass</th>
<th>Pass</th>
<th>Pass</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Click on &quot;help button&quot;</td>
<td></td>
<td>It should redirect to Home Screen.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Rate It</td>
<td>button</td>
<td></td>
<td>It should be display after help button with red font with upper case.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>9</td>
<td>Click on &quot;rate it button&quot;</td>
<td></td>
<td>It should be redirect browser with rate page.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Score</td>
<td>Button</td>
<td></td>
<td>It should be display after RateIt button with red font with proper case.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>11</td>
<td>Click on &quot;Score button&quot;</td>
<td></td>
<td>It should be redirect Leader board or display score.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>
## II. Test case of Help Page:

<table>
<thead>
<tr>
<th>Test Case ID</th>
<th>UTC 1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Priority</td>
<td>High</td>
</tr>
<tr>
<td>Test Title</td>
<td>Pitch dark game help page</td>
</tr>
<tr>
<td>Description</td>
<td>Testing of pitch dark game help page</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Case Name</th>
<th>Expected Result</th>
<th>Actual Result</th>
<th>Status</th>
<th>Qa Result</th>
<th>Developer Result</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>_From ( Click on Help button )</td>
<td>• It should be open help page.</td>
<td>Same as Expected output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Pitch dark game help page</td>
<td>• It should contain following thing with black background</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Game Name – Image</td>
<td>Same as Expected Output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Help title – Text</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Help description – Text</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Back – Button</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Info - Text</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Game Name - Image</td>
<td>• It should be display top of the section</td>
<td>Same as Expected Output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>Help - Text</td>
<td>• It should be display after title image with red font color with uppercase.</td>
<td>Same as Expected Output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>Help Description – Text</td>
<td>• It should be display after help text with white font with proper case.</td>
<td>Same as Expected Output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Back - button</td>
<td>• It should be display after help description text with grey font with white background with lower case.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>9</td>
<td>Click on &quot;back button&quot;</td>
<td>• It should be redirect home page.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>10</td>
<td>Info – Text</td>
<td>• It should be display after Back button with white font with proper case.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
</tbody>
</table>
III. Test case of Chapter Page:

<table>
<thead>
<tr>
<th>Test Case ID</th>
<th>UTC 1.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Priority</td>
<td>High</td>
</tr>
<tr>
<td>Test Title</td>
<td>Pitch dark game Chapter Page</td>
</tr>
<tr>
<td>Description</td>
<td>Testing of pitch dark game Chapter Page</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Case Name</th>
<th>Expected Result</th>
<th>Actual Result</th>
<th>Status</th>
<th>Qa Result</th>
<th>Developer Result</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>_From (Click on Enter button)</td>
<td>• It should be open Chapter page.</td>
<td>Same as Expected output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Pitch dark game help page</td>
<td>• It should contain following thing with black background</td>
<td>Same as Expected Output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>Game Name - Image</td>
<td>• It should be display top of the section</td>
<td>Same as Expected Output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>Score - Text</td>
<td>• It should be display after title image</td>
<td>Same as Expected Output</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>Test Case</td>
<td>Description</td>
<td>Expected Output</td>
<td>Result 1</td>
<td>Result 2</td>
<td>Result 3</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5章 -- 文本</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应在分数文本后显示，字体白色，居中对齐。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>按钮列表</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应在章节文本后显示，字体浅红色，白色边框，无章节。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应包含20个相同按钮。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>悬停效果按钮</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 鼠标悬停时，应显示颜色变化。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应为深色边框。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>onClick按钮</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 鼠标点击时，应显示颜色变化。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应引导至特定章节的游戏。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>前一个按钮</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应在按钮列表后显示，左对齐，字体白色。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>onClick前一个按钮</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 鼠标点击前一个按钮时，应显示颜色变化。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应引导至前一章节，如果1则引导至主屏幕。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>前一个按钮</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 应在按钮列表后显示，右对齐，字体白色。</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Onclick on Previous button</td>
<td>• When mouse click on next button then it should be redirect to next chapter.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>pass</td>
<td>pass</td>
<td>If 5 then not move ahead.</td>
</tr>
<tr>
<td>15</td>
<td>Divide Line</td>
<td>• It should be display after Button with light pink color.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>16</td>
<td>Remove ad – button</td>
<td>• It should be display after line with red font with proper case with left align.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>17</td>
<td>Onclick on Remove ad button</td>
<td>• When click on button then it should be redirect on the advertise.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>18</td>
<td>Restore purchase – button</td>
<td>• It should be display after line with red font with proper case with right align.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
<tr>
<td>19</td>
<td>Onclick on Restore purchase button</td>
<td>• When click on button then it should be redirect restore screen.</td>
<td>Same as Expected Output.</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>None</td>
</tr>
</tbody>
</table>

Home Page:

Home screen of pitch dark game. It’s appear when you click on the game.
Chapter Page:

It open when click on Enter button of home screen.
Which includes chapter of game with it’s stage.
This screen of chapter 5 with 20 stage.
Effect of Next/Previous Page:

This effect shows when you click on Next / Previous button.
Game Page:

This is actual game play of chapter 1 with time and score.
After 3 Second Game Page:

Drag anywhere to move white ball to all red balls without hitting the walls.

Points: 293
QUIT

After 3 second of game this screen will be display instruction which guide of playing game.
Loose Page:

When Player loose game at that display this screen. With reply and quit button with points.
Loose Page:

When player loose game at that it shows with particle system with reply button with quit with points.
Game Page with Palying:

This screen of actual plying game with white point with direction light.
Game Page with Move Point:

When player play at that time move point at that time move direction light move.
Game Page with instruction page:

Drag anywhere to move white ball to all red balls without hitting the walls.

This screen of instruction with quit button.
Game Page with reach destination:

Drag anywhere to move white ball to all red balls without hitting the walls.

When player play then reach destination point at that time it shows.
Win Page:

When Player then win game at that time it screen display.
Help Page:

This screen display when player click on help button with back button.
Rate It Page:

This screen display when player click on Rate It button.

Information

Seller: angel capital ventures
Size: 111.6 MB
Category: Games: Board
Compatibility: Works on this iPhone
Languages: English
Age Rating: 4+

Supports

Family Sharing
Up to six family members will be able to use this app with Family Sharing enabled.

More by Angel

More by Angel: See All

Today, Games, Apps, Updates, Search

This screen display when player click on Rate It button.
Score Page:

When Player click on Score button at that time it display leader board.
Live Application page:

Pitch Dark
Are you afraid of the dark?

What's New
Version 1.3
3mo ago
Global high-score through Game Center

This screen shot of liv application in itunes.
Chapter 4 with stage 1 Page:

This screen of chapter 4 of stage 1 with destination and start point.
Chapter 4 with stage 4:

This screen of chapter 4 of stage 4 with quit button and both point.
Chapter 4 with stage 7:

This screen of chapter 4 of stage 7.
Chapter 4 with stage 9:

This screen of chapter 4 of stage 9.
Chapter 4 with stage 20:

This screen of chapter 4 of stage 20 with both point with quit button.
Chapter 5 with stage 1:

This screen of chapter 5 of stage 1.
Chapter 5 with stage 1 with play:

This screen of chapter 5 with stage 1 with playing.
Chapter 5 with stage 3:

This screen of chapter 5 with stage 3.
Chapter 5 with stage 4:

This screen of chapter 5 with stage 4.
Chapter 5 with stage 10:

This screen of chapter 5 with stage 10.
Chapter 5 with stage 13:

This screen of chapter 5 with stage 13.
Chapter 5 with stage 14 with play:

This screen of chapter 5 with stage 14 with playing.
Chapter 5 with stage 15:

This screen of chapter 5 with stage 15.
Chapter 5 with stage 17:

This screen of chapter 5 with 17.
Chapter 1 with stage 16:

This screen of Chapter 1 with stage 16.
About the tool

- **Unity**: 

Unity3D is a powerful cross-platform 3D engine and a user friendly development environment. Easy enough for the beginner and powerful enough for the expert; Unity should interest anybody who wants to easily create 3D games and applications for mobile, desktop, the web, and consoles.

Unity is a cross-platform game engine developed by Unity Technologies, which is primarily used to develop both three-dimensional and two-dimensional video games and simulations for computers, consoles, and mobile devices. First announced only for OS X at Apple's Worldwide Developers Conference in 2005, it has since been extended to target 27 platforms. Six major versions of Unity have been released. For a list of games made with Unity, visit List of Unity games. Unity is a multipurpose game engine that supports 2D and 3D graphics, drag-and-drop functionality and scripting using C#. Two other programming languages were supported: Boo, which was deprecated with the release of Unity and JavaScript which started its deprecation process in August 2017 after the release of Unity 2017.1. The engine targets the following graphics APIs: Direct3D on Windows and Xbox One; OpenGL on Linux, macOS, and Windows; OpenGL ES on Android and iOS; WebGL on the web; and proprietary APIs on the video game consoles. Additionally, Unity supports the low-level APIs Metal on iOS and macOS and Vulkan on Android, Linux, and Windows, as well as Direct3D 12 on Windows and Xbox One.

Within 2D games, Unity allows importation of sprites and an advanced 2D world renderer. For 3D games, Unity allows specification of texture compression, mipmaps, and resolution settings for each platform that the game engine supports and provides support for bump mapping, reflection mapping, parallax mapping, screen space ambient occlusion (SSAO), dynamic shadows using shadow maps, render-to-texture and full-screen post-processing effects. Unity also offers services to developers, these are: Unity Ads, Unity Analytics, Unity Certification, Unity Cloud Build, Unity Everyplay, Unity IAP, Unity Multiplayer, Unity Performance Reporting and Unity Collaborate. Unity supports the creation of custom vertex, fragment (or pixel), tesselation, compute shaders and Unity's own surface shaders using Cg, a modified version of Microsoft's High-Level Shading Language. If you ask information regarding Unity3D, I think most people don’t know well about it except game developers. As mobile game developers, we help you know about this.
• **MonoDevelop**: 

MonoDevelop (also known as Xamarin Studio) is an open source integrated development environment for Linux, macOS, and Windows. Its primary focus is development of projects that use Mono and .NET frameworks. MonoDevelop integrates features similar to those of NetBeans and Microsoft Visual Studio, such as automatic code completion, source control, a graphical user interface (GUI) and Web designer. MonoDevelop integrates a Gtk# GUI designer called Stetic. It supports Boo, C, C++, C#, CIL, D, F#, Java, Oxygene, Vala, and Visual Basic.NET.

MonoDevelop can be used on Windows, macOS and Linux. Officially supported Linux distributions include CentOS, Debian, Fedora, openSUSE, SUSE Linux Enterprise, Red Hat Enterprise Linux and Ubuntu, with many other distributions providing their own unofficial builds of MonoDevelop in their repositories. macOS and Windows have been officially supported since version 2.2.

MonoDevelop has included a C# compiler (an alternative to MSBuild and CSC) since its earliest versions. It currently includes a compiler that supports C# 1.0, C# 2.0, C# 3.0, C# 4.0, C# 5.0 and C# 6.0. A customized version of MonoDevelop ships with Unity, the game engine by Unity Technologies. It enables advanced C# scripting, which is used to compile cross-platform video games by the Unity compiler. MonoDevelop is an IDE for the .NET platform with features comparable to Microsoft Visual Studio. Highlights include:

• Multi-platform IDE and user projects (Linux, Windows and macOS)
• Multi-language (C#, F#, Visual Basic .NET, C/C++, Vala)
• Project templates for C#, Visual Basic, Boo, Java (IKVM) and C/C++
• Code completion support for C#, code templates, code folding
• Customizable window layouts, user defined key bindings, external tools
• Integrated Debugger for debugging Mono and native applications
• Integrated Compiler (supports up to C# 6.0)
• GTK# Visual Designer to graphically build GTK# user interfaces
• ASP.NET web projects with code completion support and testing on XSP (Mono web server).
8. Conclusion

After doing this project work, I learn many things those I cannot learn as student as we all know that academic work and real industrial work has big difference. First, I learn to analyze the problem for that we have taken the many opinions. Then I am in designing phase so learn to make the design user friendly. Then I develop the game with touch input. In testing phase, we think and update our portal accordingly. I am so lucky that in this way we can help many people and I provide the way to live the creativity and such a project which may helpful in environment and enhancement of human beings and human society. Still learning process has never die, I will learn and improve this project in many ways.
9. References

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name</th>
<th>URL</th>
<th>Refer Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Unity</td>
<td>[<a href="http://www.unity3d.com">www.unity3d.com</a>]</td>
<td>Unity cover all topics</td>
</tr>
</tbody>
</table>

Table 9.1 References