Glasgow Royal Hospital for Sick Children

Minecraft Interactive Model Feasibility Report

Report by:
Chris Barker
Hadi Mehrpouya

Commissioned by:
Glasgow Children's Hospital Charity.

Managed by:
Ginkgo Projects

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Investigation Questions & Introduction

This report was commissioned by Glasgow Children's Hospital Charity via Ginkgo Projects to assess the viability of building and running a version of the hospital space in the multi-platform video game Minecraft. The report has been written and developed by Chris Barker and Hadi Mehrpouya. Within this report, 'we' means the workshop leaders and report authors i.e. Chris Barker and Hadi Mehrpouya.

In order to realise some of the challenges, opportunities and concerns in regards to Minecraft work, three visits were made to the hospital. Workshops and interviews were used as the method of inquiry. Of these workshops, patients were directly involved in two. All patient names are anonymised.

Glasgow Royal Hospital for Sick Children (GHSC) consists of a total of 4 wards, with 11 separate sub-wards. Each floor is equipped with game consoles, both mobile and in each playroom. Each patient room is also equipped with an entertainment system which provides access to internet, some games, and streaming websites such as Netflix.

Minecraft as a platform

Minecraft was developed in May 2011 by Mojang, a game developer in Sweden. The game gained enormous popularity among early adopters during a public beta testing phase, becoming one of the most successful PC games in history before even reaching its official commercial release. The game is now available on virtually all personal computing and mobile platforms, netting billions of dollars from hundreds of millions of sales.

Minecraft has become ubiquitous to the extent that even those who would not consider themselves to be video game players will almost certainly have seen the game being played by their children, siblings, friends or relatives. Indeed, we didn't feel the need to explain the core concept of the game at length in this report for that reason. Many of the patients at the hospital are avid players, and the majority overall have played at one time or another.

There are two main modes to the game. In survival mode, the player must gather resources, craft tools and battle with hunger and nocturnal monsters to carve out their place in the digital world. The mechanics of peril and difficulty are balanced by a sense of achievement from overcoming initial adversity to make a home, mine, farm, or indeed whatever your imagination concocts.

On the other side of the coin is creative mode. This is akin to playing digital LEGO with an endless factory of every kind of block that was ever made. Every resource, block or item in the game can be stacked into the player's inventory a little bit like an artist's pallet. The main character is not constrained by physics or scarcity, and can build as fast as they are able to click, push a button or imagine. This mode is clearly the most suitable for the building phase of the hospital Minecraft project, as it is perfect for rapid prototyping and collaboration.

Examples of some of the most impressive user creations are included in the Appendices at the end of this file.

Initial Research

Figure 1 - First meeting between Hospital charity, Hospital members of staff, University of Abertay and Edinburgh researchers, Ginkgo and City Play

First meeting was chaired and initiated by Chris Fremantle, the project manager from Ginkgo. The purpose of this meeting was to get to know the whole team, and find out briefly about what some members of staff from GSCH want to be included in the Minecraft version of the hospital. Sarah Barr was the main contact and person in charge at GSCH to deal with the Minecraft project. We agreed with Chris and Sarah to develop this report through a series of three workshops, each taking about a day. Our first workshop took place on 22nd of June 2016, followed by second visit on 21st July 2016 and last one on 2nd August 2016. Each workshop consisted of participatory methods to find out about various ways and imaginations that patients have in terms of looking at the hospital setting from different perspectives. For instance flying around the hospital instead of wheelchair, or riding pigs to move around. In our first visit we also looked at different facilities and rooms available across the GSCH. Please find visuals of some of these facilities below along a table stating different devices and technologies available to patients.

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These are some of the Issues that has been raised in our first meeting relating to the development of this project:

1. Can the workshops in the feasibility studies be as accessible as possible to accommodate patients who are on drips and are not as mobile?
2. Whether Minecraft could be played using game controllers?
3. Is it possible to make Minecraft available through the Airwave entertainment system?
4. Some safety concerns were raised, for instance, if Minecraft were to be played in networked mode, which brings bullying concerns.
5. The Minecraft team may not be able to see same patients more than once or twice due to the nature of their conditions and the possibility of them being released before the next visit from Minecraft team to the hospital.

In response to point 1 of the concerns, instead of running the workshop from a central room, we went into patient's room individually. According to our research it is possible to play Minecraft using game controllers however this depends on the platform that is running the games. For example on PCs, game consoles and the Raspberry pi it is possible, and users can also attach a game controller to some portable devices, which makes the game more accessible to a wider range of users. For the last three points we dealt with them and tried to respond to them through the report.

We agreed with Sarah Barr, to run our first workshop on 22nd of June, see Appendix 1,2 and 3 for detailed plan of each hospital visit.

Workshops & Visits

#1 Wednesday 22nd June - HM & CB.

Our goal in the first workshop was to assess the patients' knowledge and perception of the hospital as an architectural space. The site is large and hard to visually and spatially digest both as a visitor and as a patient. Buildings such as hospitals have more rooms, floors and features than most buildings that we encounter in our day-to-day lives. Recreating such a structure exactly would be a colossal undertaking, so it was important to know what proportion of the buildings are even interesting to the children and young adults.

In this workshop we particularly wanted to focus on rooms and journeys. By gathering information on what sort of rooms the patients visit each day, we can get a sense of what would should be included in a representative model of the building as a whole.
There are many ways to travel in Minecraft, including mine carts, boats and lifts. These can add to the novelty of the hospital model.

#2 Thursday 21st July - HM & CB

Our second workshop was much more practical than the first. We used an Xbox on a cart and went around the hospital asking patients to create either their room or one of the rooms they remember most. During these sessions we looked at how fast the some of the patients can build things and how do they approach it and some of the potential issues if we were to involve the patients in the development of the whole or portions of the hospital in Minecraft.

#3 Tuesday 2nd August – HM & CB

On our final trip we focused on fact-finding as far as the logistics and technical aspects of the project are concerned. Sarah Barr very kindly spent the morning with us going through a list of questions that we had that have since fed into this document.

Technical Challenges

Patient Entertainment System

For the hospital's Minecraft environment to be as inclusive as possible, being able to play via the Patient Entertainment System would be desirable. These television units with bed mounts are in virtually every patient room in the hospital, except those where major procedures take place.

While writing this report we have made contact with Airwave who provide the television hardware. Their response to the proposed project was that the software on the devices does use the Android operating system (which could run Minecraft), but there are various changes which would need to be made. Not all of these alterations are within Airwave's direct control, and would require significant financial compensation to the software company for their development and deployment time.

Console Access

GSCH has a limited number of games consoles on which Minecraft can be played. As of July 2016, the approximate inventory is as follows:

Device name	Count
Xbox 360	38
Playstation 3	20
Playstation 4	10
Xbox one	4
Total	72

The hospital is equipped with the total number of 72 consoles. The number of inpatients on 4th of August 2016 was 188 which means potentially around 116 kids wouldn't have access to the game at any one time.

The current number of devices would typically allow around a third of inpatients to play at any given time. The consoles are not distributed equally as they are bought out of each ward's budget. In the future it might be necessary to create a system to improve access to this resource, in case this project proves to be exceptionally popular.

Privately owned devices:

Many patients have their own portable devices, which provides an opportunity for making Minecraft model of the hospital available to more people. This can be achieved through uploading the final model into one of the following online platforms for being downloaded. This process is more straightforward on PCs however on tablets this takes longer and requires more knowledge of Minecraft. For instance, there is an online tutorial for the duration of 7 minutes explaining steps to download a model into Minecraft being run from a tablet.

Accessibility

The accessibility concerns could be viewed from two perspectives. One is from a **Technological angle:** Minecraft is available on almost all electronic devices as long as they have a screen and minimum graphical power[1].

Physical: Minecraft can be played through a range of interfaces (game controllers, mouse and keyboard and touch devices) However there is no other universal accessibility option available at the moment to allow individuals with certain disabilities to be able to play.

Social Aspects

Minecraft can be enjoyed as both a singleplayer and multiplayer game. Offline single player is a simpler system to deploy, as Minecraft is already available to patients in GSCH via portable games console units on each ward. A copy of the hospital map could simply be loaded onto each console via one-time internet connection or USB stick.

Multiplayer Minecraft deployment would face many technical and social challenges, but would be an interesting way to reduce the isolation that many patients feel while hospitalised (Abad 2010, *'Adverse effects of isolation in hospitalised patients'*).

Bullying, griefing, and resets

If the decision is made that the Minecraft hospital should be a shared space, it would be impossible to moderate or oversee entirely unless a member of staff was playing full-time – an enviable job but one that doesn't currently exist. Therefore, we have to consider potential strategies for managing or mitigating against potential issues.

Whenever people gather in groups of two or more there is eventually conflict and of course children and young adults are no exception to this rule. Structures in the game are almost as easy to destroy as they are to create. Speaking from personal experience, playing with fire and TNT can be one of the most satisfying parts of the game. By default there is no 'undo' functionality in Minecraft. If players destroy each other's structures accidentally or out of malice, the game may be liable to become a burden on the hospital support staff.

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[1] For more information on the graphics and processor requirements please refer to: https://help.mojang.com/customer/en/portal/articles/325948-Minecraft-system-requirements

There are a number of different approaches to deal with the issue of property destruction while keeping the game networked. Players could be allocated small amounts of ingame space which would effectively be their hospital rooms and could be built and decorated as they wished. These spaces would be immune from damage or alteration by anyone except that patient. Such an approach would require a customised version of the Minecraft server to be running, and as such would not be compatible with the Airwave Television system that serves all patient rooms.

Another, simpler approach would be to reset the map to a base state at regular intervals, perhaps once daily. The hospital would then persist for enough time to be customised and altered significantly, but any major changes would be temporary so that new players could enjoy the environment in its original state.

Recommendations

Creation

The foundations and outer shell of the model should be built by one of the project team, loosely based on architectural plans or top-down imagery of the buildings. This stage would be very brief, to give a sense of the actual shape and scale of the hospital.

The majority of the building - including walls, roof, floors and grounds would be created iteratively by patients over a number of weeks, using a wheeled games console and TV. Gentle guidance would be given by project members and hospital staff, but the design would be primarily patient-led.

During the main construction phase, it is important to take regular screenshots and saves of the Minecraft world map. These could be edited together into a timelapse video for TV and video sharing websites to give a sense of the building process. Backups and documentation - apart from being good data backup practice - will be useful from a publicity standpoint and for the possibility of reproducing this approach in other hospitals or schools. One location within the hospital to display work from the building of the map would be in the (approximately 25) artwork frames on the X-Ray corridor.

If continuity of patient collaborators is desirable, a focus on Ward 2A (Haemato-Oncology) would be advisable. This sub-ward has relatively large numbers of patients, and longer-term care relationships with them. This might allow the team to run multiple workshops with the same people, which is undoubtedly more satisfying for the participant and saves time for the project organisers explaining the process.

Key points:

- Regular documentation, including time-lapse screenshots
- Backups of the map during production
- Leave space for future players to add their own rooms and decoration

Extra activities

Aside from the deployment that we recommend to be developed in collaboration with the patients, there could be extra activities designed to engage the patients with this project. For instance competitions and showcase sessions, where patients can work in their own pace to amend and change the final model of the hospital and show it to other patients after a hackathon period. Or who can move from room X to room Y fastest? The game elements that could be added during the deployment and post deployment could be an interesting aspect of this work and we recommend some of these to be developed and designed in the next phase of the work.

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Deployment

Location or Device	Availability	Ease of deployment (see details below)
Ward games consoles	**Good**	**Easy**
Personal tablets/phones	**Very good**	**Difficult**
Airwave TVs	**Universal**	**Very Difficult**
X-Ray waiting area iPads	**Poor**	**Challenging**

Games Consoles

Custom Minecraft maps can be loaded onto both Xbox and Playstation consoles by downloading the save file and putting it on a USB stick to copy across the devices in each ward. This could be done in around one day once the map is complete. It would be advisable to keep a 'clean' backup version on each console and have patients use a duplicate, so that resetting the map to it's initial state could be done without having to use a USB stick.

Personal Devices

The version of Minecraft on iPads and other tablets or phones is the 'Pocket Edition'. It is possible to play pre-made maps on this edition of the game, but it isn't very straightforward and requires access to some kind of computer. There are various Youtube videos available and the project could potentially create documentation or run workshops for parents to load the map. The process only needs to be performed once, unless the patient wants a fresh copy of the hospital map.

Airwave TVs

The feedback that we received from the provider of the Patient Entertainment TV system is that software modification would be needed for them to support the game. While it would be possible, there would be a significant amount of development time needed to make this happen, so this option has to be written off.

Other hospital devices

There are a number of devices in waiting areas of the hospital. The process for loading the game and map would be the same in this case as for a privately owned tablet/phone. It would be up to the coordinator of a given ward or facility to decide whether they wanted to go ahead with this.

Conclusions

Following a basic structure being built by a member or members of the project team, we recommend an iterative, participatory approach to building the base map of the hospital. Patients will largely work individually, with the possibility of collaboration and discussion via workshops in Zone 12. The most practical way to handle this logistically would be to identify a single games console trolley and reserve it as the development machine, to be taken between patients. Consideration should obviously be made for infection control, to be discussed by ward staff.

The build should be regularly documented in order to inform patients and parents about how the model is evolving, and how they can get involved. This documentation will also be made available in the public domain where possible, so that other organisations can run similar projects while armed with the knowledge and lessons learned at GSCH. It is possible to export the model as a 3D file for printing into a plastic scale model for display, if that is desired.

Once the hospital map reaches a point where it is recognisable and externally complete, the world save file will be copied from the development machine to the remaining games consoles within the hospital. It would also be published on several map sharing websites, some of which are linked in the appendices.

Production of documentation for patients loading the map to their own devices could be produced as part of a further stage to this project, as the process is much less straightforward than on a console or computer. Extending the access to the Minecraft map would involve either further games console procurement, or a significant investment to enable to game to be integrated into the Entertainment System televisions.

Response to Questions

A number of questions were raised following the initial draft of the report. The authors' responses are below:

Are Map Sharing websites free or do you pay to download maps?

The vast majority of Minecraft modifications and downloads are free, including maps and 3D models. Due to the age demographic of Minecraft players being relatively low, paid content would be problematic, especially outside Android/iOS platforms where there is no standard way to purchase extra features. The developer Mojang has written about their policies regarding paid content here: https://mojang.com/2014/06/lets-talk-server-monetisation

Are the map files platform independent so once it's made it can be converted to any platform (i.e. future collaboration with Airwave)?

The maps are really just an enormous list of x,y,z coordinates and numbers to identify what kind of block is in a given location. This means that once it's made we can use it later on any Minecraft platform or in other 3D software. In some cases the file can just be transferred directly (PC to Android/iPhone), and in others you need to do a one-time conversion using free software.

How many days for each element of the build process?

We would estimate as follows:
- *Layout of building footprint (staff member): 2-3 days*
- *Building workshops with patients in situ: 20-30 sessions, 40-90 mins each*
- *Finalising the model ready for sharing, converting: 2 days*
- *Sharing/distributing across all devices: 1 day training and 1 day Minecraft clinic for staff*
- *[OPTIONAL] Observation and informal user study when map is deployed: 1-3 visits*

What would be the overall timeframe for building?

This heavily depends on how many patient workshops can be grouped together and the existing commitments of the team. Based on the time taken for production of the report, a conservative estimate would be 3-4 months.

What is the appropriate day rate?

This depends on who is going to develop it. If we were to develop this, we recommend supervision by Hadi Mehrpouya and Chris Barker. On specific days, training two students from Abertay, they can then run workshops under HM & CB supervision with a negotiable daily rate.

What changes are needed to the Airwave software?

Unfortunately our contact didn't go into details but simply said that it hadn't been seen as financially worthwhile for the developer. Our recommendation would be to examine the agreement with Airwave and see whether they could pressure the software provider to work on getting this done.

Appendices

Appendix #1 - Workshop plans and observations:

Day 1 - Plan for Workshop #1 plan

Workshop organisers: Chris Barker, Sarah Barr, Hadi Mehrpouya
Estimated time: 30-45 minutes
Brief: Make a handmade map of the hospital journeys and rooms. Learn which details stood out.
Purpose: Through a mix of map making, drawing and interacting activities with children, try to find out which parts of the hospital are more interesting to bring and develop into Minecraft and to what extent.
List of workshop activities:
- Hospital context (5 minutes):
The outline of the hospital will be given to children and being asked if they can mark the places they have been.
  - Journey mapping (15-20 minutes):
    - Children will be given several A5/A6 papers.
    - They will be asked to create a "fil rouge" of the journeys they have been on that day all the way until when they met us. They will add each paper 'room' onto the red thread as shown image below.
    - 5 minutes of going around and discussing each others journey.
  - The devil is in the details (10 minutes):
    - Add details to part of their journey. They will be given the option to add anything they want to those rooms – things that they remember or found interesting.
      - Draw a miniature painting and add it to the thread
      - Draw one of the machines that was in the room

Actions:
- Signed consent form to be able to photograph the workshops (Hospital)
- Make custom sized   papers (Chris & Hadi)
- Feedback from Sarah to tweak and improve next sessions.

Materials:
- A4/5/6/7 paper
- markers, pens and colouring pencils
- Outline of the hospital enough to have one for each child.
- Thread
- Hole punch

Day 1 - Notes from Workshop #1

Abdul (10 years old)

Abdul was playing Minecraft while talking to us. On a playstation 4. There are number of these for each ward, some on trolleys with a tv attached, some are in play rooms, there are also about 5 rooms in each ward which has a dedicated Xbox in them. He enjoyed playing Minecraft both in creative and survival modes.

We asked Abdul to show us what he was playing with, this both worked as an icebreaker and also helping us to see what sort of things he is interested and do in Minecraft. After spending 5 minutes on this and speaking with the him about the project and hospital rooms he founded interesting, we then started to fill in the journeys and rooms papers. Abdul in addition started to do some drawings as objects to be added to the m-ospital.
In about 3 minutes, Abdul made a basic version of the cinema, and this model was then populated with, a zombie in a glass box, screen, chairs and a popcorn machine plus a door. After some time developing this, we also asked him about his room, however Abdul wasn't as much interested in the room itself, but more in the transport mechanisms, at this point he built us a train line from his room model to the cinema using a cart.
Abdul also wanted to TNT the nurses desk, he showed us some examples of TNT explosions in Minecraft.

Eddie (13 years old)

When we entered the room, he was practicing on his guitar, quiet, neat person. As an icebreaker we asked him to play a tune for us, which he kindly did. Our interaction with Eddie was a little different to Abdul, as he wasn't so distracted during our stay, we didn't feel such a need to use the paper/string/pens as props. Our time with him was closer to an informal chat about how he was doing and what his stay in the hospital had been like.

Eddie was fairly serious in his response to our questions, being quite concerned with helping us to achieve a representative model of the hospital. He didn't seem as concerned with the Minecraft-specific gameplay elements. We talked a great deal about rooms that he had been in and passed during his stay. Particular mention was given to the Xray, CT Scanner and A&E facilities, the first two of which he did drawings and described to us.

In terms of the hospital layout, he mentioned that many of the rooms are situated on very long corridors which might benefit from being shortened in Minecraft. He also suggested having smaller or more limited patient rooms, but larger facilities like theatres or radiation therapy rooms being enlarged to highlight them. Two interesting potential additions to the Minecraft hospital that Eddie suggested were pneumatic delivery tubes (used to send messages and test results) and the hospital lab.

Clara (15 years old)

She was lying down due to sore back. She used to play Minecraft, she said she would install it again to refresh her memories after chatting with us. She doesn't use the patient entertainment system - her mum and other visitors use it more than her. The most interesting room for her was zone 12, because it is a shared and also exclusive space for 12+, which was shared by all wards. We talked about different ways of transporting between the rooms, for instance using teleportation or portals.

Eva (15 years old)

We visited Eva while her mum was present. One of the main takeaways from our chat was that hospitals can be quite a visually and atmospherically plain environment. She said that the ability to have a space of your own and customise it would be nice, especially in ways that you aren't allowed to in reality (flowers, for instance). Rooms that Eva said were memorable or important for her included Zone 12, the cinema, A&E and the theatres on the first floor. In the hospital grounds, she said someone should recreate the 'Clyde' statue from the Commonwealth Games.

Observations:

We had to wear apron, wipe and sterilise all of our equipment that he touched because of his specific condition, this means he are not allowed to go to other patients room or interact much with them.

In total we visited about 10 rooms, however we managed to work with 4, which is an evidence to the level of flexibility needed here to work in such settings.

The plan for the workshop was being changed slightly according to the age, energy and level of confidence of the individuals.

We spent on average 30 minutes with each patients and near the end of it, we called Sarah to come and collect us and take us to the next room.

Sarah had a great ability to recognise and read the situation in terms of whether it would be an appropriate time for the patients to spend some time with us as outsiders or not and whether or not she would sit in with us.

Day 2 - Plan for workshop #2

Workshop organisers: Chris Barker, Sarah Barr, Hadi Mehrpouya
Estimated time: 30-45 minutes
Brief: Get patients to make a model of a hospital room of choice in Minecraft.
Purpose: To understand some of the issues that may raise when we scale this project to hospital level, How some of the patients engage? And How much of their skills we can utilise for the deployment of hospital model?
List of workshop activities:
- Showing patients how to use creative mode of Minecraft (5-10 minutes)
- Getting each patients to make a room of choice in the hospital

Actions:
- Feedback from Sarah to tweak and improve next sessions.

Materials:
- Xbox on a trolley equipped with Minecraft

Day 2 - Notes from Workshop #2

Sasha(8 years old)[2]

When we entered the room Sasha was playing Minecraft on his tablet. He was very fast and quick. He showed us the mansion he built for himself on Minecraft, showed us around, we asked him about some of the features of Minecraft. This was to get him to engage with us more whilst we can find out more about how he interacts with the platform, How fast he can build things?
Sasha is a heavy Minecraft player, although the user interface for touch devices on Minecraft is not ideal for navigating and building in Minecraft, Sasha managed to work around the shortfalls of the interface and within just under 15 minutes, he managed to make a quick model of the cinema room within the hospital. He then made a rail track and connected the cinema into his mansion.

Michael (6 years old)

We met Michael in the Dialysis room. He was playing Minecraft on his tablet when we arrived. His mother was also sitting beside him. He was very excited to show us some of the things he built, Michael's mum was also engaging with the conversation and was interested in how we are going to develop this. Michael found it difficult to concentrate on making a model of a room in the hospital. Another problem that Michael had in terms of making a model was scalability of the room. Which we will mention more about in the concerns and conclusion section.

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[2] Please note that ages are estimates.

Rebecca (teenager)

When we talked with Rebecca, we arranged for her to make us a model of her room, so she can do this in her own pace and we come back and have a look later on. We went back to her 2 hours later, she made a few lines in Minecraft, but due to health conditions she didn't manage to develop any further. She also had many visitors in when we went back to her room, which made it difficult to have a conversation with her to follow up.
Rebecca used to play Minecraft, but haven't played for a while, She said she may start to play again to refresh her memory.

Amy (teenager)

Amy only played Minecraft couple of times before. It took us about 15 to 20 minutes to set up and get her to start creating things on Minecraft. She enjoyed it, however she had to go and do a test and we had to move on to next patient. Sadly we had to take the Xbox away from her.

Observations

In total we worked with 4 patients. During these 4 interactions we found out that, in order to create a successful experience for patients in Minecraft, we can't rely on their skills in order to develop the model with them, as this may cause scalability issues (i.e each patients has their own idea of sizes and distances). They may not enjoy developing a model of different part of the hospital however carefully designed experiences for them would be a great way to approach this. For instance if we have a basic model of first flow of the hospital and getting patients to develop certain rooms quickly and adding their objects of interest to them. Patients tend to be under many different complications, which requires a very attentive and flexible planning and management. This means tasks and experiences that is going to be designed should have this at its core. Another consideration here is the vulnerability of the equipments in terms of game controllers getting lost or being stolen which mean there will be fewer consoles available to patients for playing games including Minecraft and as the wards doesn't have a dedicated budget to this, this may be harder to resolve.

Day 3 - Notes

Present: Chris Barker, Sarah Barr, Hadi Mehrpouya

The last visit of feasibility study period was dedicated to speaking with some members of staff at GHSC. We spoke with Jim about the Airwave issues and controllers. He mentioned that it is very difficult to find Airwave people around even though they are contracted to have someone on site at all times. Patient television controllers are getting lost very often or get stolen. We had a brief chat with IT team about running a Minecraft server, however this seemed like a very complicated route, they have also raised issues of data protection, privacy and online bullying. We have also enquired about equipment available at the hospital, took more photographs and collected missing bits and pieces of our documentation.

Appendix 2 - Visuals from all four visits
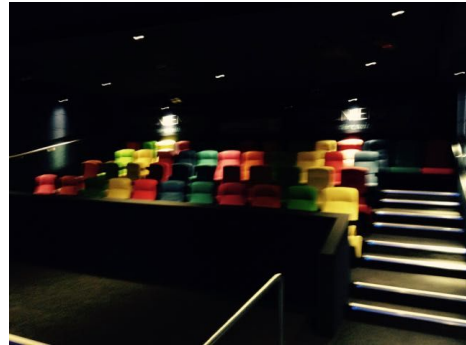

Figure 1 - Playground

Figure 2 - Cinema

Figure 3 - Playground #2

Figure 4 - Example of object could be
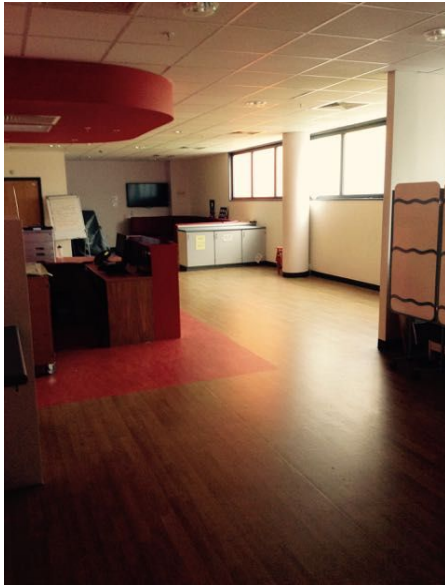added to Minecraft
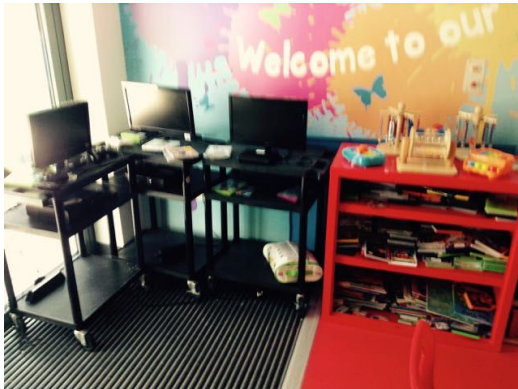
Figure 5 - Interaction room

Figure 6 - Fix your teddy

Figure 7 - Play room

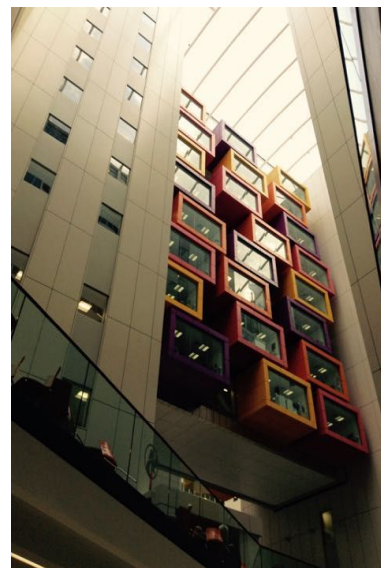Figure 8 - toys that could be added to Minecraft

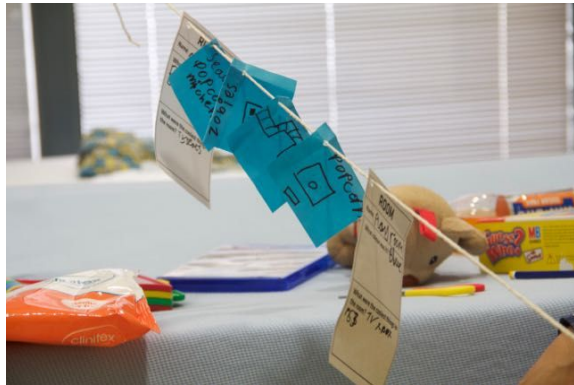| Figure 9 - Interactive games around the hospital	Figure 10 - Administration offices
Figure 10 - Rooms and things to add to them. One participants wanted to have popcorn machine, zombies and rail tracks in the cinema room	Figure 11 - Cinema room, made by one of the participants
Figure 12 - Cinema room, made by one of the participants, Front view	Figure 13 - Things to add to do in the hospital model
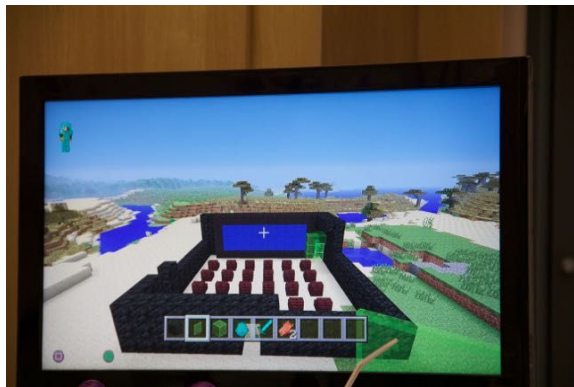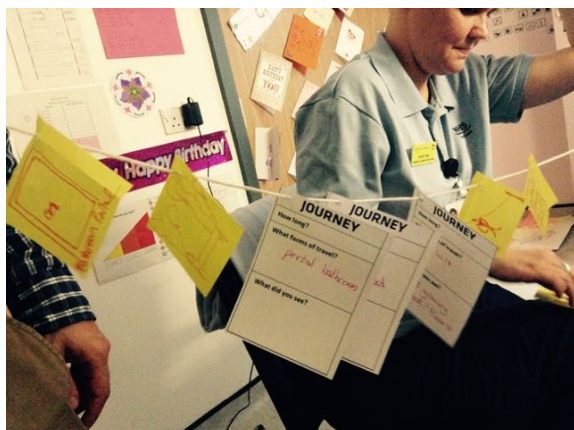
JOURNEY

How long?

What forms of travel?

portal bathroom

What did you see?

What did you see?

Bathroom Portal

JOURNEY

How long?

What forms of travel?

Floating bed

What did you see?
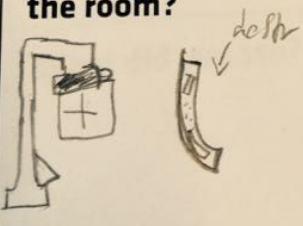
JOURNEY

How long?

What forms of travel?

Zip wire

What did you see?

Fast growing
Forrest / Flowers
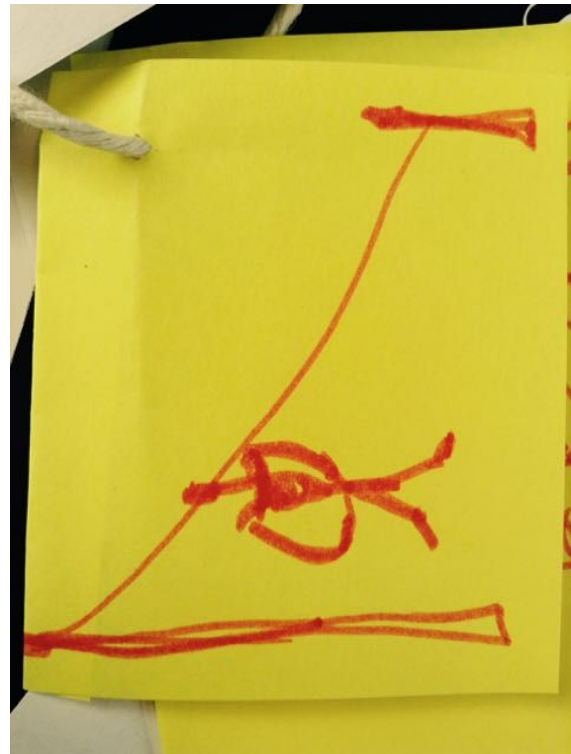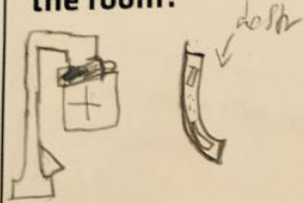
JOURNEY
Chloe

How long?

What forms of travel?
#Portal
mine cart
horse
dolphin

What did you see?
Jungle
Nether
under the sea

Climbing wall
Obstacle
Course

ROOM

Name X-ray room

What colour was it?

white

What were the coolest things in the room?

do5r

ROOM

Name A and E ward

What colour was it?

white

What were the coolest things in the room?

. the beds, vital monitors and equipment

.

ROOM Chloe

Chloe +1

Name kitchen

What colour was it?

white

What were the coolest things in the room?

..fridges - chests with iron doors
.ovens
. storage
. water fountain

ROOM

Name X-ray room

What colour was it?

white

What were the coolest things in the room?

do5r

ROOM chloe

Name Pool

What colour was it?
green

What were the coolest things in the room?
the pool

ROOM chloe

Name Zone 12

What colour was it?
every colour

What were the coolest things in the room?
table tennis
table football
TV/Games
Piano
guitars

ROOM

Name medisinima

What colour was it?
BLACK

What were the coolest things in the room? TV,seats
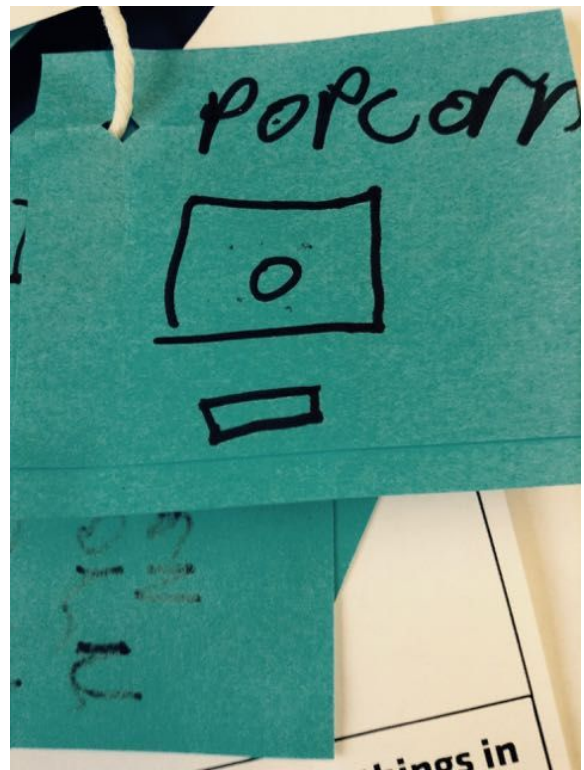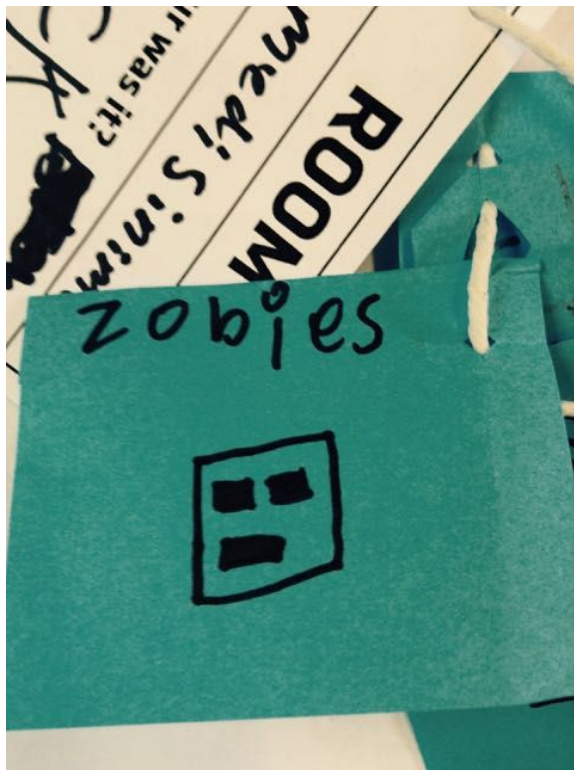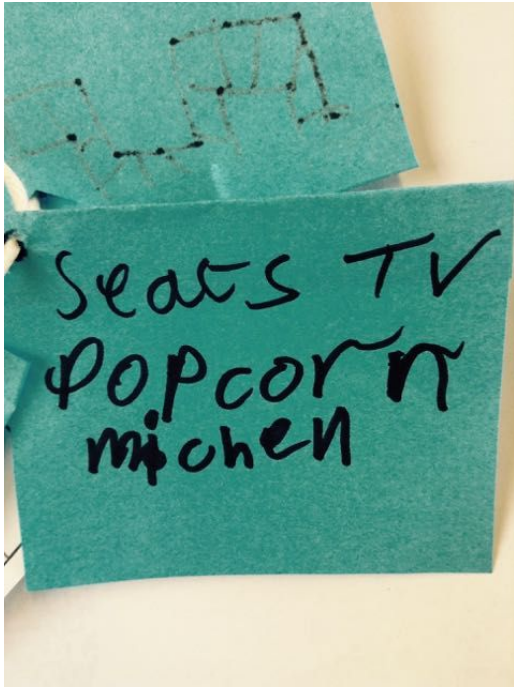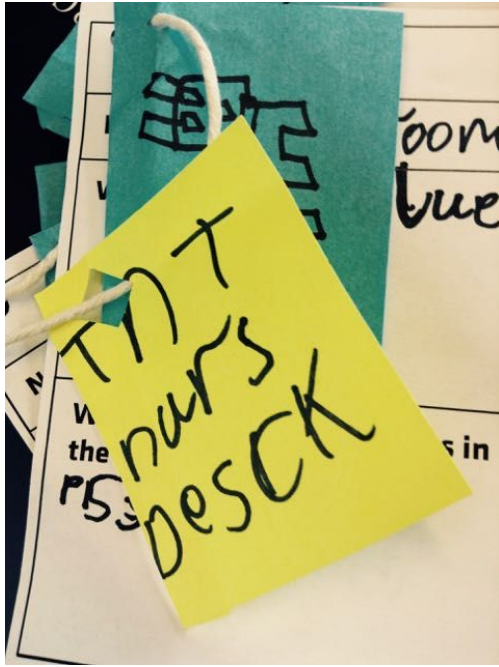
What were the coolest things in the room? TV XBOX
PS3

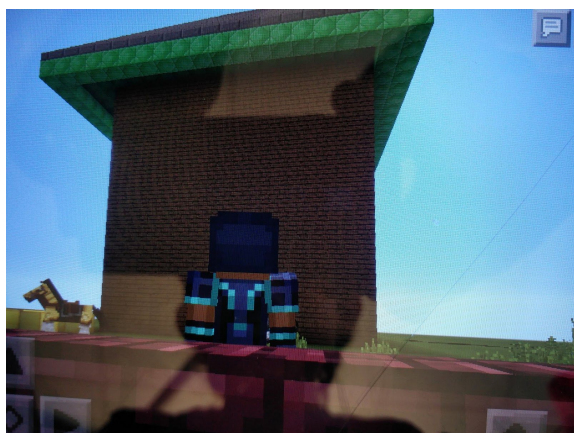Seats TV
Popcorn
michen

ROOM
zobies

Popcorn

28

Non-player character

Workshop participant's Minecraft contraption

Workshop participant's creation

Workshop participant's creation

Workshop participant's creation

Space Shuttle
Crpeh (via reddit.com)

The Battlestar 'Galactica'
(via reddit.com)

Map sharing websites

http://www.Minecraftmaps.com/
https://mods.curse.com/worlds/Minecraft/downloads
http://www.Minecraftdl.com/category/Minecraft-maps/
http://mcpehub.com/maps
http://www.planetMinecraft.com/resources/projects/