

Collaborative Virtual Environment Design Document COMP10043

UNIVERSITY OF THE
WEST of SCOTLAND
UWS

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FREE YOUR MIND.

THE MATRIX

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1.0. Introduction

This document will cover what collaborative virtual environments are, and how the task of creating a games studio was handled within our group. The “Weekly Smart Targets” gives a timeline and shows the tasks each group member agreed to do.

2.0. Target Audience

Our games studio will show people in the age category of teenagers and above, what a smaller triple-A studio would be like, and give the players who wander around our world a sense of realism of what to expect working inside a studio of such size.

3.0. Online Collaboration Tools

Online collaboration tools are applications people can use to work together online. There are a number of ways this could work - with people being in the same place at the same time, or in the same place at different times, or in different places at the same time, or in different places at different times.

People working in the same place at the same time have face-to-face interaction, thus needing shared tables and tools which allow members to express their thoughts and ideas to each other easily, such as shared electronic displays and or large white/blackboards.

People working in the same place at different times is very similar to the above, but instead is more of a continuous task, and so members can say what they did earlier and the later members can pick up and continue on effectively.

People working in different places at the same time requires instant communication which can take the form of texting, conference calling, or group video chatting.

People working in different places at different times calls for effective communication and coordination, recordings summarised of what happened earlier, what needs to happen, and version control.

Each member researched such online collaboration tools with a short summary of what the application is, the pros and cons, and then deciding which one would be best for our group to use.

3.1. Zoho Docs

Zoho Docs is an online suite of three office programs: [Writer](#) (Word), [Show](#) (PowerPoint), and [Sheet](#) (Excel). In addition to Zoho Docs, the Zoho website itself has more programs, such as an email client, calendar, instant messenger, notebook application, and an online file manager.

Zoho docs is an efficient solution for companies that need a cloud and modification of documents in real time. This powerful tool optimizes internal processes, generating greater collective work, competitiveness, performance and productivity.

- Pros:
- All three programs are easy to use.
 - Excellent intuitive system.
 - Fully supports all the popular office file formats.
 - Your files can be saved back to your computer.
 - Able to share files with specific users as well as the public.
 - Chat and comments are allowed on shared files.
 - Files and folders can be uploaded or transferred from Google Drive.
 - Mobile app for Android and iOS users.
 - A desktop program is available to easily upload files to your account.
 - Supports revisions to restore an older version of a file.
 - Possibility of previewing documents in the cloud without the need to download.
 - Allows adjusting and modifying information hosted in the cloud with the purpose of making corrections.
- Cons:
- A size limit is placed on uploaded files (1GB).
 - Synchronization is pretty slow sometimes.
 - Show and Sheet does not have a spell check feature.

3.2. Microsoft Office Online

Microsoft Office Online gives you free access to Word, Powerpoint, Excel, Outlook and OneNote. There is also an online calendar and access to OneDrive, a free online storage service.

- Pros:
- No software download.
 - Opens every file type that MS Office can use.
 - Share files with anyone.
 - Work with others on a file simultaneously.
 - Free templates are available.
 - Saves your work automatically.
 - Familiar interface as MS Office.
 - Automatic spell checks in Word, OneNote, Calendar, and Outlook.
- Cons:
- Files must exist in OneDrive before being used.
 - Cannot check for spelling errors in Excel or PowerPoint.
 - 2 GB is the largest file size that can be used.
 - Unable to save files to their original format.

3.3. Dropbox Paper

Dropbox Paper is service created by Dropbox that allows users to collaborate with each other by editing online or offline documents. The service was officially announced on October 15, 2015 and then later on, on January 30 2017 it was officially released. The service can be accessed on web applications as well as mobile applications for Android and IOS.

The service is very user friendly and easy to use. It allows the users to create a team, furthermore give permission to any member get access to any document. You do need to create an account with Dropbox in order to access the application.

- Pros:
- Ability to embed video and audio into a document ([Link to list](#)).
 - Code Snippets.
 - Dropbox docs are not included in the file storage, making it free.
 - User friendly.
- Cons:
- Cannot format fonts.
 - Limited export options.
 - Headings only go up to H3.

3.4. Google Drive

Google Drive was launched in April 24, 2012, and is one of many products and services offered by the company Google.

It is a free online cloud storage service that anyone with a Google Mail account automatically has, and as Google appeals to so many customers, it is extremely user-friendly.

- Pros:
- Extremely user-friendly and intuitive to navigate around.
 - No “lots of options” so the user will not get confused.
 - Offers free applications which compete very well with paid applications.
Most notably:
 - Google Docs to Microsoft Word.
 - Google Excel to Microsoft Excel.
 - Google Slides to Microsoft Powerpoint.
 - 15GB free storage space.
 - Google Drive can support lots of file types.
 - Users can keep files private or share between members or publically in a few clicks.
 - Multiple users can work on the same document at the same time.
 - Spell-checking service.
- Cons:
- Have to have a Google Mail account to access Google Drive.
 - To work with other members, they need to have a Google Mail account.
 - No version control - if somebody accidentally deletes a file and clears the bin, then it is essentially gone forever.
 - The one person who created the folder or file has complete control over others by only that person being able to access the permissions of that folder or file.

4.0. Online Virtual Environments

A virtual world is a software-generated environment populated by real players who can create their own personal avatar, explore the created environment independently or simultaneously, communicate privately or publicly, and participate in activities that can involve NPCs (non-player character).

To create such a world, our group will be using collaborative tools to communicate, design, and plan the world, and using virtual environments to create the world. Each member researched an environment describing it with a short summary, the pros and cons, and then deciding which one would be best for our group to use.

4.1. SimOnAStick

SimOnAStick (SOAS) is an OpenSim software. It is a single user Windows package of OpenSim that runs on a USB flash drive. In addition to the OpenSimulator server, it contains the Apache web server, MySQL, and PHP in order to create a "portable" server.

As any OpenSimulator, it is an open source multi-platform, multi-user 3D application server. It can be used to create a virtual environment (or world) which can be accessed through a variety of clients, on multiple protocols. It also has an optional facility to allow users to visit other OpenSimulator installations across the web from their 'home' OpenSimulator installation.

- | | |
|------------|--|
| Pros: | <ul style="list-style-type: none">● It allows you to do what you want in the world.● Growing in popularity.● Free.● You can put on an Oculus Rift headset.● You can make backups.● You can teleport from one world to another.● Great development community.● Small enough that it can be ported through a USB. |
| Cons: | <ul style="list-style-type: none">● Hard to learn.● Less intuitive, especially at the beginning. |
| Great For: | <ul style="list-style-type: none">● Students with experience in OpenSim software.● Graphic designers.● Doing simulations of any kind.● Big projects. |

4.2. Minecraft

Minecraft is a 2011 sandbox video game created by Swedish game developer Markus Persson and later developed by Mojang. The game allows players to build with variety of different blocks in 3D procedurally generated world, requiring creativity from players. Other activities in the game include exploration, resource gathering, crafting and combat.

- Pros:
- Preserves a sense of open-ended play and exploration.
 - Teachers and students play as peers.
 - Feels less like school and more like play.
 - Student-directed.
 - Gameplay possibilities grow directly with players' abilities.
 - Kids can easily open games for multiplayer group work over local area networks.
 - Open to any available mod, character skin, or texture pack.
 - Opens the door to programming.
- Cons:
- Each installation can be different depending on how players modify it, so not every game will work with others.
 - Students will likely be doing vastly different things with the game depending on what they've learned to do with it and to it.
 - Students are largely responsible for guarding the safety of their worlds and determining who can and cannot play with them or see and assess their work.
- Great For:
- Students who already have Minecraft accounts.
 - Individual and small group projects.
 - Clubs
 - Self-starting and goal-driven students

4.3. Garry's Mod

Garry's Mod is an open world video game that has no actual objective, the player instead has the ability to create the content of the game in various ways by placing objects such as boxes, containers, spawn non-player characters and interact everything together in any possible way. This sandbox physics game was created by Facepunch studios and later on published by Valve Corporation. Originally Garry's Mod was developed by Garry Newman as a Mod for Valves Half life 2 game.

- Pros:
- Unlimited community mods available.
 - Allows players to run their own Scripts.
 - Wiremod allows the expansion of the "Sandbox" effect that adds a large variety of pseudo-electronic components (Sensor-Logic Gates).
 - Fretta allows users to create new game modes easy and quickly with no effort.
 - Toybox is a function that allows users share and download content users created.
 - Friendly community.
 - Great way of showing experiments or real-life situations.
 - User friendly.
 - Easy to set up your own server.
- Cons:
- You need to pay £6.99 for the game.
 - Garry's Mod updates and fixes only happen once after a few months.
 - High maintenance when things get complicated and people start joining your server.
 - You need certain files in order to access your server from a different PC.
- Great For:
- For people that want to demonstrate intermediate projects.
 - For people that like to have a large variety of different mods and creation tools to work with.
 - High-School or University Students.

5.0. A Games Studio

A games studio is a place of work where a group of programmers, artists, and musicians gather to create a game. The studio could be entirely online, but having a set place and times to enter and exit, provide face-to-face interaction, definitive goals, and reduces the chance of people not contributing their share of the work and disappearing.

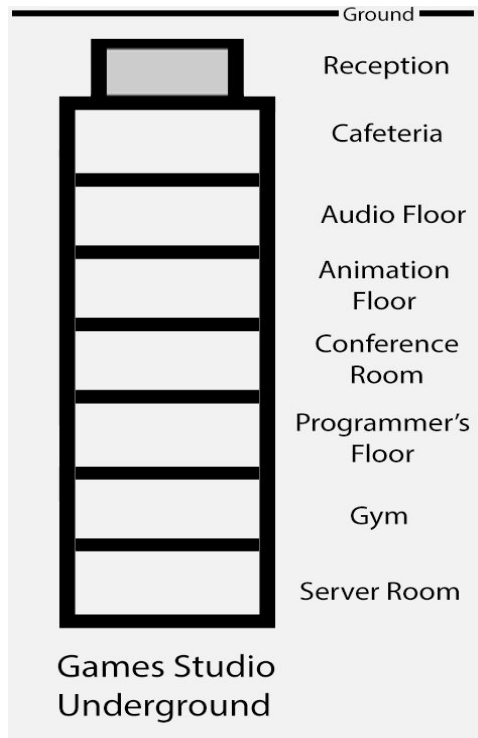
After exploring SimOnAStick locally and experiencing what possibilities a virtual environment could produce, our group brainstormed what kind of games studio our group would like to create with the questions below.

5.1. Questions to Think About

- How big will it be?
 - Small, indie or a big AAA company?
- What services will it have?
 - E.g. AAA company may have motion capture, voice recording studios, big cafeteria with free food for employees, gym, pool, dedicated soundproof conference room for meetings, etc.
 - A small indie company of 5 people may only have a small board meeting room, then supply desktops.
- What platform and kind of content is the company delivering?
 - PC?
 - Android?
 - Nintendo?
 - PS4 or xBox?
 - VR?
 - AR?
- Will the company be a building, or several buildings, or a campus?
- Transport to get around campus?
 - Bikes?
 - Hoverboards?
 - Segways?
 - Can each team member ride on them?
- How many rooms?
- How many people employed?
- Employing what type of people?
 - Artists?
 - Programmers?
 - Voice Actors?
 - Marketers?
- Think about the every little aspect needed in running a company:
 - Cleaning services and toilets
 - PR and HR
 - How big is the CEO office?
 - Server rooms?
 - Time zone clocks?
 - Does the company employ interns?
 - Allow pets?
 - Where in the world is the company?
 - Air conditioning?
 - What kind of doors?

5.2. Our Games Studio

The games studio our group decided to build:



- Create a medium sized studio.
- Can hold around 50 employees.
- The studio will be located underground, and to enter, players will be teleported to the studio.
- Each section is a separate floor.
- Rooms (bathrooms each floor)
 1. Reception.
 2. Cafeteria.
 3. Audio Floor.
 4. Animation Floor.
 5. Conference Room.
 6. Programmer's Floor.
 7. Gym.
 8. Server Room.
- Elevator, Stairs, fire exit?
- What kind of platform - PC for now.

6.0. Workflow

For our online collaboration tool, our group decided to use Google Drive as everyone had a Google account, and were already familiar with Google Docs.

For our online communication, our group decided to use Skype as it allowed screen-sharing in a group video call and Skype could also record the group calls, minimizing the use of other voice/screen recording software such as Audacity or OBS-Studio.

For our version control, our group decided to use GitHub and GitHub Desktop and for our virtual environment, our group had complications setting up SimOnAStick as we could use it locally, but could not connect online. Then Unity and an asset called uMMORPG was tested, and that could be used locally but could not connect online. Our group went back to SimOnAStick after being able to make it work with the university computers. GitHub was successfully tested in using as version control and being able to switch between server admins when in university.

SimOnAStick uses Linden Scripting Language in which our group will be using to program interactions.

7.0. Proposed Environment and Interactions

Our Games Studio will be a skyscraper building located underground. The above world will be empty, and to enter the studio, there is a teleportation platform which will teleport players to the reception. The Games Studio will be realistic - with the exception of a teleportation platform - and as players approach a floor or specific tool, helpful bubbles will pop up explaining how it works, so a person who doesn't know how a Games Studio works will know by the end of the tour.

There will be an elevator that allows players to move floors up and down instead of using the ladder system which takes ages. There are 8 floors that the players can use the elevator to go up and down using the keypad next to the elevator.

In the Reception, the players will have to check-in or be issued a pass-card, otherwise the doors will be locked.

In the cafeteria there is going to be a media player where players can play videos to kill time while they are resting.

In the Audio Floor, there will be a small orchestra laid out and players can play the instruments. There is also going to be a big sound system that the players can use to switch between songs that they upload.

In the Animation Floor, there will be a room area with motion capture to import animations into the game. The player can enter the designated area, initiate recording and do a series of animations (jump, duck, backflip, etc) then stop recording. The series of animations will be played back on a screen.

In the Conference Room around the big table, there will be a big screen to screen-share, and a voting system to allow ideas to be passed, and editable boards like Trello to show the progress of the game development. That will be half of the floor - the other half will be areas to boost creativity, like watching tv, or playing pool or football, or nap pods.

In the Programmer's Floor, players will be able to do small adjustments to the desks like move the keyboard and mouse around, move and rotate the screens, and throw towers around.

In the Gym, players can interact with gym equipment and do exercises with specific equipment.

In the Server Room, there will be machines lined up with climate control and a big red button warning "Do Not Touch". Of course, someone will press the button and in doing so, server machines will burst into flames, alarms will start sounding, and everybody will be teleported out of the Games Studio, resetting it.

8.0. Player Mechanics

Each player will be able to rotate the camera around the player with the Left/Right Arrows or use A/ D. Using Up/Down Arrows or W/ S will move the avatar forwards and backwards. To jump, use E or Page Up. To crouch, use C or Page Down. To (de)activate flying, use Home. To open chat, press Enter, and use Ctrl+Q to quit Imprudence. As this is a virtual world with no other gameplay elements, there will not be any combat system or any other interaction aside from the stated.

9.0. Created Environment and Interactions

In Section 7, the group's proposed games studio was stated. This Section will talk about what was actually created and how it was made. Our Games Studio was still built like a skyscraper, but it could not be located underground as the ground was limited in how deep it could go. Instead our Games Studio was built at normal ground level and ground was raised up to cover our Games Studio, making it to be a mountain with no visible entrance. Our Games Studio tried to be realistic but could not fit in common amenities due to how time-consuming it would be, and tooltips were not implemented. Eight floors were created, stairs, an elevator system, and doors were implemented.

A lift was created that allows each player to sit on the platform and then use the keypad next to it that contains the numbers 0-7 representing the structure of our building from the bottom-up. The player can also call the elevator to the destined floor.

In the Reception, as it is the first floor the prim is going in, key cards were created to allow access to all the rooms of the building. Therefore, there is a board with 6 different key cards to be taken for the prim to open doors and use of the lift. There is an attractive decoration using a lot of different objects and colours to create a welcome environment where people can feel comfortable. With some places to rest and relax, drink something, ask in the reception or even play pool. There is another functionality in this floor, it is a light system, where you can touch and switch different colours for the lamps.

In the Cafeteria, a tavern was created with drinks and tables where people can enjoy and rest. There is also a tv screen where people are allowed to put their videos in and enjoy while they take a break.

In the Audio Floor, there is a little recording studio room where users can see how a recording studio is set up. There is no functionality but on the computers show websites which they could hire people to do the part for them as contract workers. Next to that taking up a big section, are orchestral sounds. Little boxes are set up three-dimensionally to show where the instruments in an orchestra would be. There is a reference picture on the wall to the right of the boxes, and users can click on any box to hear what the instrument would sound like. In the middle of the room there is an audio player with some songs for us to listen to and allows the users to switch between songs.

The Animation Floor is under construction as the technology to do what we want is not ready yet. Our group wanted to be able to choose a model from a website, three-dimensional model would be generated as a preview, and selecting it will have the model be automatically be imported into the world.

In the Conference Room, some tools were developed in order to make easier interaction between staff. This room is composed by several tables where staff can be seated around and a small platform was created to allow all of them see presentations. In that platform, there is a board where people can easily give presentations and interact with it showing all the already created slides. In that type of rooms, decisions need to be agreed so there is a voting system showing in real time which idea is more popular to take it as the final solution. Also, three different boards can be found to speed up sharing of information in the company. A board is hooked up to Google Keep website allowing staff create useful notes about current work. A second board is hooked up to the Trello website to see what has to be done for the development of this world and could then be checkmarked off. The last board is connected to Google Calendar showing timetable and deadlines about the project.

In the Programmer's Floor, there are four different sections - Unity Engine, Unreal Engine, Version Control, and SecondLife. At the start of each section, there are computers each hooked up to a different website that gives help to each section. In the Unity and Unreal sections there are YouTube videos showcasing what features each engine has, and documentation to help with the scripting. The Version Control section will help with Git and Google Drive. The Second Life section has help with Linden Scripting, a simple script generator, OpenSim server, and a Pastebin account showcasing the majority of the scripts our group created in providing functionality to the world. In each section, there are rows of computers in an office layout, and each of these computers are playing "screensaver", showing the computers are on standby mode.

The gym is in under construction as well since other priorities were needed to be finished first. Although you can see the design part from outside there is no functionality at all inside.

In the Server Room, we have created a place where keep the information required for our game design company. It has some computer to rule the data system and several servers hardware. About functionalities, we have built an alarm system. In case of having fire in some of the servers (which is one of the functionalities we have in this floor) we can active the secret button which will make a loud sound and it will give the necessary instructions to get teleported to get out of the building using the secret way!

10.0. Appendix

uMMORPG Unity Asset [Online] Available:

<https://assetstore.unity.com/packages/templates/systems/ummorpg-51212>

Linden Scripting Language [Online] Available:

http://wiki.secondlife.com/wiki/LSL_Portal

Imprudence Movement [Online] Available:

http://wiki.secondlife.com/wiki/All_keyboard_shortcut_keys

11.0. Weekly Smart Targets

11.01. Week01 - 13 Sept

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 01

Date - 13 September 2018

David Mendez	Attending
Habtam Duessa	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

None.

Next SMART Targets:

1. Research online collaboration tools.
2. Each member will pick one and write pros and cons about it, 3 bullet points each, no more than 200 words in total.
 - a. David will research Zoho Docs.
 - b. Habtam will research Microsoft Office Online.
 - c. Tomis will research Dropbox Paper.
 - d. Yu-Ching will research Google Docs.

11.02. Week02 - 20 Sept

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 02

Date - 20 September 2018

David Mendez	Attending
Habtamu Duressa	Attending
Neoptolemos Papadiofantou	Absent because ill
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Done - Research on online collaboration tools.
2. Done - Each member wrote a piece on their selected tool.

Next SMART Targets:

1. Research SimOnAStick and alternatives.
2. Each member will pick one and write what it can and cannot do, and pros and cons about it, 3 bullet points each, no more than 200 words in total.
 - a. David will research SimOnAStick.
 - b. Habtamu will research Minecraft.
 - c. Tomis will research Garry's Mod.
3. Yu-Ching will research what is required for a Games Studio, and write no more than 200 words for it.

11.03. Week03 - 27 Sept

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 03

Date - 27 September 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Done - Researched Online Virtual Environments.
2. Done - Each member wrote a piece on their selected environment.
3. Done - Questions for a Games Studio.

Next SMART Targets:

1. Read through Yu-Ching's questions and decide as a group what kind of games studio is to be built.
2. Get SimOnAStick working locally and join together as a group.
3. Find appropriate voice chat programs and set a time and day for everyone to work on the project together.

11.04. Week04 - 04 Oct

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 04

Date - 04 October 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Done - Still brainstorming what kind of Games Studio to build.
2. Done - SimOnAStick working locally, still need set up server.
3. Done - Chose to use Skype. Tomis and David will record Skype calls.
If there is something important, the person will say "At this time..." for timestamp reference.

Next SMART Targets:

1. Set-up the server online.
2. Record first Skype conversation and summarise with timestamps.
3. Finalise what Games Studio to build.

11.05. Week05 - 11 Oct

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 05

Date - 11 October 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Amended - Switching over to Unity.
2. Done - Recorded and summarised Skype conversation..
3. Done - Finalised what Games Studio to build.

Next SMART Targets:

1. Constant - Tomis or David will keep a record of Skype conversations.
2. Since switching over to Unity - tasks for David, Habtamu, and Manuel:
 - Learn basics of Unity with YouTube Beginner tutorials.
 - Learn version control with GitHub.
 - Learn how to use GitHub Desktop, and how to push and pull.
3. Tomis and Yu-Ching will use Photon to set up an online server.
 - Set up server.
 - Push to GitHub, everybody will play the "Built" version.
 - Make sure the team can connect and run around.
 - Afterwards, each member will build their floor in a separate scene.
4. Update Game Design Document.

11.06. Week06 - 18 Oct

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 06

Date - 18 October 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Done - Tomis and David recording Skype conversations.
2. In progress - David, Habtamu, and Manuel learning Unity and GitHub.
3. Done - Tomis and Yu-Ching used the asset uMMORPG.
Can play multiplayer locally.
4. Done - Game Design Document updated.

Next SMART Targets:

1. Tomis and Yu-Ching will try and set up the uMMORPG.
If that doesn't work, go back to using SimOnAStick.
2. Tasks for David, Habtamu, and Manuel:
 - Learn basics of Unity with YouTube Beginner tutorials.
 - Learn version control with GitHub.
 - Learn how to use GitHub Desktop, and how to push and pull.
3. Finish Game Design Document.

11.07. Week07 - 25 Oct

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 07

Date - 25 October 2018

David Mendez	Attending
Habtam Duessa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Absent because ill

Project Status: Amber

Previous SMART Targets:

1. Done - SimOnAStick works in university. Cannot connect with home networks yet, but will be working in university as a group till the group can connect online with home networks.
2. Done - Will not be using Unity anymore as to set up a server with uMMORPG, will need to pay \$15 per month. GitHub and GitHub Desktop will be used as version control.
3. Finished Game Design Document.

Next SMART Targets:

1. Get SimOnAStick working with home networks.
2. Test if GitHub Desktop can be downloaded in university computers and server admin can switched from person to person.
3. Start building Games Studio.

11.08. Week08 - 01 Nov

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 08

Date - 01 November 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Not Done - Still searching on how to get it working on home networks.
2. Done - GitHub Desktop can be used within uni and server admins can be switched around.
3. Done - Started building Games Studio.

Next SMART Targets:

1. Get SimOnAStick working with home networks.
2. Build Games Studio.
 - David will decorate the rooms.
 - Manuel will build the stairs and doors with functionality.
 - Tomis will build the lift.
 - Yu-Ching will build the building skeleton.

11.09. Week09 - 08 Nov

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 09

Date - 08 November 2018

David Mendez	Attending
Habtam Duessa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Done - Tomis fixed the server and wrote instructions.
2. Done - Each team member has done their part.
 - David finished decorating the rooms.
 - Manuel finished the stairs and doors with functionality.
 - Tomis finished the lift.
 - Yu-Ching finished the building skeleton and fixed the stairs.

Next SMART Targets:

1. David will build the server room.
2. Habtamu will find an alternate solution to logging into Imprudence.
3. Manuel will build the gym.
4. Tomis will build the programmer's floor.
5. Yu-Ching will build floor signs and Reception.

11.10. Week10 - 15 Nov

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 10

Date - 15 November 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Constant - David will build the server room.
2. Done - Habtamu tested if could connect to the server in university. Could not connect so Habtamu will work locally with GitHub.
3. Constant - Manuel will build the gym. He will try to find objects to import.
4. Constant - Tomis will build the programmer's floor.
5. Done - Yu-Ching will build floor signs.

Next SMART Targets:

1. Constant - David will build the server room. Find a model for the server machine.
2. Constant - Manuel will build the gym. Looking if Blender models can be imported.
3. Constant - Yu-Ching will build the programmer's floor.

11.11. Week11 - 22 Nov

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 11

Date - 22 November 2018

David Mendez	Attending
Habtam Duessa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Constant - David will build the server room. Found a model for the server machine.
2. Constant - Manuel will build the gym. Blender models could not be imported.
3. Constant - Yu-Ching will build the programmer's floor.

Next SMART Targets:

1. Constant - David will build the server room. Fill with models of server machine.
2. Constant - Manuel will build the gym. Find if animations can be imported.
3. Constant - Yu-Ching will build the programmer's floor. Display media on a prim.

11.12. Week12 - 29 Nov

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 12

Date - 29 November 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Constant - David will build the server room. Fill with models of server machine.
2. Constant - Manuel will build the gym. Animations cannot be imported.
3. Constant - Yu-Ching will build the programmer's floor. Media cannot be displayed.

Next SMART Targets:

1. Constant - David will build the server room. Fill with models of server machine.
2. Constant - Manuel will now build the conference room.
3. Constant - Yu-Ching will build the programmer's floor. Make computers and websites.

11.13. Week13 - 06 Dec

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 13

Date - 06 December 2018

David Mendez	Attending
Habtam Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: RED

Previous SMART Targets:

1. Constant - David will build the server room. Fill with models of server machine.
2. Constant - Manuel will now build the conference room.
3. Constant - Yu-Ching will build the programmer's floor. Make computers and websites.

Next SMART Targets:

1. Something wrong with the server, the group cannot connect online as a group. Our server person - Tomis - has gone back to his country. If Tomis cannot figure out what is wrong, then Yu-Ching can be the server.

Tomis could not figure out what was wrong, so Yu-Ching became the server with the instructions Tomis wrote. It was good for a day, then the server could not be established online again. The other group members could not become the server as they were living within university residence and could not modify the network security settings. Habtam could not be server as he did not have home internet, only mobile data.

The problem was figured out - whenever a computer moves networks, the connection cannot be re-established. The solution was to set up a timetable where each group member(s) had allocated time-slots within the day and push and pull with GitHub.

11.14. Week14 - 13 Dec

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 14

Date - 13 December 2018

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Constant - David will build the server room. Filled with models of server machine.
2. Constant - Manuel will now build the conference room.
3. Constant - Yu-Ching will build the programmer's floor. Make computers and websites.
4. Everybody is working in their allocated time-slots and using GitHub Desktop.

Next SMART Targets:

1. Constant - David will build the server room. Build alarm system and teleportation.
2. Constant - Manuel will build the conference room. A powerpoint comparing engines.
3. Constant - Tomis will build the lift.
4. Constant - Yu-Ching will build the programmer's floor. Make a computer screensaver.

11.15. Week15 - 20 Dec

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 15

Date - 20 December 2018

David Mendez	Attending
Habtam Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Constant - David will build the server room. Built alarm system and teleportation.
2. Constant - Manuel will build the conference room. Powerpoint made.
3. Constant - Tomis will build the lift.
4. Constant - Yu-Ching will build the programmer's floor. Now finished.

Next SMART Targets:

1. Constant - David will build the server room. Build particle system for fire.
2. Constant - Manuel will build the conference room. Add voting system.
3. Constant - Tomis will build the lift.
4. Constant - Yu-Ching will build the audio floor. Build recording studio.

11.16. Week16 - 27 Dec

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 16

Date - 27 December 2018

David Mendez	Attending
Habtam Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. Constant - David will build the server room. Built particle system for fire.
2. Constant - Manuel will build the conference room. Added toting system.
3. Constant - Tomis built the lift.
4. Constant - Yu-Ching will build the audio floor. Built recording studio.

Next SMART Targets:

1. Constant - David will build the reception and cafeteria.
2. Constant - Manuel will build the conference room. Add collaboration functionality.
3. Constant - Tomis will build the gym and music system in Audio Floor.
4. Constant - Yu-Ching will build the audio floor. Build orchestra.

11.17. Week17 - 03 Jan

COMP10043 Collaborative Virtual Environment SMART Targets

Week - 17

Date - 03 January 2019

David Mendez	Attending
Habtamu Duressa	Attending
Manuel Menor	Attending
Neoptolemos Papadiofantou	Attending
Yu-Ching Ho	Attending

Project Status: Green

Previous SMART Targets:

1. David built the reception and cafeteria.
2. Manuel built the conference room with collaboration functionality and cafeteria.
3. Tomis built the gym and music system in Audio Floor.
4. Yu-Ching built the audio floor. Built orchestra.

Next SMART Targets:

1. Compile all and hand in on the 6th January.