AR 3d Zombie Shooting Game

A work submitted in partial fulfillment of the requirements for the degree of

Bachelor of Science in Computer Science

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Certificate of Approval

It is certified that the work presented in this Project titled

AR 3d Zombie Shooting

was submitted by

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under our supervision and according to my opinion, is fully adequate, in scope and quality,for the degree of BS in Computer Science.

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right direction whenever they thought we needed it. We would also like to thank Dr. Fahad Maqbool whose passion and determination support has encouraged us to complete our BS degree. His recommendations and suggestions helped us throughout our stay in game development. Finally, We must express my true feelings to my parents and to all teachers for providing us with unfailing support and continuous encouragement throughout our years of study and through the process of researching and working. This accomplishment would not have been possible without them.

Muhammad Kashif Waqas

Shamoon

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Chapter 1: Feasibility Study

1.1 Economic Feasibility:

Our project total cost is approximately Rs.5000/- but we divided our cost estimation in following three stages of COCOMO Model.

Stage-I:

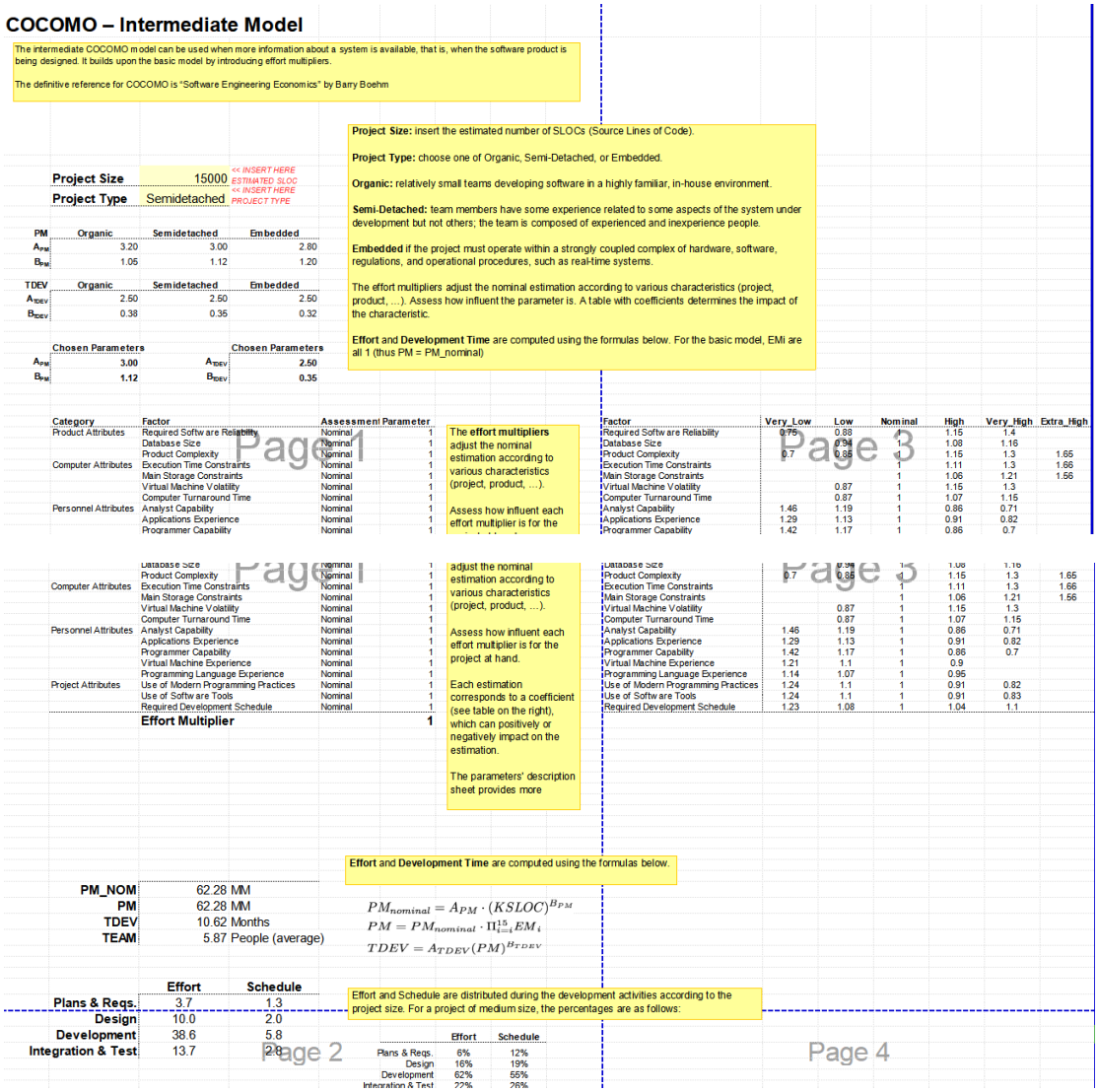
The estimation cost of prototyping model is approximately Rs.2000/-, For this We uses Application Composition Estimation Model. This model is used for the prototyping stage of application generator and system integration.

Stage-II:

The estimation cost in the early design stage of the our project is approximately Rs.1000/-, For this we uses Early Design Estimation Model. This model is used in early design stage of application generators, infrastructure, system integration**.**

Stage-III:

The estimation cost in the post architecture stage of a project is approximately Rs.2000/-, For this We uses Post Architecture Estimation Model. This model is used after the completion of the detailed architecture of application generator, infrastructure, system integration**.**



1.2 Legal Feasibility:

Augmented Reality will influence society as fundamentally as the Internet itself has done, and such a powerful medium cannot help but radically affect the laws and norms that govern society. No author is as uniquely qualified to provide a big-picture forecast and guidebook for these developments as Brian Wassom. A practicing attorney, he has been writing on AR law since 2007 and has established himself as the world's foremost thought leader on the intersection of law, ethics, privacy, and AR. Augmented Reality professionals around the world follow his Augmented Legality® blog. This book collects and expands upon the best ideas expressed in that blog, and sets them in the context of a big-picture forecast of how AR is shaping all aspects of society.

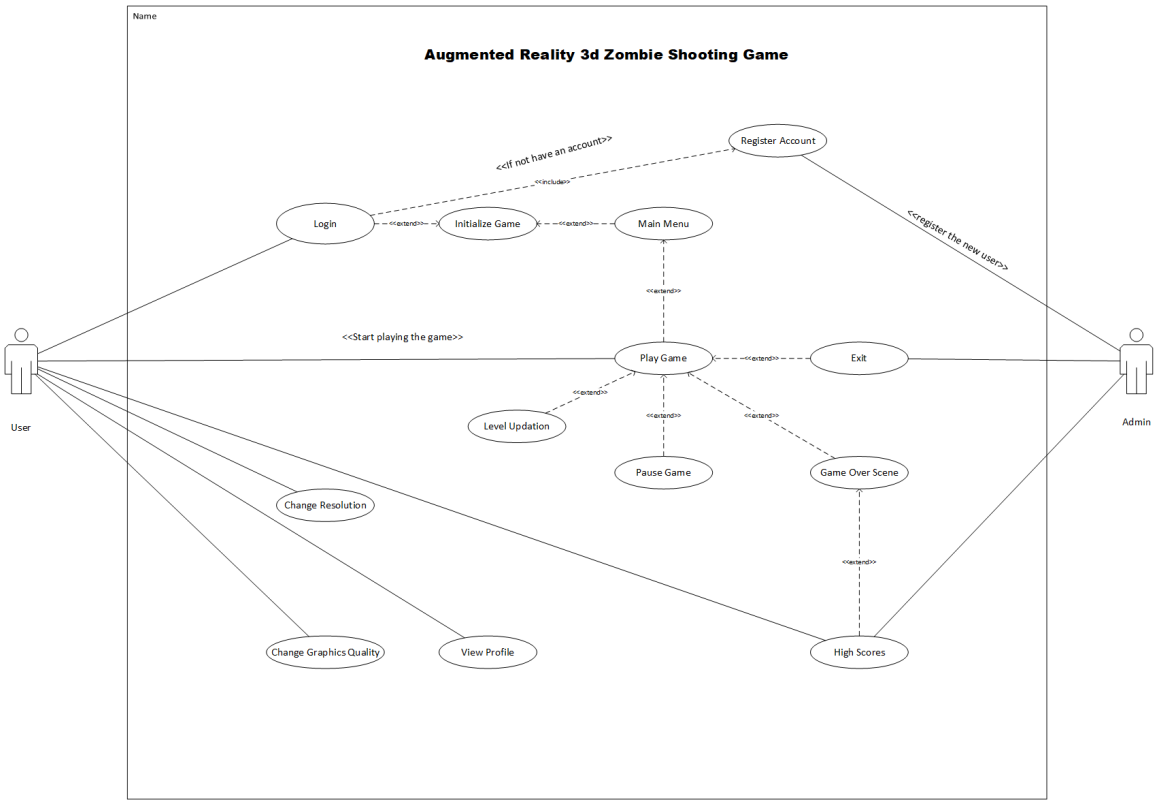
1.3 Time Feasibility:

Our "**AR 3d ZOMBIE SHOOTING GAME**" is require approximately 7 months to complete ,we try to complete our project within this time span .

AR 3d Game **Game Development Planning Gantt Chart**

Zombie Shooting	2019-2020											
	Q1			Q2			Q3			Q4		
	September	September	October	October	November	December	January	February	March	March	April	May
Game Product												
Release 1	Phase 1	Phase 2	Phase 3	Phase 4	Launch							
Release 2		Phase 1	Phase 2	Phase 3			Phase 4	Launch				
Release 3				Phase 1	Phase 2		Phase 3		Phase 4	Launch		
Release 4							Phase 1	Phase 2	Phase 3		Phase 4	Launch

Chapter 2: Use Case Diagram



Main Success Scenario:

1. First the user open the game from mobile phone then the user need to Login into the game ,Without logging in user not access or play the game...
2. If the user has not register in the game then user need to register an account to get access to the game then the request is send to the admin ,and the details will add to the database ...
3. When the get registered then the user need to get login to the account after that the user will access the game interface and the main menu will appear in front of the user...
4. When the user get access the game interface then the user will start or initialize the game by using the main menu...
5. Then the user have some actions if the user will require any of the then the user will perform those action .
6. Those are follows change the quality of graphics if require because every device supports different graphics ,change the resolution when require to play the game if the user device not have high resolution.
7. The User needs to add profile information that the user will view when the user play the game again in the user the users record already save in the game and user not needs to enter these information again and again.
8. Then the user play the game and get interact with the augmented reality and will fight hard to get high scores in the game.
9. At any stage when user requires to pause the game then the user click on pause button and game will pause after sometime when user want to restart the his game will restart where it is stop.
10. Where the user completed the level then user have option to update the new level .
11. When the game will over then the game over screen is visible to the user .
12. When the game over screen is visible to the user here the total score of the user will display .
13. The admin check weather it is high score or not if it was high score then the congratulations message will display in front of the user.
14. When user want to exit from the game then the request is send to the admin ,the admin will verify the request and user will exit from the game.

Login Use Case

Brief Description

This use case describes how a user logs into the AR Zombie Game .

Primary Actor

User of the game is the primary actor of the login use case.

Secondary Actor

Admin is the secondary actor of the login use case who verify's the username and password.

Flow of Events

The use case begins when the actor types his/her name and password on the login form.

Alternative Course

Invalid Name / Password

If in the basic flow the system cannot find the name or the password is invalid, an error message is displayed. The actor can type in a new name or password or choose to cancel the operation, at which point the use case ends.

Preconditions

There are no preconditions associated with this use case.

Post conditions

There are no post conditions associated with this use case.

Register Use Case

Brief Description

This use case describes how a new user logs into the AR Zombie Game .

Primary Actor

New user of the game is the primary actor of the register use case.

Secondary Actor

Admin or system is the secondary actor of the register use case who saves the username,address and password.

Flow of Events

1. The use case begins when the user selects register.
2. The system requests the user name, address, and password.
3. The user provides this information.
4. The system saves the information and the use case ends.

Alternative Course

Invalid Name / Password

If in the basic flow the system cannot add the name ,address or the password, an error message is displayed. The actor can re type in a new username,address .

Preconditions

There are no preconditions associated with this use case.

Post conditions

There are no post conditions associated with this use case.

Initialize game Use Case

Brief Description

This use case describes how a user starts the AR Zombie Game .

Primary Actor

User of the game is the primary actor of the Initialize game use case.

Secondary Actor

Admin or system is the secondary actor .

Flow of Events

1. The use case begins when the user selects login and click initialize game.
2. Then the menu screen will show to the user.

Alternative Course

If in the basic flow the system cannot display the menu of game for the user then the user will again login with valid email and password.

Preconditions

Logged in with the valid username and password both must be correct.

Post conditions

Menu screen will display to the user to play the game.

Main Menu Use Case

Brief Description

This use case describes how a user get access to the main menu of the AR Zombie Game .

Primary Actor

User of the game is the primary actor of the Main Menu use case.

Secondary Actor

Admin or system is the secondary actor .

Flow of Events

1. The use case begins when the user selects successfully initialize the game and selects the main menu.
2. Then the game options will display to the user .e.g play game,pause game etc.

Preconditions

Successfully initialize the game the you will access to the game main menu.

Post conditions

UI interface will appear to the user.

Play game Use Case

Brief Description

This use case describes how a user plays the AR Zombie Game .

Primary Actor

User of the game is the primary actor of the play game use case.

Secondary Actor

Admin or system is the secondary actor .

Flow of Events

1. The use case begins when the user selects play game UI button.
2. Then the game will start and then the user can play the game.

Alternative Course

Successfully enters in the main menu to start playing the game otherwise the user will not access the game playing mode.

Preconditions

Extends with main menu to ensure playing the game.

Post conditions

You will able to pause or exit from the game after playing.

Pause game Use Case

Brief Description

This use case describes how a user pause the AR Zombie Game .

Primary Actor

User of the game is the primary actor of the pause game use case.

Secondary Actor

Admin or system is the secondary actor .

Flow of Events

1. The use case begins when the user selects pause game UI button.
2. Then the game will pause .

Alternative Course

The user not click on pause use case but on the other hand the user directly exit from the game.

Preconditions

Extends with play game use case to ensure pausing the game.

Post conditions

You will able to restart or exit from the game after pausing it.

Exit Use Case

Brief Description

This use case describes how a user Exit the AR Zombie Game .

Primary Actor

User of the game is the primary actor of the Exit game use case.

Secondary Actor

Admin or system is the secondary actor to verify either the user is exited or not.

Flow of Events

1. The use case begins when the user selects exit game use case UI button.
2. Then the game will stop and then the user will able to exit from it.

Alternative Course

Forcefully exit from the game without clicking on the Exit UI button**.**

Preconditions

Extends with Play game use case to ensure exit from playing the game.

Post conditions

You will able to get back from the game.

Level update Use Case

Brief Description

This use case describes how a user can update level after winning the AR Zombie Game .

Primary Actor

User of the game is the primary actor of the level update use case.

Secondary Actor

Admin or system is the secondary actor .

Flow of Events

1. The use case begins when the user selects update level UI button.
2. Then the level will update .

Alternative Course

The user not click on level update use case and the user play the currently winning level again and again.

Preconditions

Extends with play game use case to ensure level update and also ensure to winning the first the previous level as well.

Post conditions

You will be able to play the next level.

Game Over Scene Use Case

Brief Description

This use case describes the AR Zombie Game is over .

Primary Actor

User of the game is the primary actor of the Game Over Scene use case.

Secondary Actor

Admin or system is the secondary actor .

Flow of Events

1. The use case begins when the user will win or lose the game.
2. Then the final scores will display to the users .

Preconditions

Extends with play game use case to ensure it and also win or lose the game.

Post conditions

You will able to exit from the game and returning to the main menu to either restart or exit from the game.

Change Resolution Use Case

Brief Description

This use case describes the user can change the resolution of game according to the requirement of device .

Primary Actor

User of the game is the primary actor of the Change Resolution use case.

Secondary Actor

No Secondary actor involves.

Flow of Events

1. The use case begins when the user clicks the change resolution game UI button.
2. Then the resolution will change according to desire .

Alternative Course

The user not click on change resolution use case button and play game without resolution compatibility or change the device which has high resolution.

Preconditions

No preconditions in change resolution use case.

Post conditions

You will able to change the resolution according to device resolution.

Change Graphics Quality Use Case

Brief Description

This use case describes the user can change the graphics of game according to the requirement of device .

Primary Actor

User of the game is the primary actor of the Change graphics quality use case.

Secondary Actor

No Secondary actor involves.

Flow of Events

1. The use case begins when the user clicks the change graphics quality UI button.
2. Then the graphics will change according to desired criteria .

Alternative Course

Change the device which has high graphics.

Preconditions

No preconditions in change graphics quality use case.

Post conditions

You will able to change the graphics quality according to device resolution.

View Profile Use Case

Brief Description

This use case describes about the user information,like birth date ,gender etc.

Primary Actor

User of the game is the primary actor of the View profile use case.

Secondary Actor

No Secondary actor involves.

Flow of Events

1. The use case begins when the user clicks the on view profile UI button.
2. Then the user's profile information will display to the user.

Alternative Course

The user did not enter the profile information and play game without it.

Preconditions

No preconditions in view profile use case.

Post conditions

The user's profile will be created .

High Score Use Case

Brief Description

This use case describes the final scores of the user if it will high score then display to the user .

Primary Actor

User of the game is the primary actor of the High score use case.

Secondary Actor

Admin or system is a secondary actor who check either user scores high score or not.

Flow of Events

1. The use case begins when the user the game will over.
2. Then the scores will display to the user .

Alternative Course

If user did not got the high score then the user play again to achieve that land mark.

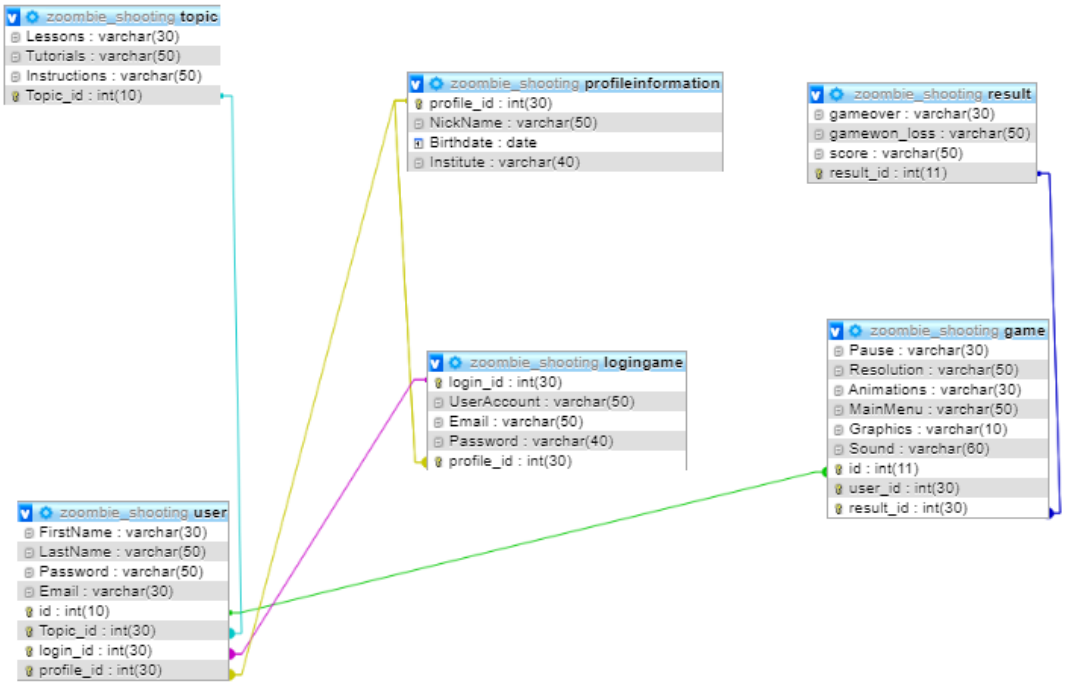
Preconditions

The user must win or lose the game means game must over.

Post conditions

Your name will add in the top of the high scores list.

Chapter 3: EER Diagram



Chapter 4: Software Specifications

4.1 Complex:

The game includes AR Technology, and Social Networking .Playing our shooting game promotes a wide range of cognitive skills. This is particularly true for Action games**,** including visual attention, executive functioning, and literacy

4.2 Innovative:

It aims to provide the users with information about the Shooting games in an innovative and enjoyable way. The application enhances user's experience by the use of 3D graphics, special effects, sound effects, background music, and also animations. Almost 4 out of 10 AR gamer agree that AR gaming will be more interesting with better and more immersive games, access to lower-cost AR glasses and better batteries

4.3 Applicable:

AR gaming expands the playing field, taking advantage of the diversity of the real-world environment to keep the games interesting. User gain Immersive gaming experience. Experience the cutting edge of gaming.With recent advances in computing power and technology, gaming applications in augmented reality are on the upswing. Head-worn systems are affordable now and computing power is more portable than ever.

4.4 Significant Scope:

The opportunities in Augmented reality Shooting gaming are enormous, its just that people need to sense these opportunities and make use of it in a manner that is beneficial to them. Our game includes adding game elements to boring and unexciting things so that it becomes more fun and engaging and helps in fast and easy understanding of things.

4.5 Suitable Size:

AR- 3d Zombie Shooting game is a brand new Mobile Application of shooting games and a perfect combination of Augmented Reality (AR) and Electronic Technology. We will do our best to keep the size less than 1gb, Here we will compress the game to make the size in Mb's.