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# Introduction

My game is a mobile game meant to help improve reaction time and decision making related to the sport Table Tennis. Table Table is quite similar to hunting with archery whether it be wind or moving target or changing speed and distance your arrows has to hit your target. One factor that makes or breaks this accuracy is the spin of the plastic hollow ball called a ping pong ball… The light ball being forcibly rotated by much heavier blade allows for the balls to reach several 1000 RPM and start weird physics when interacting with the air and especially the rubber on each players rackets. The ball spins quickly but isnt smooth and rather embeds itself in the opponents rubber while rolling almost in place and in an instant can change its expected bounce trajectory drastically. This bounce trajectory could be higher or lower. Height bounce change trajectory the more top spin and lower bounce is back spin. And nearly no change from regular is dead spin. My game is supposed to help you determine the difference between those three and learn to determine that as fast as possible!

## Why did you choose this project and who is the target audience for the game

I play table tennis so I'm going to make a mobile game

which will be useful in helping others play table tennis better

for those who just like a challenge and have time to waste

## Which programming language should you use? Why this language and not others? What distinguishes this language from others?

"C#" because the Unity game engine uses it. There are only two good game engines and the other is called Unreal Engine 4 which uses visual programming and "C++". I think only one language is easy to learn in six months, and then choose Unity .

These two game engines have the most users, so there are many tutorials on YouTube and Stack Overflow and maybe GitHub to help me make my own game.

## 

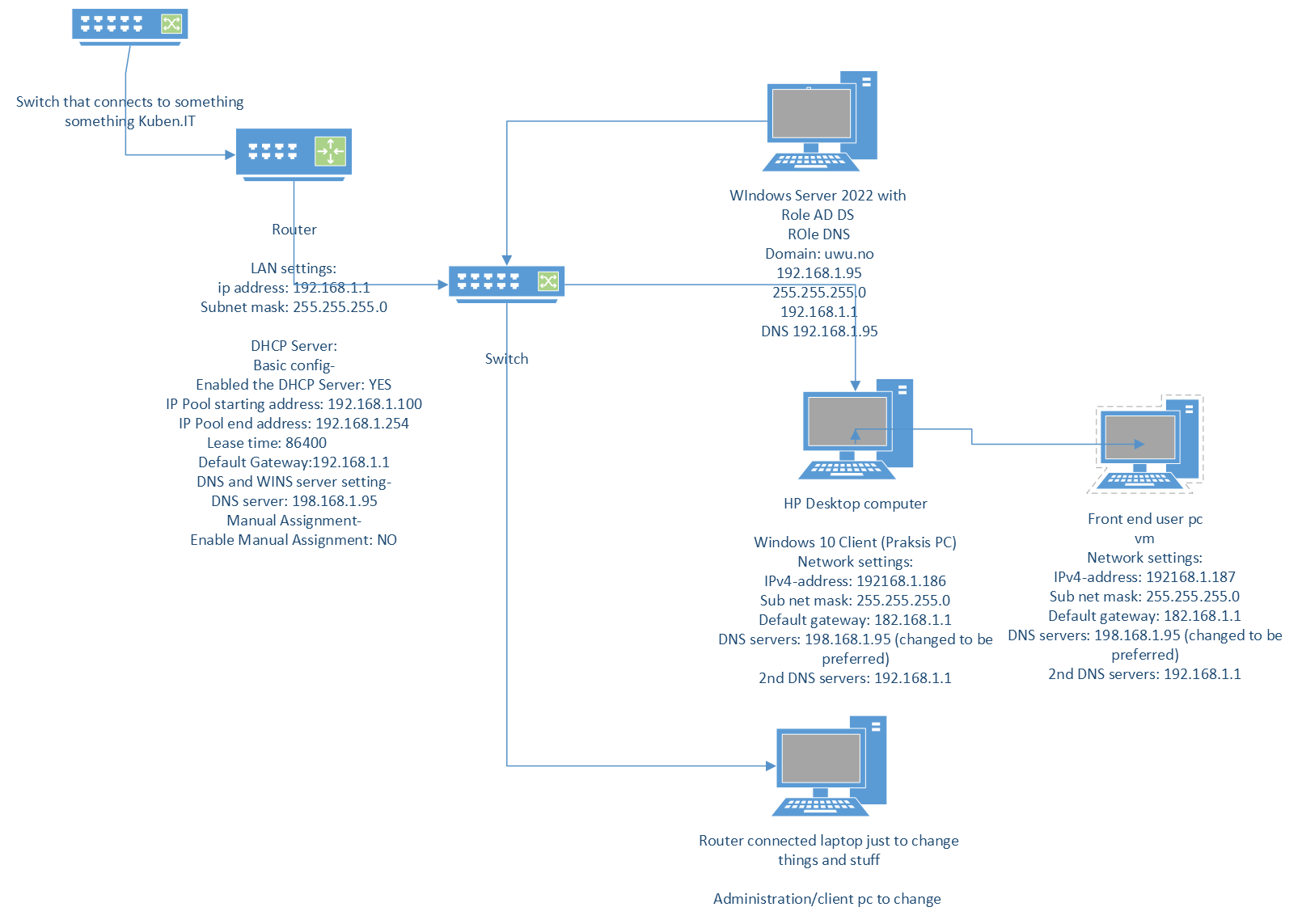
## Summary of the rules and requirements of the game

1. - A website with a table tennis quiz
2. - Animation of different ball drops on the racket being hit
3. - Kahoot “you failed” popup appears if the wrong button is chosen
4. - Clicking the same spot with your thumb will reset the quiz
5. - Clicking another button "WHY!?" shows another animation of the ball spin
6. - Click on one of three buttons
7. - The correct button gives a point and you will have two buttons to press the top half will lead to the same animation screen from pressing the “WHY” button when failing in the fail pop up…
8. The bottom half will move the player onto the next stage since my game is a highscore game and getting quick points is vital for attention span
9. - A total of 9 different scenarios with ball hits and ball drops
10. - The maximum score that can be obtained from the game in each session is almost infinite if TAS
11. - Theoretical limit that cannot be easily exceeded when the time limit decreases 25%
12. - New popup with buttons and questions on top "WHAT spin?"
13. - Popup window allows you to pause the timer and replay the video
14. - Timer continues where it left off before it was stopped
15. - Pause button available
16. - Possible to end the game and save the last game scenario
17. - The game starts from scenario 1 when the answer is wrong
18. - Random placement of elements on screen
19. - Use the sketch provided
20. - Losing Lives system: if you press the wrong answer/button you lose a heart
21. - If you press the correct answer/button you keep your heart/your hearts stay the same
22. - If you run out of hearts a pop up will appear with options to watch an ad to get a heart/continue or learn why you were wrong with a real-time recording of the same racket giving the same spin and hitting a rubber return plate
23. - Auto-play slow-motion video version while video is playing
24. - Pop up has exit to main menu on top that cannot be escaped
25. - High score/points, hours/countdown, video, and buttons available
26. - Pop-ups for restart/continue, register, leaderboard, and main menu.
27. Ways to make the game more difficult is more videos and thus more buttons i was thinking around 7 instead of the regular 3 or even 21 or 49 choices…since table tennis is a bit complex and you need to quickly discern the difference of 42 movements which change with each player…but maybe no timer once it gets to 7, or 21 or 49 choices…
28. Once you fail you get the above “why” button which will look like a trophy button or the gold,silver and bronze placement stair icon…
29. If you press it then you will get a popup for login and password info with a registered account under that or use game center or use google play or gmail and so on. In the register pop up before you can make an account you need to consent to the privacy policy and terms of service.
30. Highscore leaderboard once logged in…

# Project plan :

| **Tasks** | **Comments** | **Check** | **Who?** |
| --- | --- | --- | --- |
| **Project description** |  |  |  |
| I will develop a game. |  |  |  |
| I have to create a presentation of my project. | written in English . Translated into Norwegian with google translate. | 25/10 | Shazia |
| Make a project report with   * + cover page   + table of contents   + introduction   + documentation   + evaluation |  |  |  |
|  |  |  |  |
| **Web server** |  |  |  |
| Find a physical computer suitable to be a separate server.    Install the operating system on the machine which is going to do the task as a server.  Decide on which operating system to use (Windows Server 2020, Windows 10)? Need to find out. |  |  |  |
| Read and Learn:  what is a server and why do we use a server? |  |  |  |
| Read and Decide:  Where are you going to create your website?  Answer: From your client machine. |  |  |  |
| Read and Find out Why can't a webpage be hosted on a client machine.  Why do you need a web server? |  |  |  |
| What application is needed to set up a web server?  Is XAMP a web server? How to use it? |  |  |  |
| Which PORT on computer is used by a web server to communicate on the protocol HTTP?  Are these or other ports used by Webserver? Where to define it in the Webserver?  PORT 80, 443, 8088 others ?  What is the difference between HTTP and HTTPS? |  |  |  |
| Install web server application |  |  |  |
| Configure web server application |  |  |  |
| Serve a test page and test from an external client |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Database** |  |  |  |
| I need a database to save scores for the player |  |  |  |
| Install database application |  |  |  |
| Decide what player data I need |  |  |  |
| Add player table |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Own developed code (code that you have written yourself)** |  |  |  |
| I will use c# to code a game. | week42: started to learn C# fundamentals. CodeAcademy . Variables.  Week 43: Conversion of input string to other data types. |  |  |
| Draw sketches of my game scenes - use which application? |  |  |  |
| describe the rules for the game - in a text editor or visually by drawing scenes? | when a player starts the game, the game starts from level 1. |  |  |
| Unity program - to set the background and 'player' movements.  Try it out with Unity functions without the C# code. |  |  |  |
| pixelapp - to design the player and scenes.  Player is going to be a table tennis racket.   * + How many rackets?   + Design many animations for the movement of the racket? |  |  |  |
| **Documentation** |  |  |  |
| Network diagram with web server, database, client and IP addresses |  |  |  |
| Fill out the form for laws and rules that apply to my system |  |  |  |
| Fill out the risk analysis diagram |  |  |  |
| **Tutorials** |  |  |  |
| Make a game tutorial for a new player |  |  |  |
| Make a FAQ (Frequently Asked Questions) |  |  |  |
| **Security** |  |  |  |
| Make sure the web server and database is password protected |  |  |  |
| Take backup of all code on GitHub |  |  |  |
| Authorization of access: |  |  |  |
| Authentication of users: |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Documentation:

1. Network diagram:

# Backup routines:

I will upload my AD data to my multiple storages daily in my pc using the servers and roles feature: Windows Server Backup feature.

I will upload my SQL databases data daily to my Google drive with the software: “Sqlbackupandftp”.

Userguides:

https://youtu.be/-r0dtv1G4EU

https://youtu.be/8dcWxHuZQfE

# Technical Documentation:

Router:

Username: UWU

Password: IMKuben1337!

AD DS Windows server:

user:Administrator

password:Kuben123

Client pc with vm:

Serienummer: 8CC0152R8J

User: Front End user praksis pc

Password: kuben123

VM:

User: Same as main pc

Password: kuben123

UPN: AliG

Pass:1dNw+m@nP

UPN: iwi

Pass:1dNw+m@nP

UPN: uwu

Pass:1dNw+m@nP

UPN:owo

pass:1dNw+m@nP

# Mapping of legislation

Universal design

| **Legislation** | **What is this legislation about?** | **Which sections are relevant to my system?** | **How can the system risk breaking the law?** | **What consequences can there be if the system breaks this law?** | **What must I do to ensure that I do not break this law?** |
| --- | --- | --- | --- | --- | --- |
| [GDPR](https://www.datatilsynet.no/regelverk-og-verktoy/lover-og-regler/om-personopplysningsloven-og-nar-den-gjelder/) | The European Union has a law called the GDPR that helps safeguard people's personal data. It allows people to manage their own information and makes it simpler for businesses to conduct business internationally. The law outlines what businesses must do when they gather peoples' personal information, including requesting permission and maintaining security. Additionally, individuals have some rights about their own data. | Article 6, Articles 12-14, Article 32, Articles 15-22 | I must adhere to certain guidelines if I collect information about people. People must be informed of my plans before I acquire their personal information and must provide their consent. Keep their information secure and provide them the option to view, edit, or delete it. | If I don't abide by the guidelines in Article 6, I can be required to make a sizable payment. The highest I might be required to pay is 20 million euros, or 4% of the revenue generated by my company last year, whichever is greater. People might cease trusting me and my company if I break the rules. | IIf I run a company that gathers data on people. Here are some things I should do:  Understand the data I'm gathering and why I need it.  I'll pick someone to be in charge of protecting people's information if I have to.  Explain to individuals why I am gathering their data.  Inform people right away if something goes wrong.  I make sure that children's parents have given their consent before I collect their data.  Make sure folks are truly interested before they subscribe to my email list.  Ensure that I protect people's information and provide them the option to view, edit, or delete it as they see fit. |
| [The Personal Information Act](https://lovdata.no/dokument/NL/lov/2018-06-15-38?q=personopplysning) | A statute in Norway serves to protect people's private information. This law specifies what businesses and organizations may do with individuals' personal information. Additionally, it allows users some control over the data they own. There is a group of individuals that ensure that everyone abides by the law. | Ch 2, Ch.3, ch,4, ch.5 | Chapter 2: I must observe the law and act fairly when gathering information about others. Don't gather excessive amounts of data or use it for purposes other than those I mentioned. Keep the data secure and up-to-date. Chapter 3: I need a good justification for gathering data about people, such as if they consent. Use the information only as I stated and for nothing else. In Chapter 4, I explain how I'm using people's information and give them the option to view, edit, or delete it if they so choose. Chapter 5: Safeguard personal information and document how I use it Inform the responsible parties if something goes wrong. | If I don’t obey the regulations concerning gathering information about people, I might have to pay a lot of money. The highest I could have to pay is €20 million or 4% of how much money my company produces in a year, whichever is greater. The data system can also advise me to stop collecting information or stop me from sharing it with other nations. | There are some guidelines I must adhere to if I want to collect information about users of a website or app. People must be informed of my plans before I acquire their personal information and must provide their consent. I don't gather too much information; I only gather what I need. Ensure that users can view, edit, or remove their information at any time. Don't let anyone else see their information by keeping it secure. |
| [Regulation on universal design of ICT solutions](https://lovdata.no/dokument/SF/forskrift/2013-06-21-732?q=universell%20utforming) | There are certain rules regarding making technology easy for everyone to use. These principles are aimed at enabling everyone to take part in society and preventing new problems from developing. The rules also strive not to make things too hard for enterprises. | 4a, 4b, 4c, section 18 | My app or website may lack features like text for images, keyboard navigation, or easily understandable language if it is difficult for people with impairments to use. Additionally, it might not adhere to the guidelines for making technology user-friendly for everyone. | I might have to pay money if I don't follow the Directorate of Digitization's instructions. If I continue to disobey them, they might sue me in court. | To make my website or app simple for everyone to use, I must abide by a few principles. The Web Content Accessibility Guidelines (WCAG) are the name of these regulations. I also need to put in writing how my website or app complies with these guidelines. Included in this assertion should be: a. A justification for any aspect of my website or program that might be challenging for some users to use. I should specify any other uses, if there are any, for people. b. A means for users to contact me if they experience any issues with my website or app.  c. A reference to material describing what individuals can do if they believe I am breaking the law. I should include this remark alongside the details about my app or on my website. Additionally, I ought to update it at least once a year. |
| Intellectual Property Act | Things that humans create, such as books, music, movies, art, and computer programs, are protected by the law. According to this rule, the individuals who created these items have unique rights to them. However, there are restrictions on when other individuals may use these items without your permission. | Ch 2  Ch 4 | Using someone else's music, images, or words without their permission is against the law, according to Chapter 2. If I steal their work or disseminate it without their permission, I'm also breaking the rules.  Using someone else's music or recorded spoken words without their permission is against the regulations, according to Chapter 4. Making copies of their recordings or distributing them to others without their consent is another violation of the regulations. | According to Chapter 2, it is illegal to use someone else's music, images, or words without that person's consent. I'm also breaking the law if I take their work and use it without their consent or distribute it. According to Chapter 4, it is forbidden to use another person's music or recorded spoken remarks without their consent. Another infraction of the rules is making copies of their recordings or giving them to other people without getting permission. | Using someone else's music, images, or words without that person's permission is prohibited, according to Chapter 2. If I steal their work and use it without their permission or spread it, I'm also breaking the law. It is prohibited to utilize someone else's music or recorded spoken remarks without that person's permission, according to Chapter 4. Making copies of their recordings or releasing them to others without authorization is another violation of the regulations. |
| Equality and Discrimination Act | a rule stating that each person should receive the same treatment and opportunities in life. It makes no difference whether you are a man or a woman, what color you belong to, what religion you practice, whether you have a disability, whom you love, or how old you are. Everybody and everywhere is covered by this law. | Ch 2-3 | a principle that states that everyone should be treated equally and given the same opportunities in life. Whether you are a male or a female, what color you are, what religion you follow, if you have a disability, who you love, or how old you are, none of these things matter. The scope of this law extends to everyone and everywhere. | If I violate the law, I can be forced to pay a fine or compensate the person I injured. | Make my information accessible to those with disabilities by adhering to standards like the Web Content Accessibility Guidelines (WCAG).  To identify and address any issues, have people with disabilities test MyU's game and website.  Give users a variety of access methods to my content, including text, audio, and video.  Use straightforward, understandable language that is clear and concise.  Allow users to alter the website's and game's appearance and functionality, such as by adjusting the font size or color scheme. |

# Risk analysis

|  | Probability | Definite | Highly probable | possible | Less probable | Not definite |
| --- | --- | --- | --- | --- | --- | --- |
| Consequence | 0.0 |  |  |  |  |  |
| 1. Not Important |  |  |  |  |  |  |
| 2.Slightly Important |  |  | File corruption |  |  |  |
| 3.Important |  |  | Discriminatory usernames in the leaderboards | Someone deleting my database  Hardware failure | Stolen computers for running server and database |  |
| 4. Very important |  |  |  | Blackouts  Power surges |  |  |
| 5.Catastrophic |  |  |  | Leaked database |  | Lose everything |

## 

## Action plan

File corruption:

To keep my computer safe, I use decent anti-virus software and am vigilant when opening emails from people I don’t know. Use pop-up blockers to block dangerous code.  
To stop server fires, acquire a fire risk check and put in a fire suppression system. Keep the server room clean and cool. Regular checks and training can also assist.  
To stop temperature and humidity concerns, keep the air surrounding my servers cool and not too dry or too wet.  
To stop vibration concerns, keep my server room away from other people and huge machines.  
  
Using electric air compressors, if using the canned air compressor, will leak liquid onto the computer hardware.

Stolen server and database machine:

By implementing stringent security precautions and routinely verifying entry authorization, I can guard against illegal access to my server room.  
  
I can prevent unwanted access to my server room and the deletion of my database by employing stringent security precautions and routinely verifying who is authorized to enter.  
  
I can spend money on effective surge protectors and purchase uninterruptible power supply systems (UPS) to protect myself from lightning damage such as power surges and blackouts. Only create long-term backups of your data if lightning strikes are virtually impossible. If I can't charge the UPS before they run out and electricity won't be restored soon, I'll unplug.

Discriminatory usernames on the leaderboards:  
  
I can try to monitor and maybe add some sort of auto-ban word list throughout the register and username changes, and I can have a complaint mechanism in place if any particularly terrible-sounding usernames make it past and upset folks.  
  
Leaked database:  
  
 Adding a feature where patchnotes or newsletters would send a warning to not open unusual emails and attachments and to change your game account password and even your Gmail account... Easily changing email addresses and passwords for users affected by the database leak is important.

Everything is lost.  
  
In order to pay for all of my hardware and perhaps even my software, I would need savings or insurance. It would be beneficial to backup to multiple different cloud services. To help prevent the loss of everything, install an external hard disk and a USB stick in addition to numerous drives or even a NAS. In general, implement all of the above-mentioned solutions while taking care not to lose anything.

# GitHub:

# Self-evaluation:

What didnt go well:

I planned to learn c# before Unity but i was not very efficient nor learn much.

I planned to but didnt find a single person who could consistently teach me C# and be there to answer my questions

I planned to but didnt learn anything about the Unity game engine

I could not make my planned table tennis mobile game

I could not progress my calculator program much for the time that has progressed

I planned to but could not understand the task well enough to work efficiently and constantly all year

I planned to but didnt even know when things were due because the information was in norwegian and didnt want to attend auditorium meetings unless it would be translated but i forgot to ask afterwards or felt bad for doing so and thus had to turn in my project later than most people since i had to ask for an extension since i found out the day of that the year task was due that night.

I planned to but was unable to get every teacherwho seemed to be stuck on certain biases on how a student should behave despite me being clearly different (and knowing that acting like everything is normal will get me all 0’s like my last school) and stating my abilities and requirements to pass were ignored or dismissed and got weird reactions and only when forced against a deadline would they give in a bit and just let me take charge and some of their time and get the help and progress i was waiting for each school day.

My attendance is clearly worse than usual.

What did go well:

I communicated my issues and got my point across that i just wanted to pass and that helped the teachers to give me some more concrete tasks that were easy enough for them to understand themselves and explain it in more detail when I had trouble understanding how to complete the tasks.

I was insistent on booking appointments and they were the only time i ever felt like the teacher paid attention and were useful to me rather than being a pestering person with an authority complex unwilling to help but not willing to shut up when they were made aware they could not assist me when i asked them to help.

I slowly improved my alarm clock usage and how long and loud I can keep my alarm going in order to wake myself up and not my family too.

My sql code for making a highscore leaderboard is quite effective and only relies on one manual inserting of a row to update three tables automatically.

My AD server is currently not up to what Alf Morten had made in the praksis period but much better than i had expected i could do before Shazia assisted me. I made users with perms in a security group and Organizational Unit and was able to connect to another pc.

Networking was smooth with Shazias aid. I learned a lot.

Some learned solutions:

Ask more often

Dont procrastinate

I learned to choose easy and work on harder later since usually my help takes a long time and so its good to have something to do on the meantime.

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