

Your Name: COMP1682 Initial Contextual Report

## **Online Game Management Program**

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**Supervisor: Your Supervisor's Name**

# **Initial Contextual Report**

**COMP1682 Final Year Project**

**Programme Title, e.g. BSc Computer Science or BSc Computing**

**Due date:**

**Word count:**

### **Abstract**

This is where you succinctly describe your project, the context of and interest in your project, your approach to your project and your progress to date using somewhere between 60 and 120 words. This is much easier to write after you have written the rest of this report.

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*\*optional chapters*

## 2 Introduction

### 2.1 Background

Create a website that can promote others PC games via website marketing and take sale commissions based on the customer download the PC game in their preferred platform.

### 2.2 Aims and objectives

There are 3 main objectives in my project:

- Research new methodologies that can improve website popularity and attract more customer into the website rather than others website which have the same feature.
- Investigate the core value of other successful website (like Stream, Epic,...) and draw out my own lesson and create new value to the gaming market.
- Based on the lesson that I learned, I can create a website to develop my new value and launch into the market.

### 2.3 Approach

In my project, I want to create a website for game producer to show their work and for gamer find a game they like to and have fun with the game. So first I need to understand the gaming market PC game. By investigate the core value of other successful game publisher, I can plan my game direction to develop so my game at least be successful like them. After that, I ask some people whom also play game about their interest in gaming. Then I can start making my website reality by doing designing the website, coding the website, publish the website and further development.

### 2.4 Justification of the suitability of a Methodology or a Framework followed.

Before launching the project, we should evaluate the market needs because the end user is the ultimate goal for a project to success.

So in basic research, I am going to evaluate my project idea through a

Questionnaire Survey and take user responses about the project. Then I analyze the result into Quantitative and Qualitative Research:

Quantitative Research help me analyze user behavior and user opinion about the project. For example, the user aged, the user opinion, the user purpose,...

Qualitative Research help me analyze user option in others products and user opinion which can be measured by using pie charts. For example, the user current financial, the user brand, the user promoting,...

### **3 Literature Review**

#### **3.1 Approach to literature searching**

In view of the epic games history, I can find out about the motivation behind why it is so effective and what procedures does it used to pull in more player into the game. Epic Games is an American organization established in 1991 which have in excess of 40 workplaces all throughout the planet and it's settle is in Cary, North Carolina. Epic work Fortnite, one of the world's biggest games with more than 350 million records and 2.5 billion companion associations. Epic additionally creates Unreal Engine, which controls the world's driving games and is likewise embraced across ventures like film and TV, design, auto, assembling and reproduction.

#### **3.2 Identify the problem**

Epic games don't have any community pages and it is a big problem to many member playing games in Epic because they can't share their gameplay with others people. For a game development, game community is very important to player to connect to others player and have fun with their friend in the game. Although, they can connect each other via discord, facebook and other social media but they are sperate to each other so without a forum page is a huge lost to Epic game.

### **3.3 Another Section**

Epic games don't support Linux platform and more and more people are starting to use Linux instead of Windows and it is a huge disadvantage for them. According to Wikipedia usage share of operating systems, you can see that there are 0.81% web client around the world are using Linux. And according to Softpedia news, Windows are losing their user and Linux user continue to grow rapidly everyday and soon enough, Linux user will be able to compete with Windows user or even go surpass Windows user in the global market.

### **3.4 Yet Another Section**

Except Fortnite and Unreal Engine, Epic game have really less interesting game catalogue to attract hardcore gamer to play. Hardcore gamer is the core value for a game company to survive because most of the income come from them and they can attract more new player into the game. Epic game don't have game forum and less hardcore gamer is a very negative impact on their company development. However, Epic Game have a lot of potential to compete with other game publisher especially Steam company.

### **3.5 Conclusions**

Based on Epic Game development, a small game publisher company according to the big game publisher company like Steam. I can see that game forum is a core value for a game to develop and for a game publisher to success in today market, they had to have a very successful game like Fortnite.

## **4 Product Research**

### **4.1 Comparing of similar products or platforms against a set criteria for Usability purpose.**

There are also many big PC game publisher like Electronic Arts Inc. (EA)

which was founded in May 1982 by Apple employee Trip Hawkins. The company headquarter in Redwood City, California and it is the second-largest company in the Americas and Europe by revenue and marketing capitalization after Activision Blizzard and ahead of Take-Two Interactive, CD Projekt and Ubisoft as of May 2020.

Electronic Art Inc. (EA) still continue to produce nice returns after 39 years of working in the game industry. Here are some of the reasons why:

- Feasibility: Truth be told, the organization has since had the option to adjust to troublesome changes in the business. For instance, Electronic Arts took the action into the new market for reassures during the 1990s. What's more, presently the organization is forcefully moving into advanced games.
- Franchises: Electronic Arts has the absolute most notable gaming titles on the planet. They incorporate The Sims, Medal of Honor, Madden NFL, FIFA and Harry Potter. EA has been brilliant to transform these establishments into continuous cash creators, for example, by delivering continuations.
- Scaled platform: Other than having games for the primary consoles – like Sony's (NYSE:SNE) PlayStation 3, Microsoft's (Nasdaq:MSFT) Xbox 360 and Nintendo's Wii – Electronic Arts additionally has a solid impression on PCs, cell phones, Facebook and tablets. This ability has been a tremendous benefit as far as keeping a serious edge.

However, there are some disadvantage that Electronic Art Inc. (EA) having some trouble with:

- Hits business: Sort of like a film studio, a gaming organization frequently depends on a couple of blockbusters. Furthermore, EA is no special case. In the event that there two or three duds, the effect can hurt income.
- Economic: Electronic Arts is an American gaming business so the vast majority of the pay are from amarican client. As found in the downturn

of 2008-2010, the gaming business is unstable. Presumably, it's simple for buyers to defer buys. Sadly, in view of the absolute most recent information, it resembles the U.S. economy is easing back down.

- Competition: There are the long-term rivals like Activision Blizzard (Nasdaq:ATVI) and Take-Two Interactive (Nasdaq:TTWO). Obviously, with the flood in online media and cell phones, there are another arrangement of quickly developing contenders. These incorporate Zynga, which has as of late documented to open up to the world, just as Rovio, which is the maker of Angry Birds.

Activision Blizzard, Inc. is an American video game holding company based in Santa Monica, California. The company was founded in July 2008 through the merger of Activision, Inc and Vivendi Games. This is the creator of Call of Duty series, Overwatch and many other big games.

This is the new company compare to Electronic Art Inc. (EA) but Activision Blizzard stock (76%) has clearly outplaced the other big dog, Electronic Art Inc (EA) (42%). This is the reason why:

- King back on top: Activision Blizzard bought King Digital in 2016 for \$5.9 billion. Ruler Digital was battling at that point, as the organization's energy had slipped following its underlying public offering. However, Activision has gotten King - and its urgent Candy Crush Saga game in the groove again. Candy Crush Saga has recuperated its situation as the top-earning American versatile game. Lord's month to month normal clients are as yet sliding. Their MAU has dropped from 500 million three years prior to only 300 million at this point. Yet, with improved in-application buying rates and the arrival of in-game promoting, incomes are moving the correct route for Activision.
- Positive Analysis: Brandon Ross of BTIG called out ATVI stock specifically as the best of the pack. He slapped a \$80 value focus on it, recommending that the area has changed gaming and that Activision has the best methodology of the pack for bringing in cash off portable

gaming. He evaluated Take-Two and Activision as purchases, while fixing EA stock at only impartial.

- Overwatch League: Activision is making an eSports alliance for its super raving success game Overwatch . The Overwatch League is set to start off its first standard season this month and go until June of 2018.

Here are some troubles that slow Activision development:

- Digital Sales Growth will slow: Activision has profited significantly in the course of recent years as a huge segment of the gaming market has moved from retail locations to the web. While retailers like GameStopCorp. (NYSE: GME ) have battled, the gamemakers have won out. Cash that recently went to the broker retailer currently remains in Activision's coffers.
- Expensive Stock: The entirety of the huge three gaming stocks are costly. Indeed, even EA, which has by a wide margin performed most noticeably terrible of the three as of late, is as yet selling for 30x profit. ATVI stock takes it to a higher level however, with its offers selling at 46x following income. Examiners estimate 15% intensified yearly profit development over the course of the following five years. All things considered, that is not really a sufficiently high development rate to legitimize a particularly beginning valuation. Furthermore, ATVI stock offers an unimportant profit yield of simply 0.5%.
- World of Warcraft Fading: Activision used to depend on World of Warcraft for the a lot of its business. That has blurred throughout the long term. Universe of Warcraft crested at 12 million endorsers in 2010. It held to a great extent stable around the 10 million-mark for a few reasons yet then dove. By 2015, the tally was down to under 6 million. By then, Activision halted detailed the dynamic client number. Apparently WoW action additionally declined in 2016, anyway 2017 carried a few endeavors to balance out the establishment. On



Activision's last phone call they expressed that: " World of Warcraft delivered another substance update in the quarter, prompting stable Monthly Active Users for the establishment quarter-over-quarter and proceeded with cooperation in esteem added administrations".

Nowaday, there are a global trend that becoming very famous and getting more and more new player every year which is Garena+ with the creation of League of Legend. Garena+ is a Singaporean online game developer and publisher founded in 2009 by Forrest Li. There are various game companies distribute game on title Garena+ across South East and East Asia.

This game publisher is very suitable for new game publisher like myself and this is the reason why it make a global hit:

- Loading Speed (Ping): Garena loading speed is better than others game publisher. Because Garena design is very simple and let gamer enjoy their game more fully. When you play a game, your ping only get around 18-20 ping and barely no package loss.
- Level up reward: When a player reach to a new level both in game and outside of the game, they will get free item or free character for their in game like Rp, skin,....
- Random skin sales: In a specific time, Garena go on a sale of an item in game with only half price. However, it only happen randomly in 1 regions like north asia or European.

Here are some of the problem that user is very annoying when using Garena:

- Advertising: Garena put their advertise everywhere like in their launcher, in their website, and even when you go to youtube, you also see Garena advertisement.
- Community: Most of Garena user is a free-to-play gamer so there are many toxic player from verbal abuse, death threats,... and this is the biggest problem of Garena. Because of this problem, many hardcore gamer quit their game and decided to play other game by other

publisher instead. When an offender report a toxic player, the toxic player only get banned for 3 days.

- E-Sport scene: Garena advertising everywhere but no-one know about there is an E-Sport going on and gamer only can watch their replay on youtube.

## **5 Legal, Social, Ethical and Professional Issues and Considerations**

If you are or planning to develop an online game management program you must consider these legal issue because someday it will give you some trouble or your game will be removed out of the list before it even launched:

### **1. Copyright ownership in game development:**

At the point when a worker makes an inventive work in the course and inside the extent of the business relationship, the business is the copyright proprietor except if there is a consent actually. Be that as it may, when the individual making the work is a project worker or a volunteer (not a representative), the worker for hire or volunteer for the most part holds copyright underway made for the association. Along these lines, in the event that you are a project worker or volunteer working for a game maker, the game maker requires a permit (composed or oral) to utilize the work they have mentioned you to make.

### **2. Moral rights and computer games:**

In the event that you make an innovative work, you have certain 'moral rights' as the 'creator' of that work whether you made it as a representative or a worker for hire. You hold those ethical rights even where your boss claims the copyright in your work or you have doled out that copyright.

There are 3 types of motal rights:

- Right of attribution: you can make sure of your work is unique and acknowledge of your work and others.

- Right against false attribution: you can stop people copy completely your work or claim that they created that work.
- Right of integrity: you can stop your work being dishonor and disrespect by other peoples.

The significance of an "creator" with respect to moral rights stretches out to the imaginative work in all components of the PC game including crafted by software engineers, script journalists, visual craftsmen and illustrators. A creator might be approached to offer agree to changes to be made to the work made by that creator. On the off chance that such good rights assent is given, it won't an encroachment of the creator's ethical rights to the degree the progressions made to the work are inside the extent of the assent conceded.

3. Technological protection measures – ‘mod chips’, game enhancers, custom firmware and boot disks:

The Copyright Act 1968 (Cth) permits copyright proprietors to utilize advanced locks to stop their material being gotten to or duplicated. These computerized locks are characterized as 'innovative assurance measures' (TPMs), which might be as access codes or encryption programming. An entrance control TPM keeps an individual from having the option to view or tune in to the material, with the exception of when utilizing the suitable access code. A duplicate control TPM will permit an individual to get to material to view or tune in to the material however keeps an individual from making a duplicate of the material.

## 6 Requirements

### 6.1 Analysis of requirements

In this project, there are 4 requirements:

- Create functional and non-functional requirement based on the literature review research that can create a foundation for future website development.

- Research successful publisher website design and make a conclusion for this program design.
- Create a website that can apply others successful game publisher like Epic, Garena,... into my own program core value.
- Create a framework or documentation for design, coding, handle risk,... to make the website reality.

## 6.2 Comparison of systems

So based on the product research above, I can see some of the reason why they are so successful in their branch:

- They have 1 or many very successful games that attract player to visit the website and play other game as well. For example, Epic game operate Fornite, one of the world's largest games with over 350 million account and 2.5 billion friend connection or Electronic Arts with FiFa series, one of the best-selling video game franchises has sold over 325 million copies as of 2021.
- They have their own community and each community have difference style of gaming. Like Electronic Art, they would like to play fun and play alone or compete with other player and Garena, they would like to play with their friend to show their skill and enjoy the game without bordering about connection or paying for the game too much. Even their graphic is difference, Electronic Art focus their graphic on 3D character instead of animation character like Garena.
- They are very flexibility about gaming market trend so that they can adapt to changes and gain more new player into the game. This is also a very important for game publisher because people change all the time so as well as gamer. Like when they get bored of 3D games like GTA, Battlefield,... and they start to have more interest in animation game like fortnite, league of legend,... They adapt more animation game to attract new player into the game.

## 6.3 Requirements elicitation

### 6.3.1 Questionnaire Interview:

#### Questionnaire:

## Online Game Management Program

Taking user opinion about game interest

1. What is your name?

Short-answer text

2. What is your sex?

☐ Female

☐ Male

3. How old are you?

☐ About 0-20 years old

☐ About 20-60 years old

☐ Above 60 years old

4. What is your job? Or What is your education stage?

Short-answer text

5. Do you like playing game?

- ☐ Yes
- ☐ No
- ☐ Maybe

6. What kind of game have you played before?

Short-answer text

7. What publisher would you like to play? And why?

Long-answer text

8. How long do you spend a day for gaming?

- ☐ 0-30 mins
- ☐ 1 hours
- ☐ 2 hours
- ☐ Other...

9. Who/What attract you to play this game?

Short-answer text

10. How much money did you spend on this game?

Short-answer text

11. Do you think these question is helpful to you?

☐ Yes

☐ No

Interviewer Data:

First Person:

Questions	Answers
1. What is your name?	Robert Downey Jr.
2. What is your sex?	Male
3. How old are you?	About 20-60 years old
4. What is your job? Or what is your education stage?	American Actor and producer
5. Do you like playing game?	Yes

Second Person:

Questions	Answers
1. What is your name?	Mark Ruffalo
2. What is your sex?	Male
3. How old are you?	About 20-60 years old
4. What is your job? Or what is your education stage?	American Actor and Producer
5. Do you like playing game?	Yes

Third Person:

Questions	Answers
1. What is your name?	Christopher Hemsworth
2. What is your sex?	Male
3. How old are you?	About 20-60 years old
4. What is your job? Or what is your education stage?	Australia Actor
5. Do you like playing game?	Yes

Fourth Person:

Questions	Answers
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<b>1. What is your name?</b>	<b>Scarlett Ingrid Johansson</b>
<b>2. What is your sex?</b>	<b>Female</b>
<b>3. How old are you?</b>	<b>About 20-60 years old</b>
<b>4. What is your job? Or what is your education stage?</b>	<b>American Actress and Singer</b>
<b>5. Do you like playing game?</b>	<b>Yes</b>

**Fifth Person:**

<b>Questions</b>	<b>Answers</b>
<b>1. What is your name?</b>	<b>Jeremy Renner</b>
<b>2. What is your sex?</b>	<b>Male</b>
<b>3. How old are you?</b>	<b>About 20-60 years old</b>
<b>4. What is your job? Or what is your education stage?</b>	<b>American Actor and Singer</b>
<b>5. Do you like playing game?</b>	<b>Yes</b>

**Sixth Person:**

<b>Questions</b>	<b>Answers</b>
<b>1. What is your name?</b>	<b>Joshua James Brolin</b>
<b>2. What is your sex?</b>	<b>Male</b>

<b>3. How old are you?</b>	<b>About 20-60 years old</b>
<b>4. What is your job? Or what is your education stage?</b>	<b>American Actor</b>
<b>5. Do you like playing game?</b>	<b>Yes</b>

**Seventh Person:**

<b>Questions</b>	<b>Answers</b>
<b>1. What is your name?</b>	<b>Bob Kane</b>
<b>2. What is your sex?</b>	<b>Male</b>
<b>3. How old are you?</b>	<b>Above 60 years old</b>
<b>4. What is your job? Or what is your education stage?</b>	<b>American comic book writer, animator</b>
<b>5. Do you like playing game?</b>	<b>Yes</b>

**Eighth Person:**

<b>Questions</b>	<b>Answers</b>
<b>1. What is your name?</b>	<b>Mill Bill Finger</b>
<b>2. What is your sex?</b>	<b>Male</b>
<b>3. How old are you?</b>	<b>About 20-60 years old</b>

<b>4. What is your job? Or what is your education stage?</b>	<b>American comic strip and comic book writer</b>
<b>5. Do you like playing game?</b>	<b>Yes</b>

**Ninth Person:**

<b>Questions</b>	<b>Answers</b>
<b>1. What is your name?</b>	<b>Michael Caine</b>
<b>2. What is your sex?</b>	<b>Male</b>
<b>3. How old are you?</b>	<b>Above 60 years old</b>
<b>4. What is your job? Or what is your education stage?</b>	<b>England Actor</b>
<b>5. Do you like playing game?</b>	<b>Yes</b>

**Tenth Person:**

<b>Questions</b>	<b>Answers</b>
<b>1. What is your name?</b>	<b>Gardner Francis Cooper Fox</b>
<b>2. What is your sex?</b>	<b>Male</b>
<b>3. How old are you?</b>	<b>Above 60 years old</b>
<b>4. What is your job? Or what is your education stage?</b>	<b>American writer</b>

5. Do you like playing game?	Yes
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## Interview Analysis:

Most of my interviewer are people from 20-60 years old and almost every ones are American. However, there are 3 people are over 60 years old and they still play game.

Based on my Questionnaire Interview, we can see that United State is a very potential country to develop PC game. Half of the country are seniors generation most likely playing video game with their children and in their free time to relax. Most of their children are also playing video game because they have more interest in video game as their grandparent did.

### 6.3.2 Questionnaire Survey:

#### Questionnaire:

6. What kind of game have you played before?

Short-answer text

7. What publisher would you like to play? And why?

Long-answer text

8. How long do you spend a day for gaming?

☐ 0-30 mins

☐ 1 hours

☐ 2 hours

☐ Other...

9. Who/What attract you to play this game?

Short-answer text

10. How much money did you spend on this game?

Short-answer text

11. Do you think these question is helpful to you?

☐ Yes

☐ No

## Data Analysis:

6. What kind of game have you played before?

10 responses

video games :V

League of legend

Free fire

Blade and soul

Lien quan

Fortnite

Assassins creed valhalla

FIFA

Call of duty

7. What publisher would you like to play? And why?

10 responses

Paradox interactive cause i like theirs games

Garena because it easy to use and their game is exciting

Garena because I like their game

Garena because it's connection is fast

Garena because it fun to play with my friend

Epic game because their game is very relaxing and exciting to play

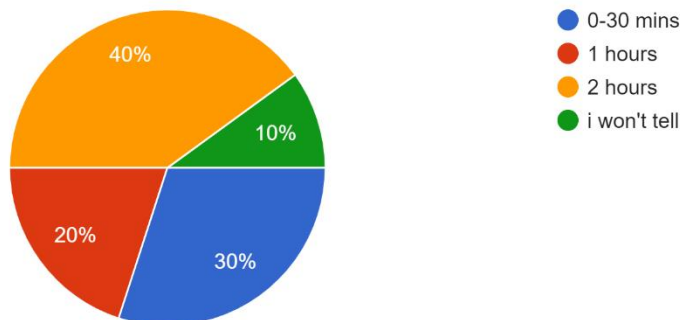
Epic game because they some time giveaway free good game

Electronic Arts because their graphic is amazing

Activision because their game is great for solo player like me

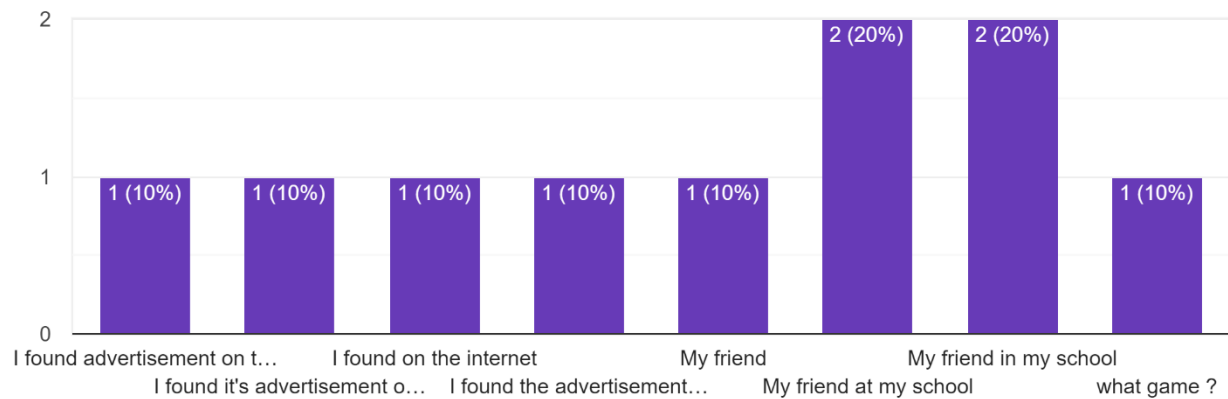
8. How long do you spend a day for gaming?

10 responses



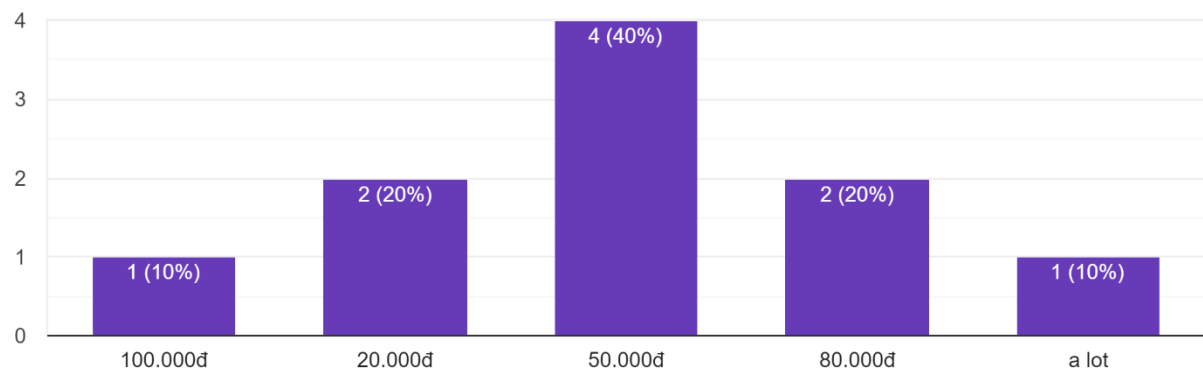
9. Who/What attract you to play this game?

10 responses



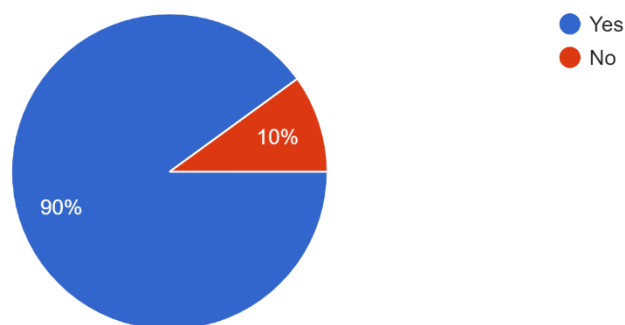
10. How much money did you spend on this game?

10 responses



11. Do you think these question is helpful to you?

10 responses



**Analyze the result of the data research:**

Based on the bar chart above, you can see that most of them come from America and all of them are interested in video game.

In question 6, there are 30% of the interviewer choose playing puzzle genre and 10% of the interviewer choose playing puzzle game which also puzzle genre so there are 40% of the interviewer would like to play puzzle genre like Harry Potter: Wizard Unite(2019),.... There are also 30% of them would like to play action genre (like The last of Us Part 2,...) and 20% of them would like to play Social Deduction (for example among us,...) and 10% of them would like to play Action-Role Playing (for example hades,...).

In question 7, The Lego Group take the lead because most of the interviewer would like to play puzzle genre and The Lego Group produce most of the puzzle game in the category. The next one is Sony Interactive Entertainment because it produce most of the action games. The next to last one is Innersloth because it produce most of the Social Deduction game and the last one is Supergiant.

In question 8, since most of the interviewer were 45 to 90 years old so they only spend 30 minute to relax. However, there are some hardcore gamer which is young generation would like to spend 1 hour or more on gaming depend on what game they want to play.

In question 9, all of the Lego Group are worth 20\$ so there are 40% of people would like to pay. Sony Interactive Entertainment product worth 60\$ so there are 30% of people would like to play. There are also 10% of people buy skin from Supergiant game and 20% of people choose free to play.

In question 10, most of the interviewer are senior so most likely they buy their own game and also the young generation because they don't want to play their parent or their grandparent game.

In question 11, all of the interviewer think that this questionnaire is useful for them and would like to join in the next questionnaire.



## 6.4 Functional requirements

To meet the requirement of the project scenario, there should be some functional requirement for the product:

- The new website must have a demo gameplay of the producer game.
- The database/cloud of the website must run >1000 player at the same time so that the website won't be lagged.
- The website database/cloud must store >10000 user with backup data.
- The website must make the game easily to download for the user.
- There should be a user support in the website in case there is a unexpected bug from user or game feedback from the user.

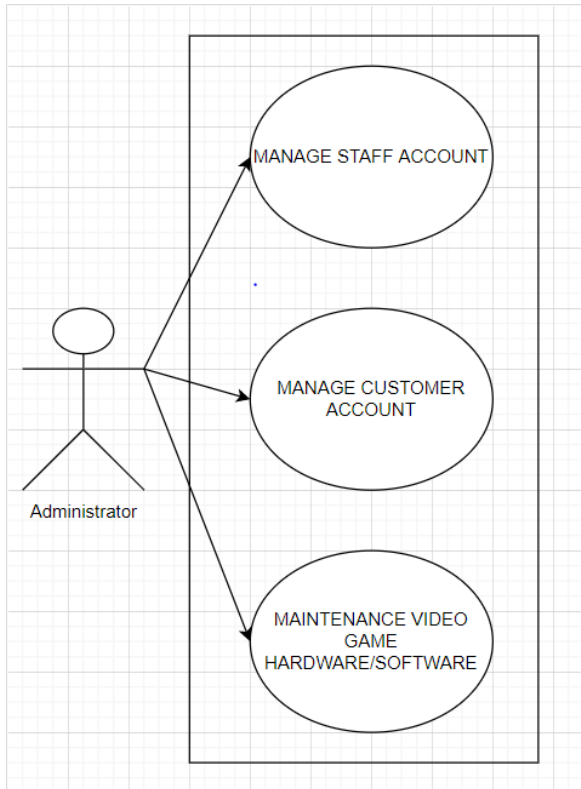
## 6.5 Non-functional requirements

The new website must have some non-functional requirement as well:

- The new website must have lag time <0.001s
- When user click on the play producer game demo, the demo game responded to the shop immediately and the demo game started in the new window.
- Security and access requirements – meet minimum requirements
- If there are no space in the user hardware, error notification appear in the shop website. If else, the game download will run immediately.
- If there are no network connection, the website will stop every action immediately and no connection notification appear. The website will restart from where the game download stop in a period of time (>30 mins). If the website has stopped for a long time, the website would have restart from the main menu but still continue download the game.
- Without any changes from the game producer, the website will continue maintain the previous game until the game producer make new notification.
- The website document can be reused for the future development and teachable for new developer in two weeks.

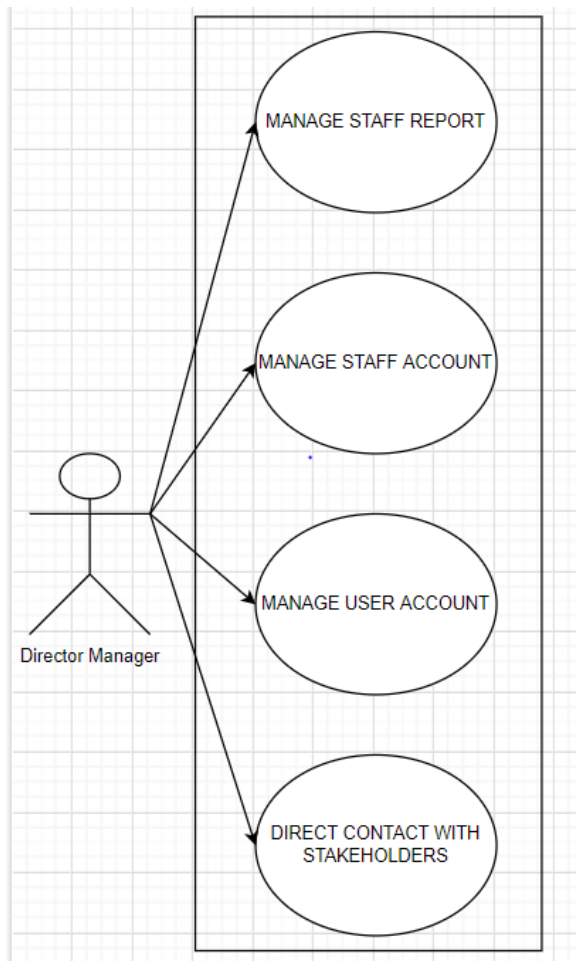
## 7 Design

### 7.1 Software Requirement Specification:



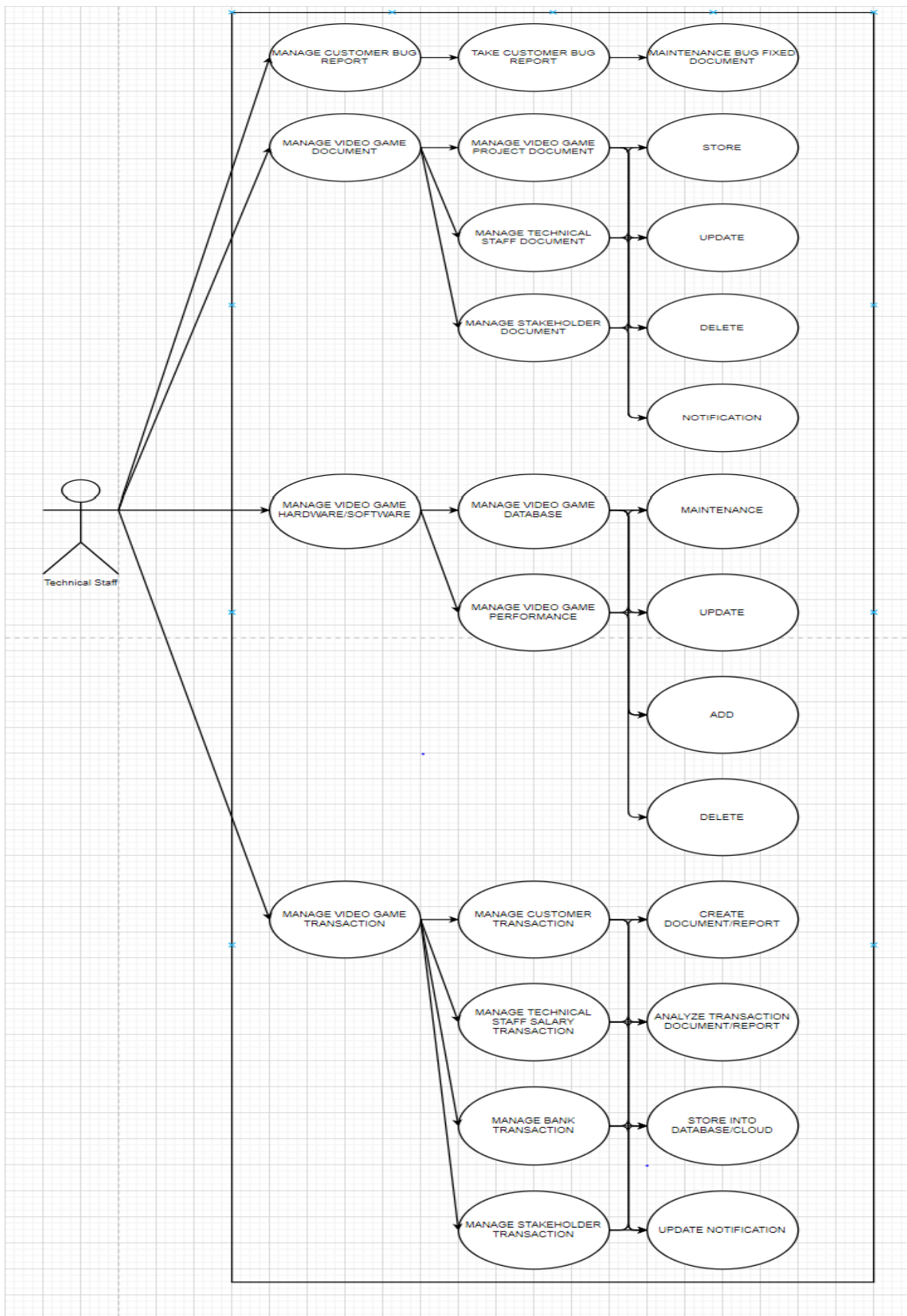
Key	Explanation
Name	Administrator role
Actor	Administrator
Description	Administrator permission in the website including manage all other account like customer account, staff account,... and maintain all the producer game and upgrade the website.
Goal	Manage all the website
Pre-condition	Admin account must already provide in the website database.
Trigger	User enter admin name and password of admin account in the database correctly to login to admin account.
Post-Condition	After login to the admin account, user have full permission of the admin and go to home page.
Normal Flow	The admin can create new user account. The admin can update user account. The admin can delete user account. The admin can view all the page in the website. The admin can create new game product. The admin can update game product. The admin can delete game product.
Alternative Flow	If admin screen hanging for a period of time (1,2 hours), the website need to be refresh to continue active on the page, except downloading or uploading the game. If admin forgot he/her password, he/her have to go to the database/cloud of the website to check for the password or to change the password. If admin changes customer,manager or staff account at the same time they

	are changing their account, the system will accept admin changes and ignore other user changes. If admin device suddenly be shut down, the previous data will be saved automately.
Exception Flow	If the user enter wrong password, the system will trigger wrong username or password notification and will not enter after 3 tried in a period of times. If the administrator click to a page and the page doesn't response in a period of time, the page will automately redirect into home page.

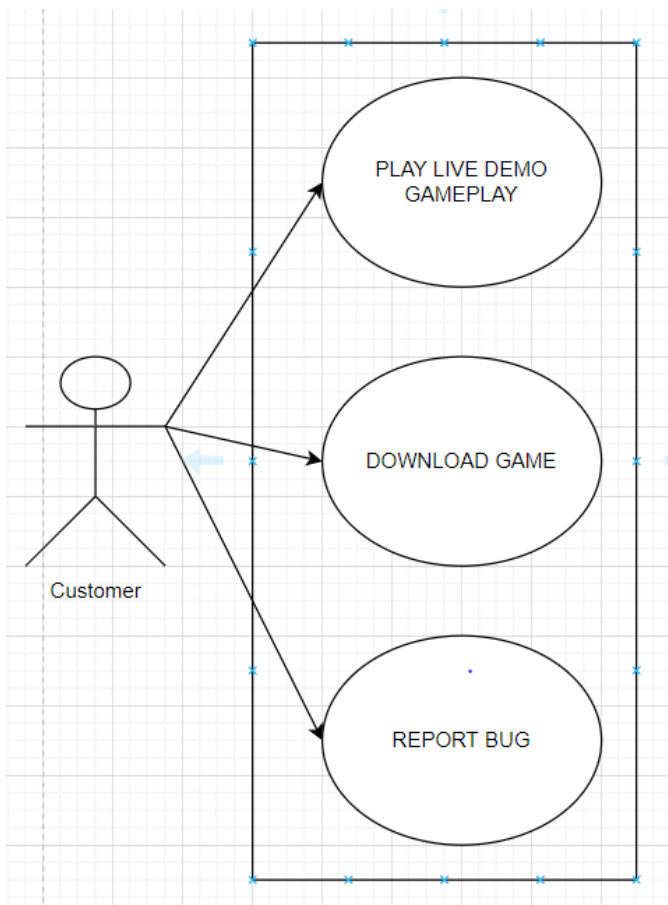


Key	Explanation
Name	Director Manager role
Actor	Director Manager
Description	Director Manager is the one who manage other account except admin account and other director manager account. Direct Manager can view, update, download staff report and contact to other stakeholder of the organization.
Goal	Direct Manager can manager other account except admin and other direct manager account. Direct Manager can view, update, download staff report and contact to other stakeholder of the organization.
Pre-condition	Direct Manager account must already register in the database/cloud.
Trigger	The user must enter Direct Manager account username and password correctly to login to the account.

Post-Condition	After login to the account, the user have all the direct manager permission to the website.
Normal Flow	<p>The manager can view all the staff report to the direct manager and update the report if there are some mistakes.</p> <p>The manager can download the staff report into zip.</p> <p>The manager can create staff/customer account.</p> <p>The manager can update staff/customer account.</p> <p>The manager can delete staff /customer account.</p> <p>The manager can add new game product from the game producer.</p> <p>The manager can update new game product from the game producer and create update notification for the customer.</p> <p>The manager can delete new game product from the game producer.</p> <p>The manager has all the game producer contact.</p>
Alternative Flow	<p>If manager screen hanging for a period of time, the website need to be refresh to continue active on the page, except downloading or uploading the game.</p> <p>If manager forgot their password, they have to report to the admin and have their username and password back.</p> <p>If manager changes customer or staff account at the same time they are changing their account, the system will accept manager changes and ignore other user changes.</p> <p>If manager device suddenly be shut down, the previous data will be saved automately.</p>
Exception Flow	<p>If the user enter wrong password, the system will trigger wrong username or password notification and will not enter after 3 tried in a period of times.</p> <p>If the manager click to a page and the page doesn't response in a period of time, the page will automately redirect into home page.</p>



Key	Explanation
Name	Technical Staff role
Actor	Technical Staff
Description	Technical Staff is the one who can manage customer bug report and create a total report for direct manager and manage game product and manage customer transaction.
Goal	Technical Staff can manage all the customer bug report and create total report for direct manager and manage game product and manage customer transaction.
Pre-condition	Technical Staff account must already register in the database/cloud.
Trigger	The user must enter Technical Staff account username and password correctly to login to the account.
Post-Condition	After login to the account, the user have all the technical staff permission to the website.
Normal Flow	<p>The staff can create total report based on customer bug report, manage game hardware/software, manage transaction and game documentation for the direct manager.</p> <p>The staff can update total report.</p> <p>The staff can delete total report.</p> <p>The staff can create game product documentation based on developer project, game producer update, stakeholder documentation.</p> <p>The staff can update game product documentation.</p> <p>The staff can delete game product documentation.</p> <p>The staff can create game product hardware/software management documentation based on game maintenance, game database and game performance.</p> <p>The staff can update game product hardware/software management documentation.</p> <p>The staff can delete game product hardware/software management documentation.</p> <p>The staff can create manage transaction documentation based on customer transaction, game producer transaction, direct manager, staff, admin salary transaction and other related-parties.</p> <p>The staff can update manage transaction documentation.</p> <p>The staff can delete manage transaction documentation.</p>
Alternative Flow	<p>If staff screen hanging for a period of time, the website need to be refresh to continue active on the page, except downloading or uploading the game.</p> <p>If staff forgot their password, they have to report to the admin and have their username and password back.</p> <p>If staff device suddenly be shut down, the previous data will be saved automately.</p>
Exception Flow	<p>If the user enter wrong password, the system will trigger wrong username or password notification and will not enter after 3 tried in a period of times.</p> <p>If the staff click to a page and the page doesn't response in a period of time, the page will automately redirect into home page.</p>

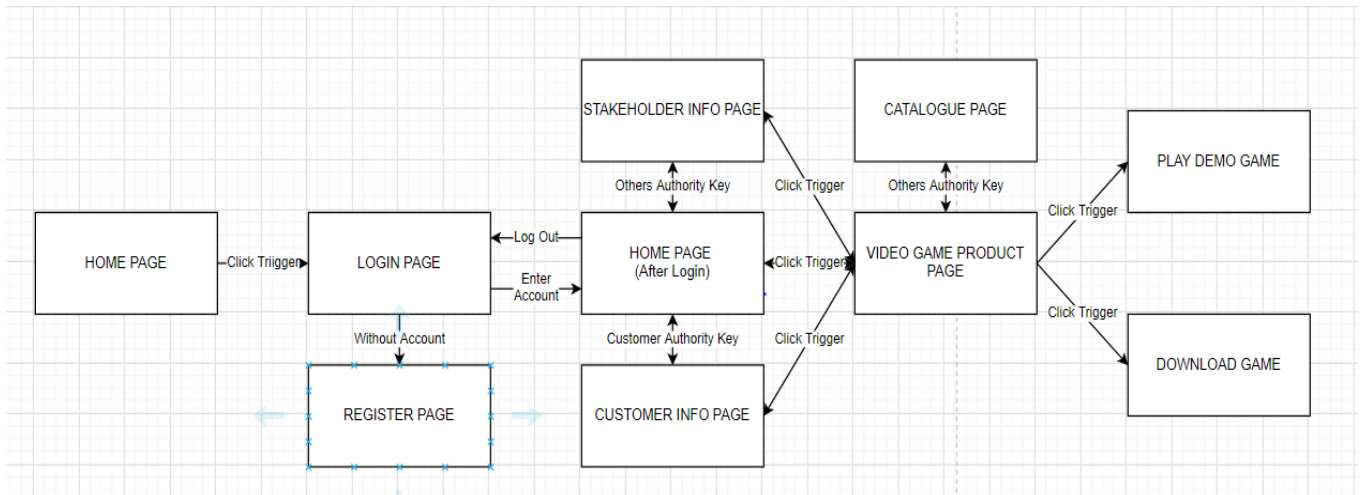


Key	Explanation
Name	Customer role
Actor	Customer
Description	Customer don't have any permission in the website. However, they can view home page, create their profile and view the game product and play demo, download it and report a bug in the game.
Goal	Customer is the main income of the organization and they can login and surf the category and play demo of the game and download it or report a bug in the game.
Pre-condition	Customer can create their account or login to their account
Trigger	The user must enter customer account username and password correctly to login to the account or they have to create new account.
Post-Condition	After login to the account, the user have all the customer permission to the website.
Normal Flow	<p>The customer can create/update their account.</p> <p>The customer can update their personal information.</p> <p>The customer can view home page and game product page.</p> <p>The customer can play game demo.</p> <p>The customer can download the game.</p> <p>The customer can report bug in the game.</p> <p>The customer can make transaction to the game or to the website.</p>
Alternative Flow	<p>If customer screen hanging for a period of time, the website need to be refresh to continue active on the page, except downloading game.</p> <p>If customer forgot their password, they can click on forget password page and receive a digit to prove their account and reset old password.</p>

	If customer device suddenly be shut down, they go to the previous page and continue to download when the device is up.
Exception Flow	<p>If the user enter wrong password, the system will trigger wrong username or password notification and will not enter after 3 tried in a period of times.</p> <p>If the customer click to a page and the page doesn't response in a period of time, the page will automately redirect into home page.</p>

## 7.2 Software Interface Design:

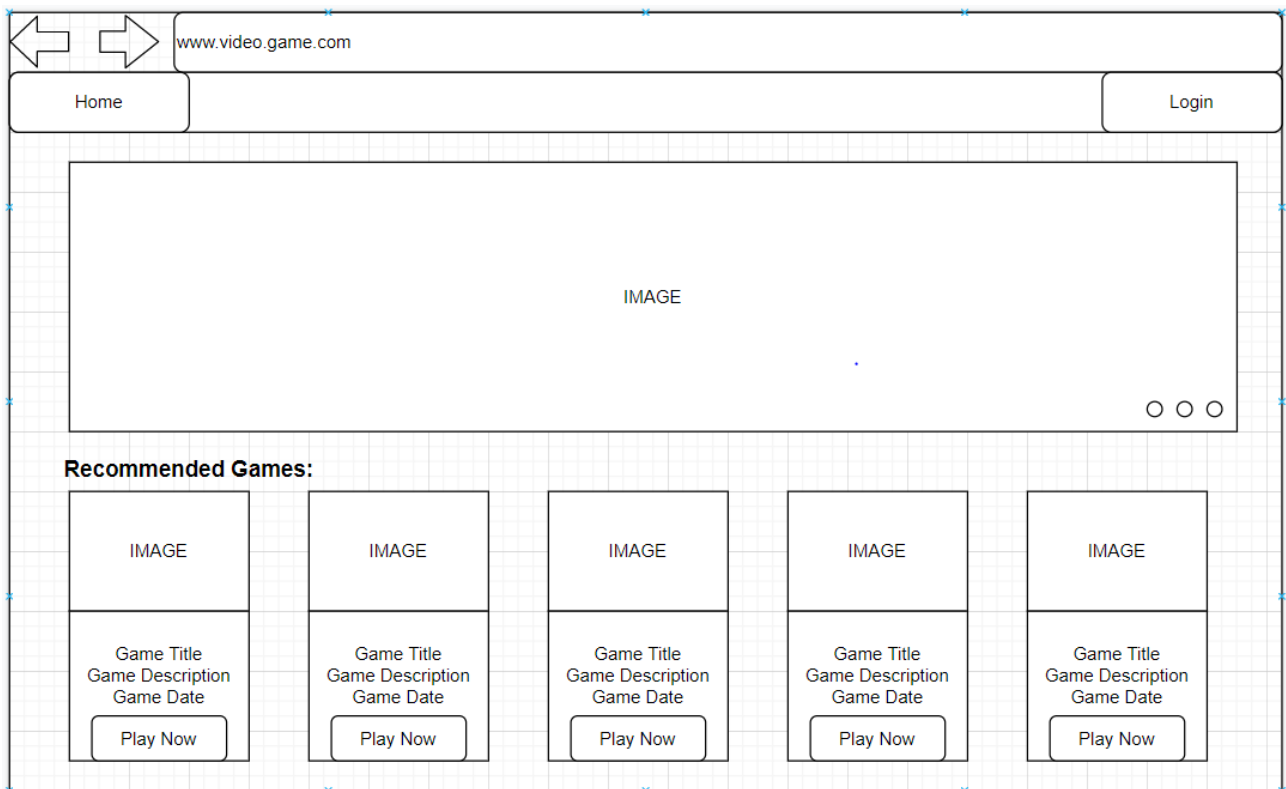
### 7.2.1 Screen-Flow Diagram:



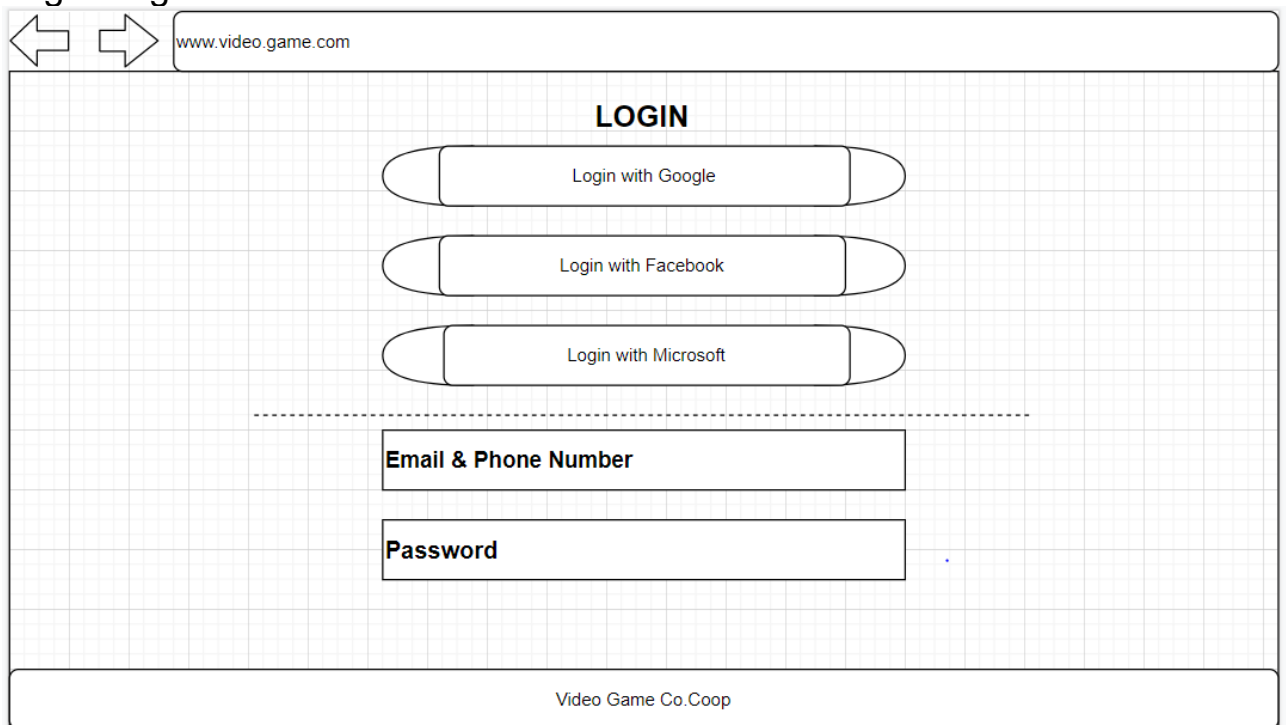
### 7.2.2 Wireframe Diagram:

Home Page (before login):

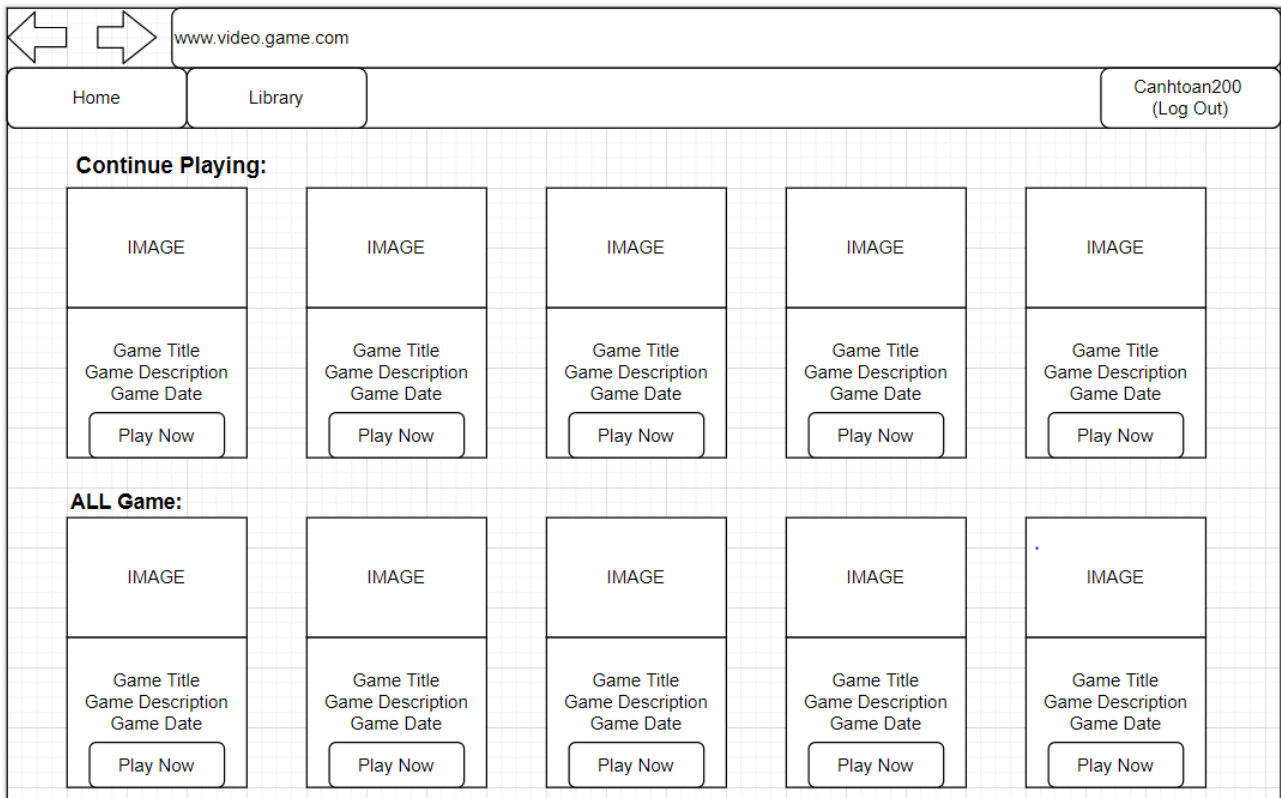




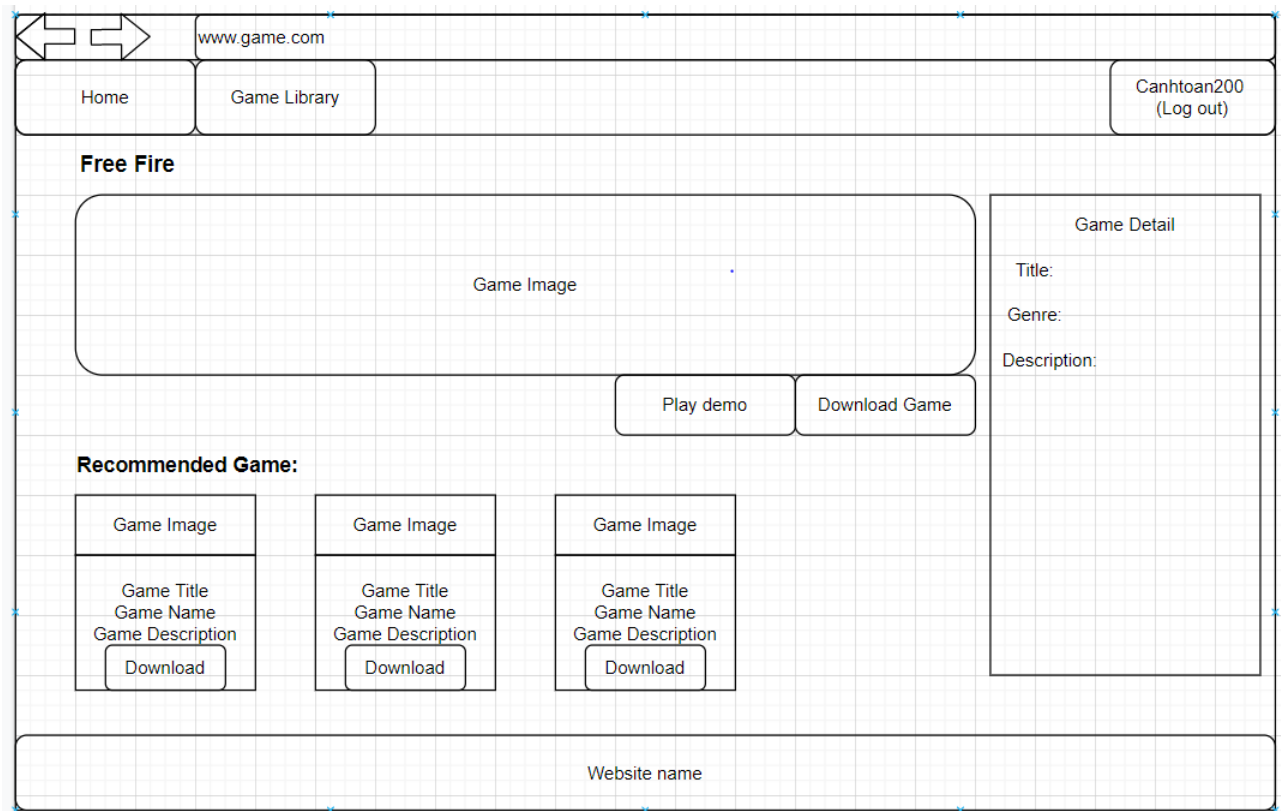
### Login Page:



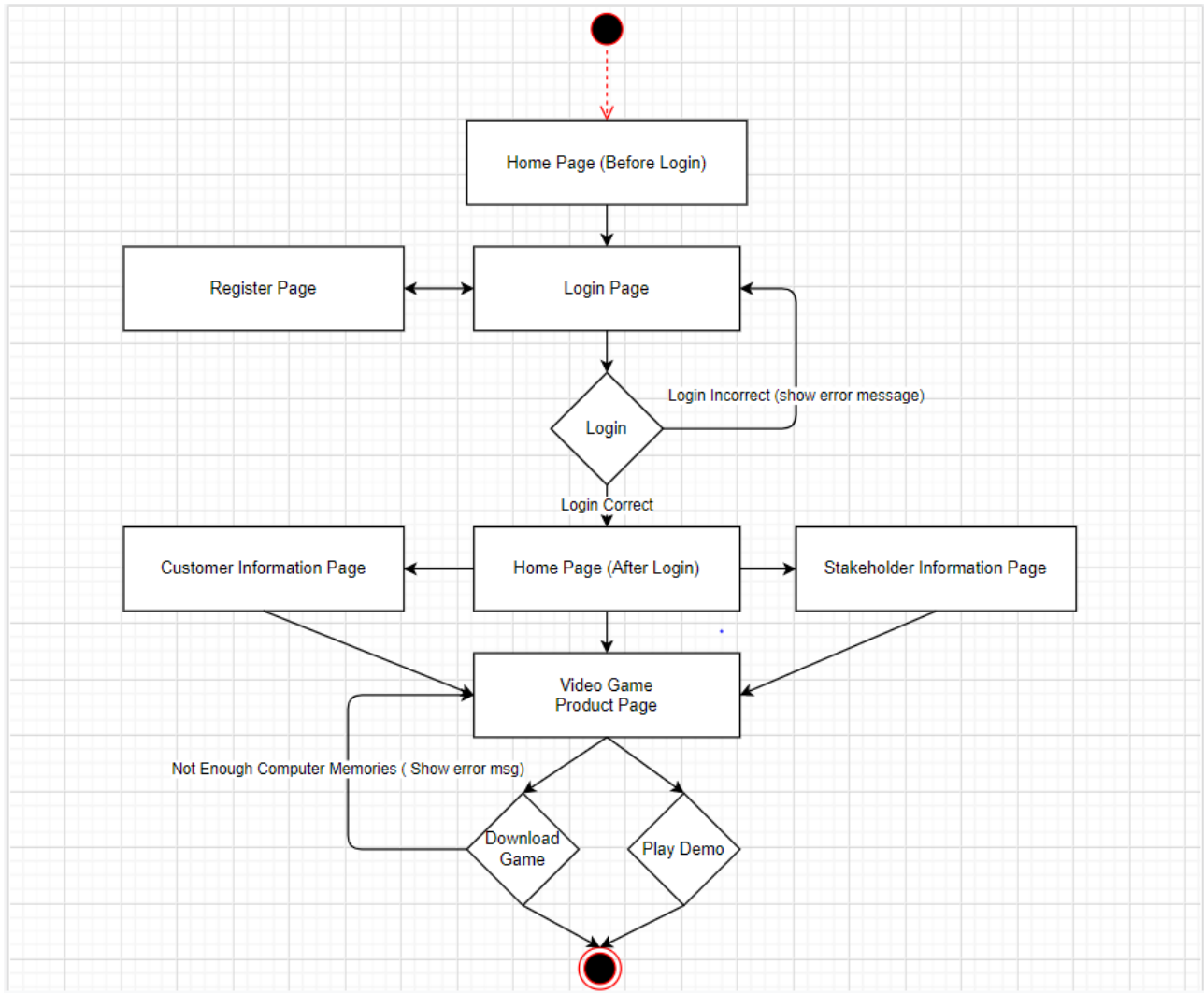
### Game Library Page (After Login):



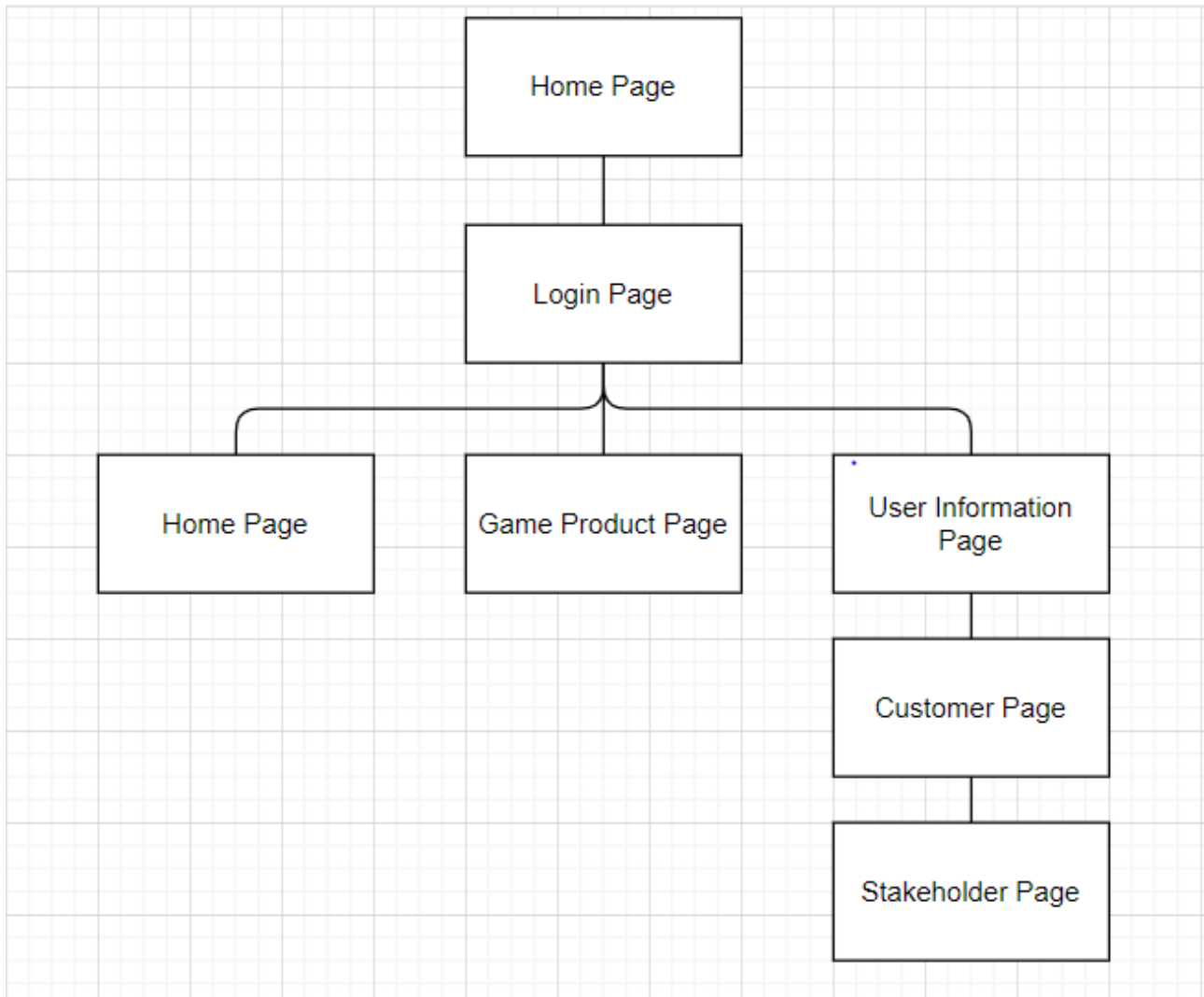
### Game Detail Page(After Login):



### 7.2.3 User Interface Diagram:



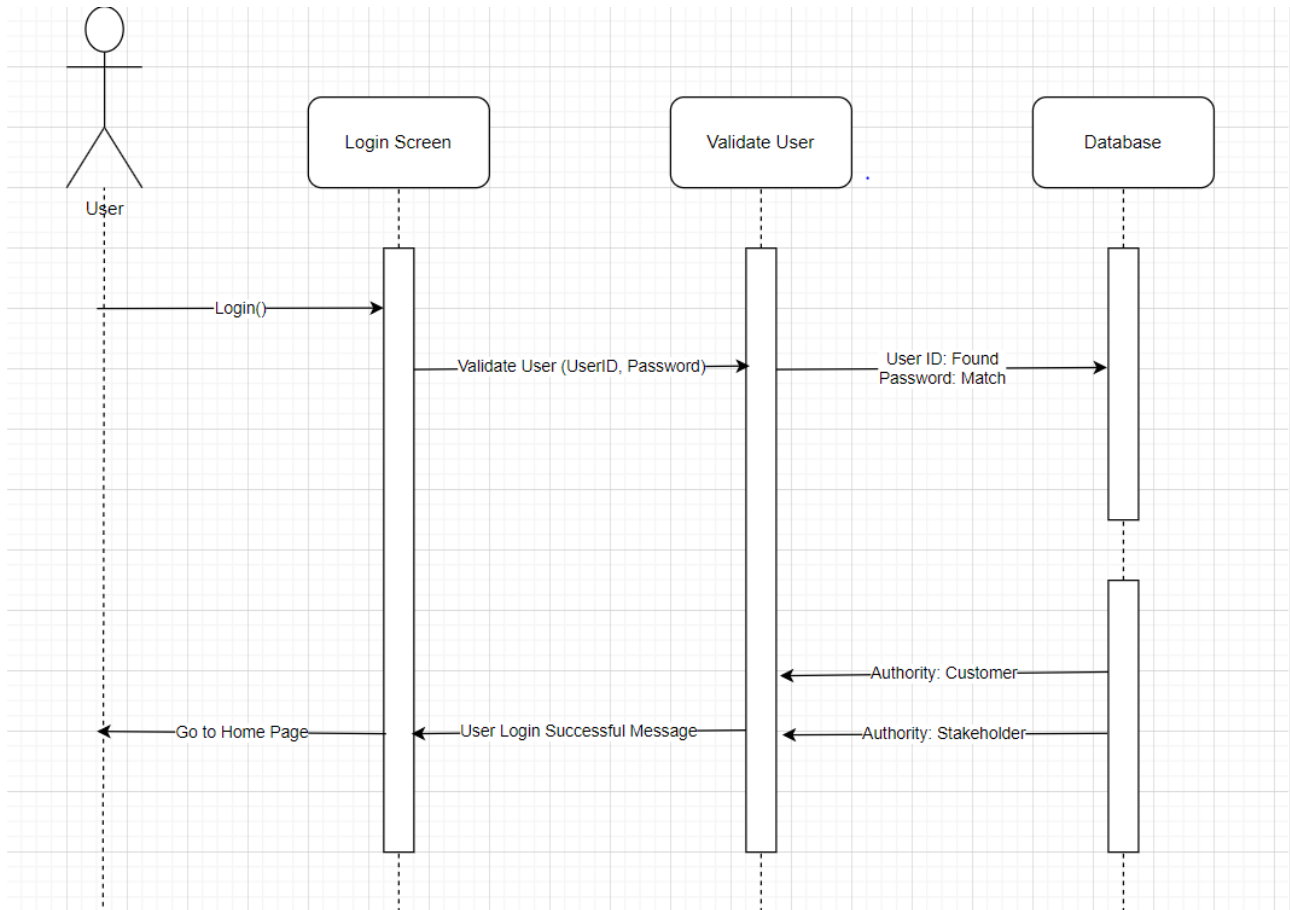
### 7.2.4 Site Map:



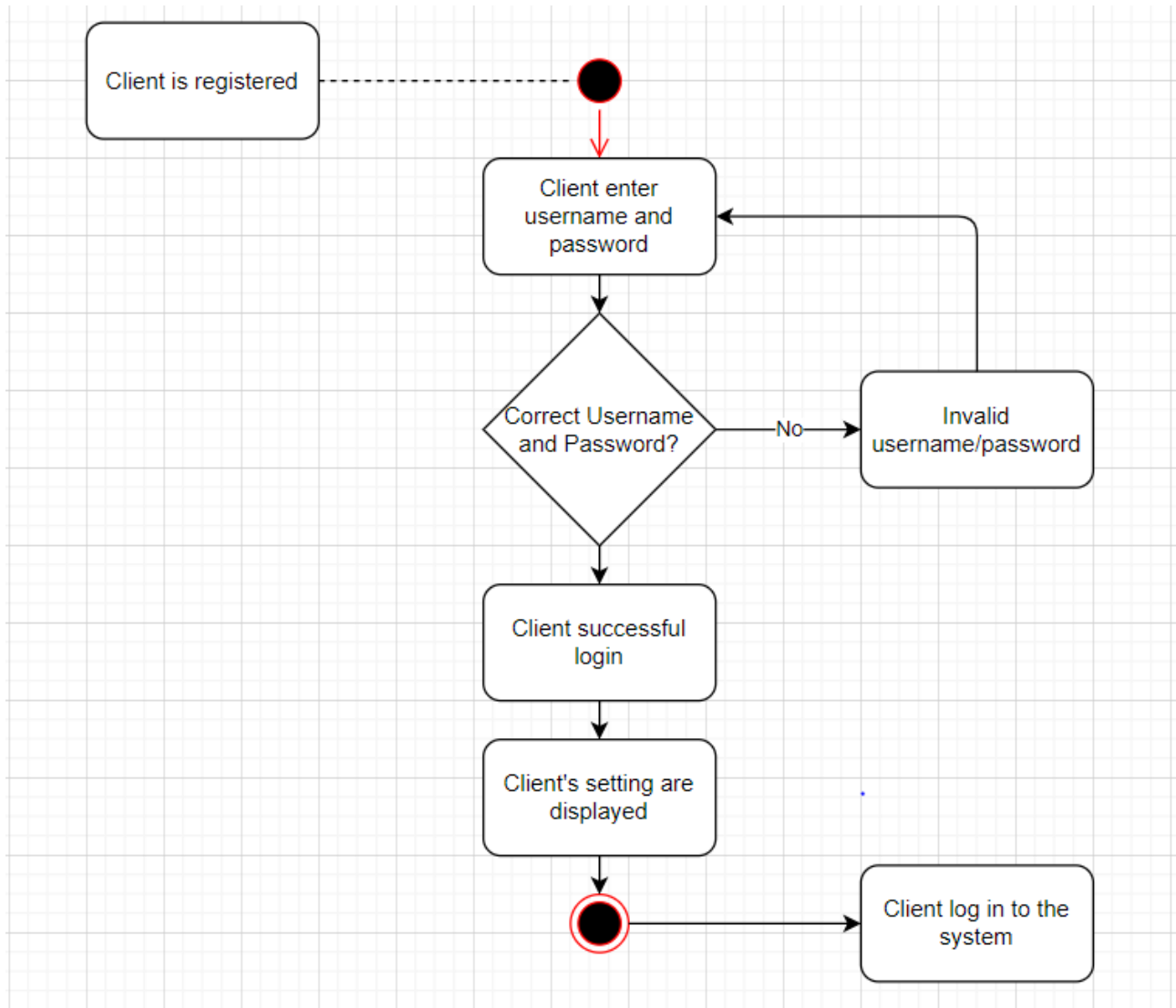
### 7.3 Component Design:

#### 7.3.1 Sequence Diagram:

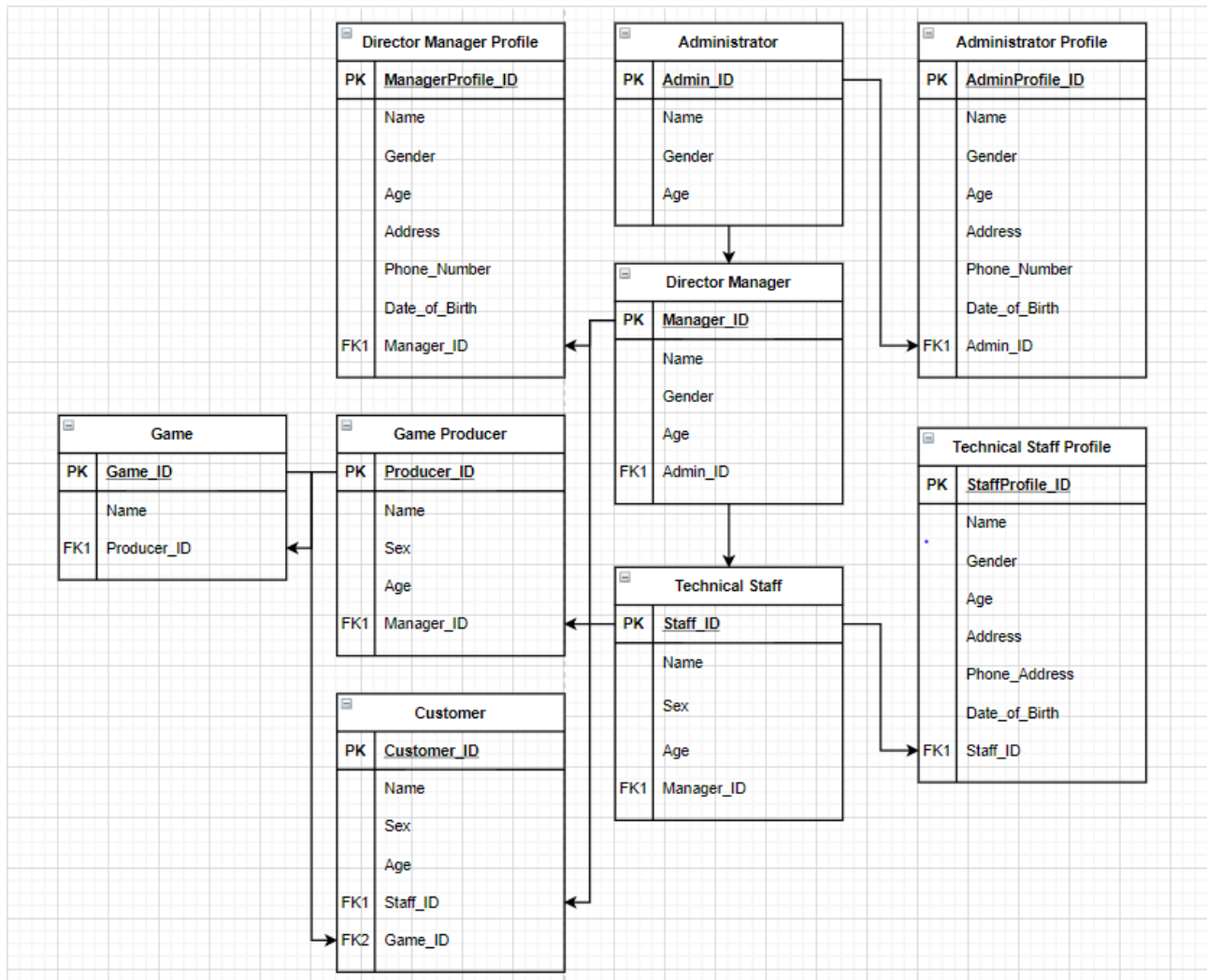
Login Page:



### 7.3.2 Activities Diagram:



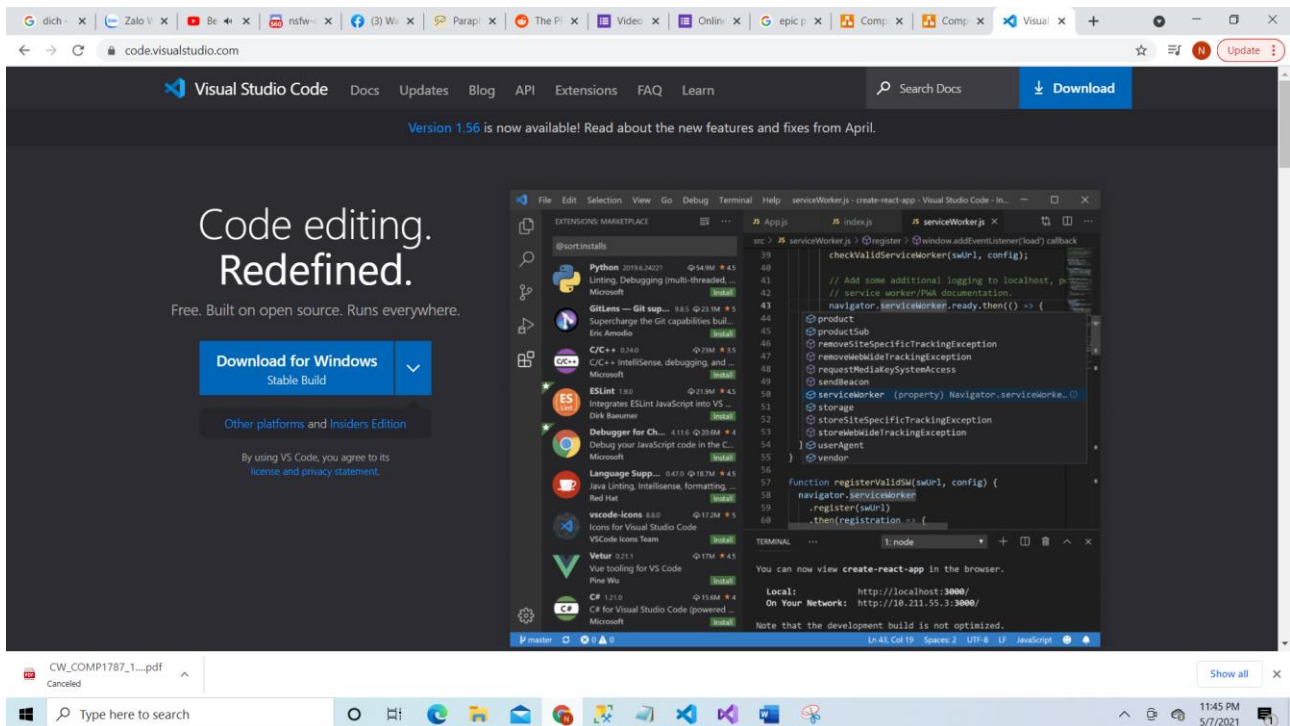
## 7.4 Class Diagram:



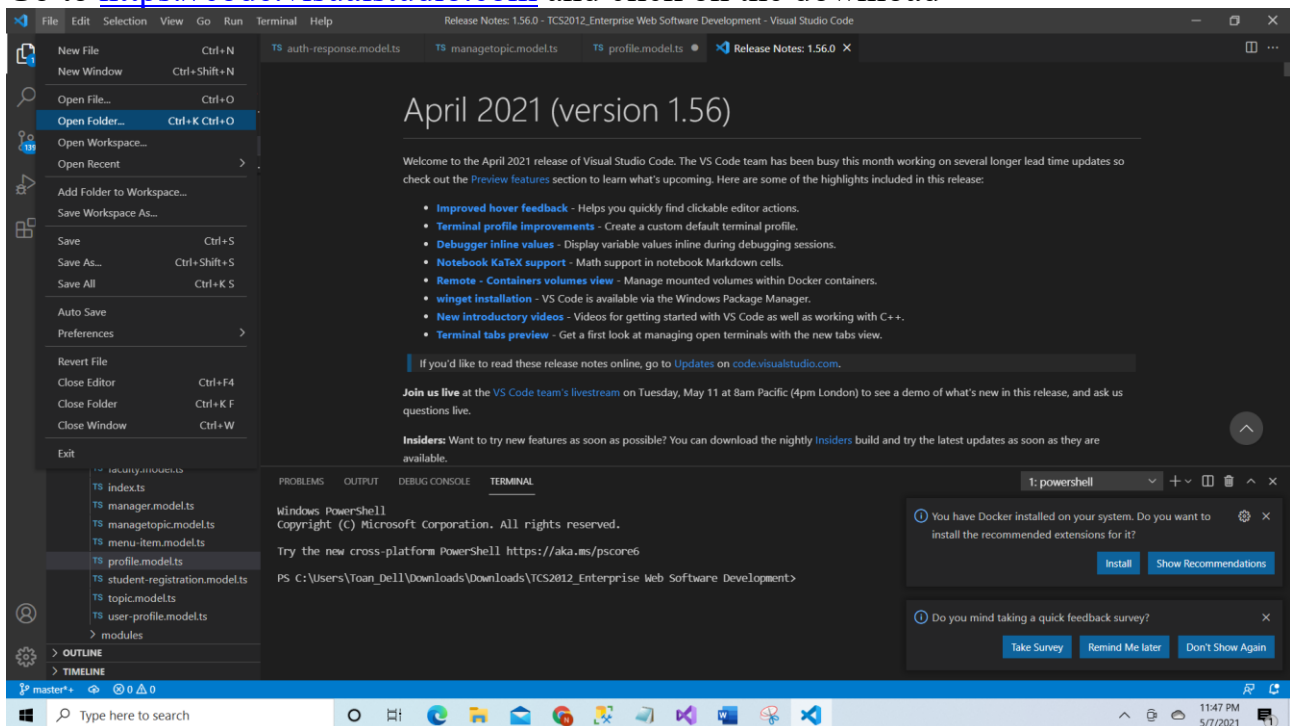
## 8 Prototype

### 8.1 Review of technology

In my opinion, I will use Visual Studio Code to code the front-end of the website. If you don't know how to use or haven't download Visual Studio Code, here are some tutorials for you:



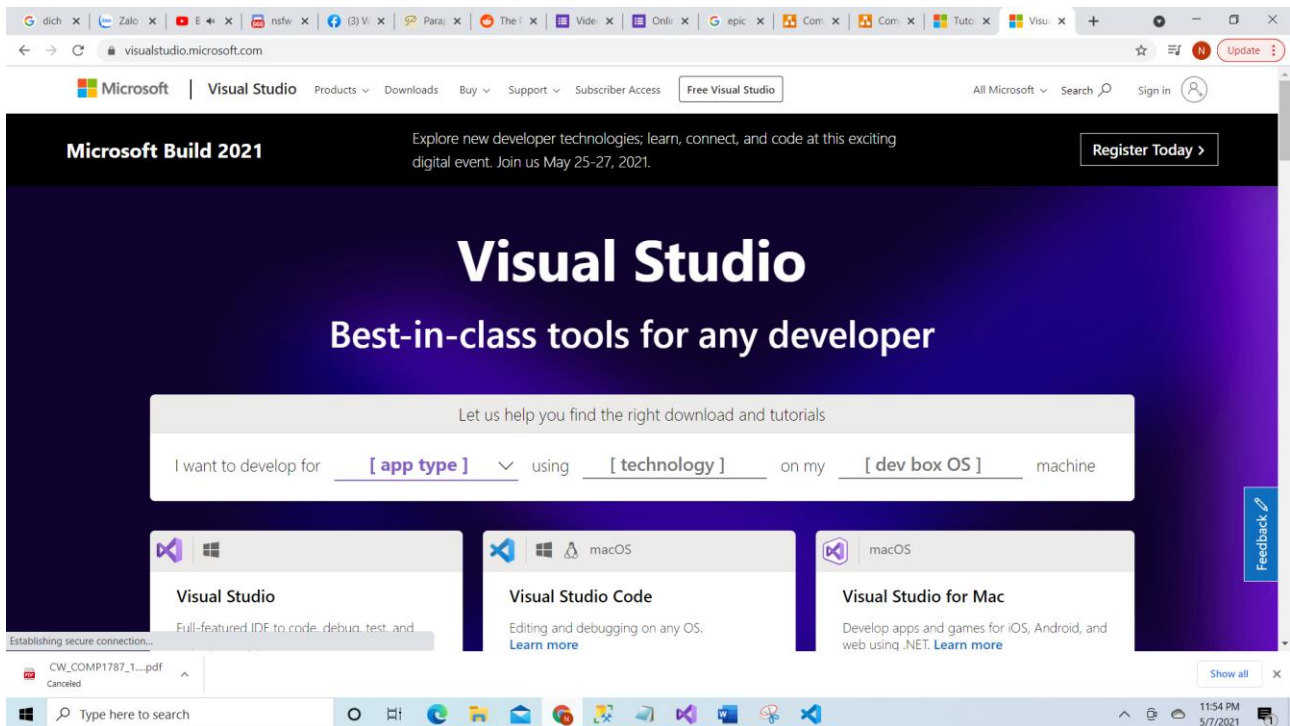
Go to <https://code.visualstudio.com> and click on the download



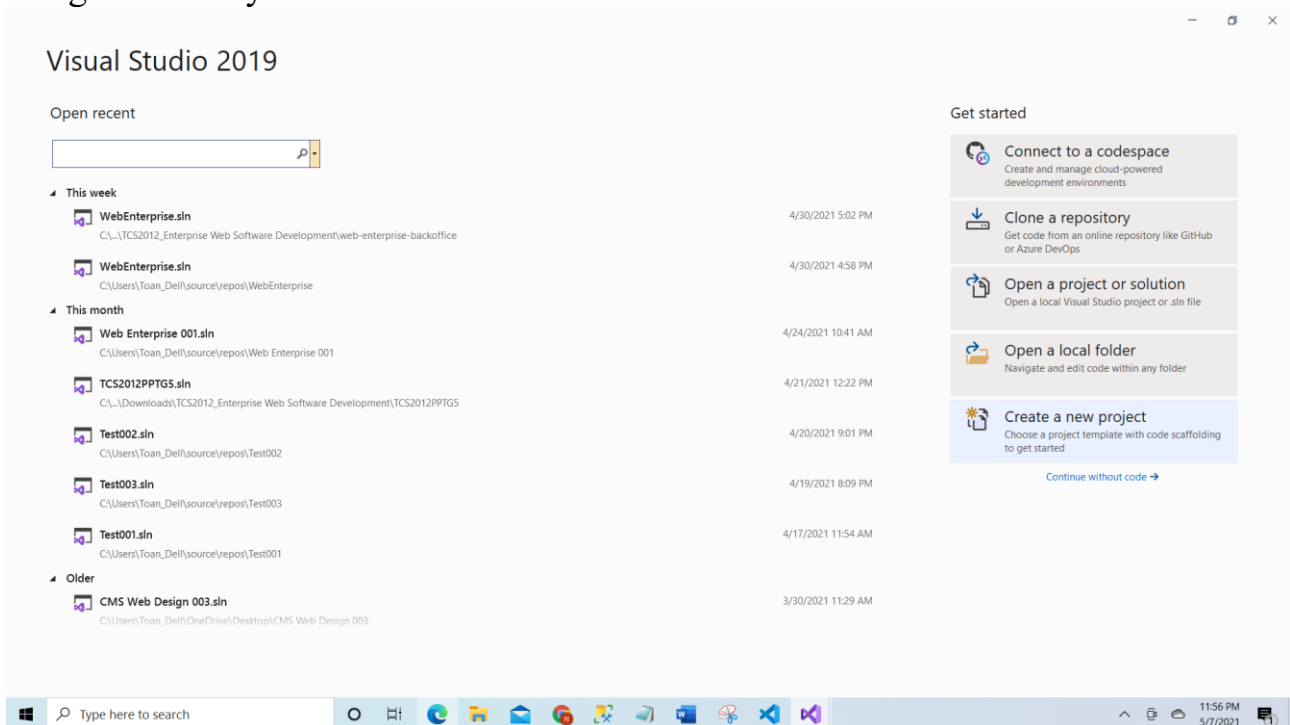
And click on the open folder if you already have a project going on or you can create new folder and move to somewhere you feel free to enter or you have a lot of memory to start your work.

Or you can follow this tutorial: <https://code.visualstudio.com/docs/introvideos/basics>  
Then, I will use Microsoft Visual Studio and create an API as a back-end of the website. Here are some tutorials for you:



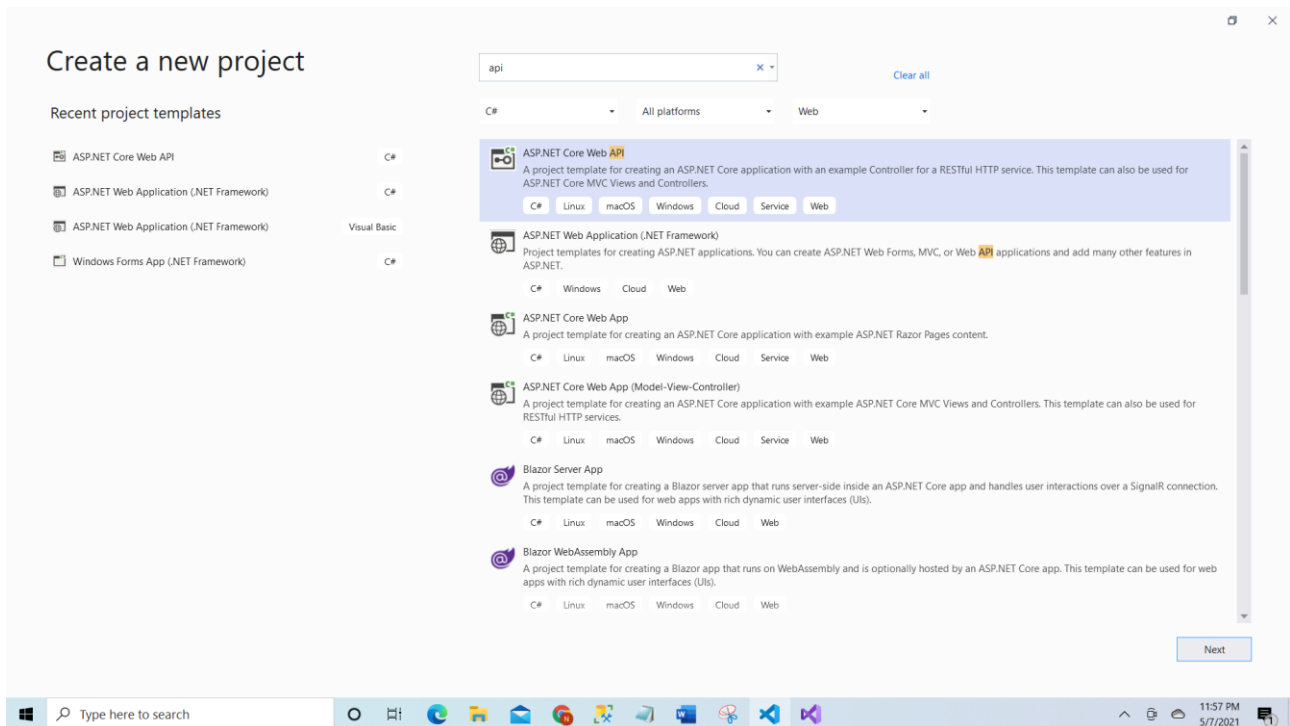


Go to <https://visualstudio.microsoft.com> and download visual studio and if you are using Mac then you should click on visual studio for mac.

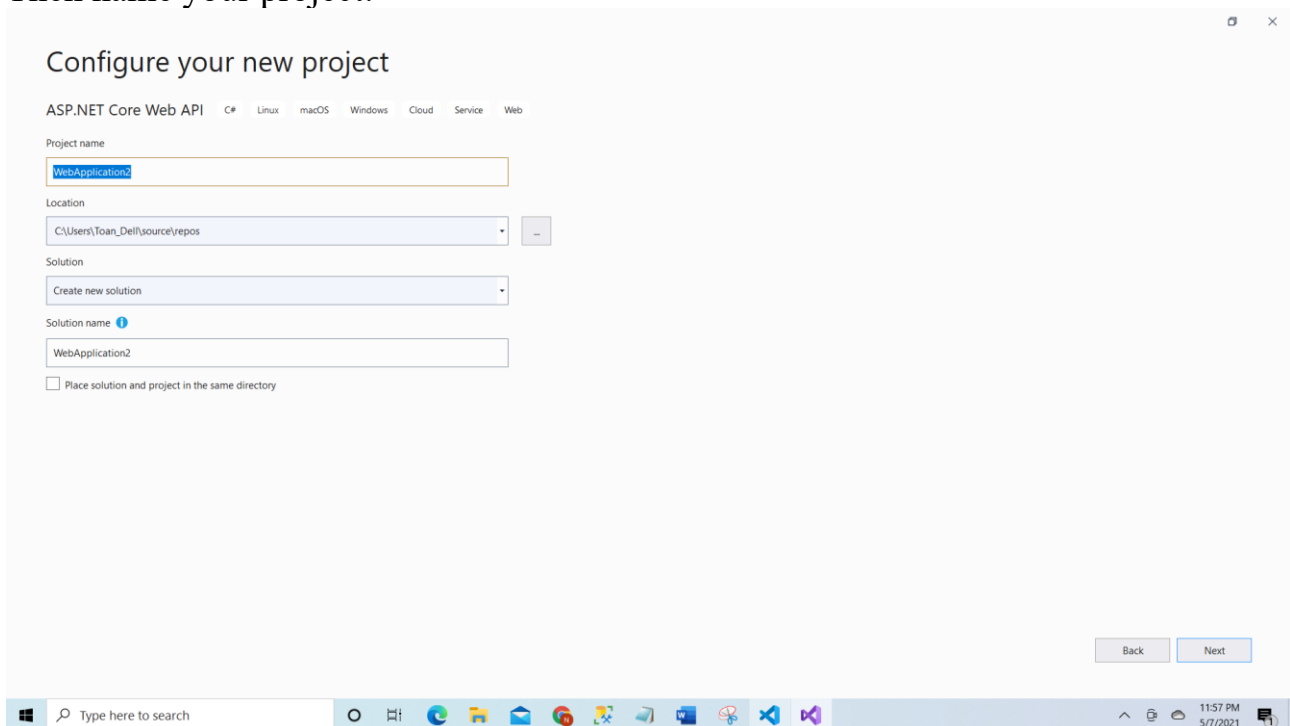


Then click on create a new project and create a new API project:

## Your Name: COMP1682 Initial Contextual Report



Then name your project:



Then modify your project to enable docker and enable openAPI support and click on create project:

Additional information

ASP.NET Core Web API C# Linux macOS Windows Cloud Service Web

Target Framework  
[.NET 5.0 (Current)]

Authentication Type  
[None]

☒ Configure for HTTPS

☒ Enable Docker

Docker OS  
[Windows]

☒ Enable OpenAPI support

Back Create

Or you can follow this tutorial: <https://docs.microsoft.com/en-us/aspnet/core/tutorials/first-web-api?view=aspnetcore-5.0&tabs=visual-studio>  
For the database, I planning to used Microsoft SQL Server Management Studio. Here is a tutorial for you:

Microsoft Build May 25-27, 2021 | Free digital event

Learn. Connect. Explore. Find solutions and tools that propel your vision forward—join us May 25-27, 2021 at Microsoft Build. Register now >

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Applies to: ☒ SQL Server (all supported versions) ☒ Azure SQL Database ☒ Azure SQL Managed Instance ☒ Azure Synapse Analytics

SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure, from SQL Server to Azure SQL Database. SSMS provides tools to configure, monitor, and administer instances of SQL Server and databases. Use SSMS to deploy, monitor, and upgrade the data-tier components used by your applications, and build queries and scripts.

Use SSMS to query, design, and manage your databases and data warehouses, wherever they are - on your local computer, or in the cloud.

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In this article

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- Available languages
- What's new
- Previous versions
- Unattended install
- Installation with Azure Data Studio
- Uninstall
- Supported SQL offerings

SSMS-Setup-ENU...exe Canceled

CW\_COMP1787\_1...pdf Canceled

Go to this website for tutorial: <https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver15>

## 9 Reflection

Conclusion, in my project, I want to create a website that can manage game producer studio and publish their game so I can get commissions from advertising their game.

In my proposal, I have investigated 4 very successful game publisher and their advantage and disadvantage. I listed out all of the requirement to make my game successful and make a questionnaire survey about game interest. I also design all the user interface and use case and database design.

## 10 Bibliography

Epic Games. 2021. *Learn About Epic Games*. [online] Available at: <<https://www.epicgames.com/site/en-US/about#:~:text=Corporate%20Headquarters&text=Founded%20in%201991%2C%20Epic%20Games,provider%20of%203D%20engine%20technology.>> [Accessed 7 May 2021].

Hackers Pad. 2021. *18 Alternatives To Garena Plus, Pros, Cons & Questions - Hackers Pad*. [online] Available at: <<https://hackerspad.net/software/garena-plus/>> [Accessed 7 May 2021].

2021. *Nasdaq*. [online] Available at: <<https://www.nasdaq.com/articles/should-you-buy-activision-blizzard-inc-3-pros-3-cons-2018-01-11>> [Accessed 7 May 2021].

2021. InvestorPlace[online] Available at: <<https://investorplace.com/2011/07/electronic-arts-shares-3-pros-3-cons/>> [Accessed 7 May 2021].

## 11 Appendices