# Reflections after ForskarFredag and preparing Comic Con - Lecture 11

Mario Romero

2016/10/11


KTH VETENSKAP OCH KONST

VICSTHLM
VISUALISATION INTERACTION COLLABORATION

# AGI16 Calendar: link

| | |
|---|---|
| Tue 30 aug 13:00-15:00 | Lecture 1: Introduction |
| Fri 2 sep 8:00 – 12:00 | Lecture 2-3: Forming Groups and Brainstorming |
| Tue 6 sep 13:00 – 15:00 | Lecture 4: Groups formed, inspiration, and brainstorming |
| Fri 9 sep 8:00 – 10:00 | Lecture 5: Proposals |
| Tue 13 sep 13:00 – 15:00 | Lecture 6: Proposal Feedback |
| Fri 16 sep 10:00-12:00 | Lecture 7: Hello World Demos |
| Tue 20 sep 13:00 – 15:00 | Lecture 8: Preparing ForskarFredag 2016 |
| Tue 27 sep 13:00 – 17:00 | Lecture 9: Demo and preparation towards ForskarFredag |
| Fri 30 sep 8:00 – 16:00 | ForskarFredag (we set up on Thursday evening) |
| Tue 4 oct 13:00 – 15:00 | Lecture 10: Reflecting on ForskarFredag |
| **Tue 11 oct 13:00 – 15:00** | **Lecture 11: Preparing for Comic Con** |
| Tue 1 nov 13:00 – 15:00 | Lecture 12: Preparing for Comic Con |
| **Fri 4 nov 9:00 – Sun 6 Nov 16:00** | **Comic Con (we set up on Thursday evening)** |
| Tue 15 nov 13:00 – 15:00 | Lecture 13: Forming groups for project 2 |
| Fri 18 nov 8:00-12:00 | Lecture 14-15: Proposals Project 2 |
| Tue 22 nov 13:00-15:00 | Lecture 16: Hello World Demo Project 2 |
| Tue 29 nov 13:00-15:00 | Lecture 17: Feedback on Demos |
| Tue 6 dec 13:00-15:00 | Lecture 18: Preparing for Open House |
| Tue 13 dec 13:00-15:00 | Lecture 19: Demo project 2 |
| **Fri 16 dec 15:00-19:00** | **VIC AGI16 Open House** |

# Agenda

1. Announcements
2. Assignment 4
3. Gregorio and I are grading
4. Preparing for Comic Con
5. Discussion
    1. Pockemon Don’t Go
    2. Pointy Stick
    3. Have Mercy
    4. Zield
    5. Hoverbroom
    6. Chosen Ones
    7. SounDark
    8. CocAR
    9. URGOD
    10. TowPow

**Announcements**

- Doodle for user study (replaces assigment 4) link
  - Please, **every** available slot

**Individual Meetings**

- I have reserved all Friday October 28 for 30-minute individual meetings with all groups. Please, sign up for a time.
- Demo
- Discussion
  - http://doodle.com/poll/ddz5n24c5w4b45zp

## Assignment 3

https://goo.gl/YpaeXe

- Due Tuesday October 11 at 12 PM
- 1. Everyone share the papers with each other on the Google doc spreadsheet here https://goo.gl/YpaeXe
- 2. Write 3 words describing the main topics of the paper (the groups that posted the papers are responsible for this)
- 3. Group these papers into categories. Papers with 2 keywords are closer to each other than those with only one, for example.
- 4. Everyone vote on all the papers wíth a score from 3 (most want to read) to 1 (least want to read) - replace the header that says student N with your name.

## Assigment 4

- Please, read these four papers and be ready to answer a few short questions and to discuss the papers next lecture, on November 1.

1. Morgan McGuire and Andi Fein, Real-time rendering of cartoon smoke and clouds.
Smoke, Cartoon, Non-photorealistic rendering

2. Mine, M., Yoganandan, A., & Coffey, D., Making VR work: building a real-world immersive modeling application in the virtual world
Game controller design, Immersive game experience, Virtual reality

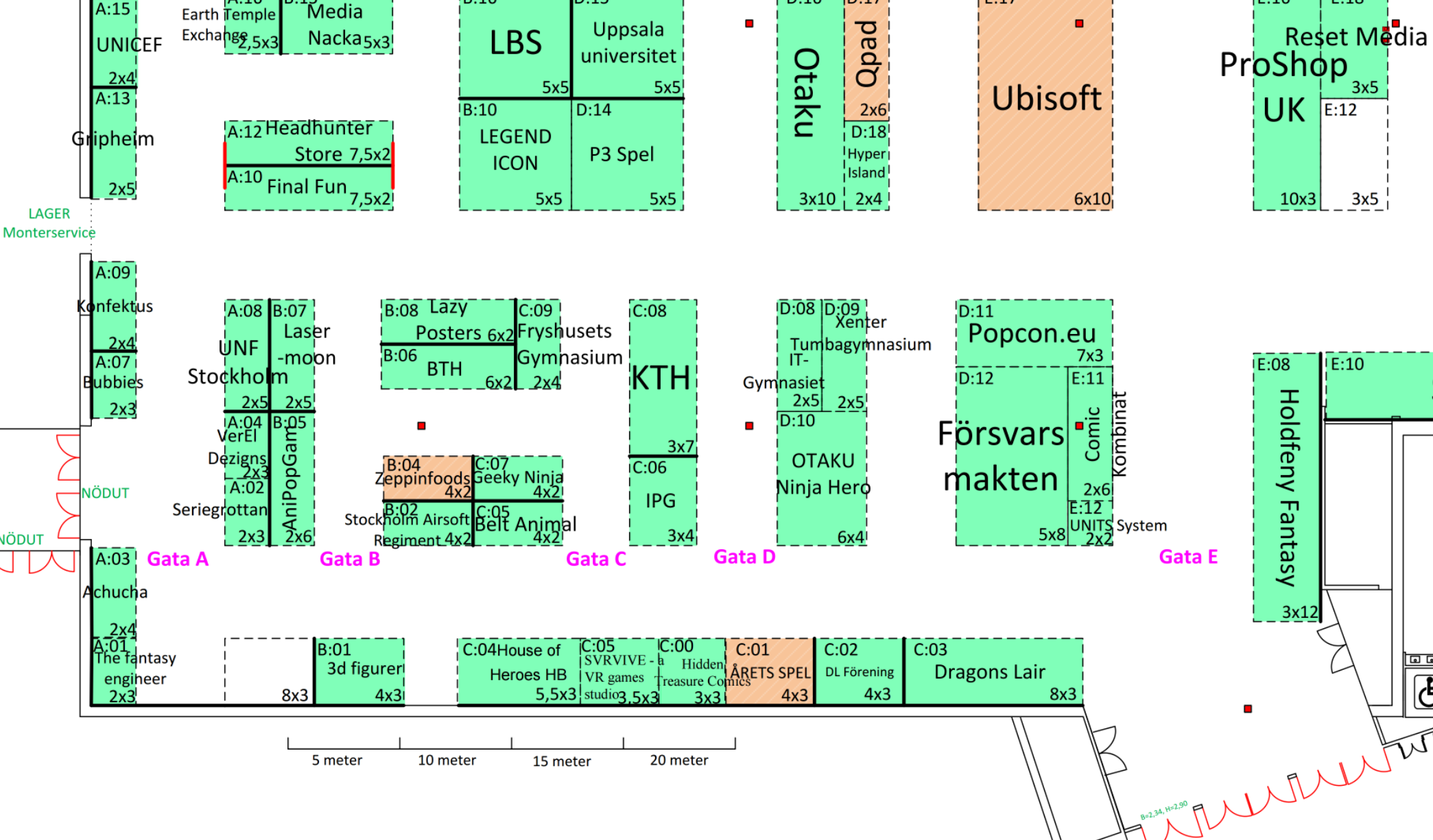
3. Foltin, Martin (2011)., Automated Maze Generation and Human Interaction
Procedural generation, mazes, algorithms

4. Plemmons, Daniel; Holz, David, Creating next-gen 3D interactive apps with motion control and Unity3D.
Motion controller, Game engine, natural interfaces


# Comic Con

KISTAMÄSSAN

artexis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UNICEF
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Gripheim
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Earth Temple Exchange
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Headhunter
Store 7,5x2
A:10
Final Fun
7,5x2
LBS
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Uppsala universitet
5x5
B:10
LEGEND ICON
5x5
D:14
P3 Spel
5x5
Otaku
3x10
Qpad
2x6
D:18
Hyper Island
2x4
Ubisoft
6x10
Reset Media
ProShop
UK
3x5
E:12
10x3
3x5
LAGER
Monterservice
A:09
Konfektus
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A:07
Bubbies
2x3
A:08
UNF Stockholm
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B:07
Laser-moon
2x5
A:04
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AniPopGame
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Fryshusets Gymnasium
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Zeppinfoods
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B:02
Stockholm Airsoft Regiment 4x2
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Belt Animal
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KTH
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IPG
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D:08
IT-Gymnasiet
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Xenter Tumbagymnasium
2x5
D:10
OTAKU Ninja Hero
6x4
D:11
Popcon.eu
7x3
D:12
Försvarsmakten
5x8
E:11
Comic Kombinat
2x6
E:12
UNITS System
2x2
E:08
Holdfeny Fantasy
3x12
E:10
NÖDUT
NÖDUT
Gata A
Gata B
Gata C
Gata D
Gata E
A:03
Achucha
2x4
A:01
The fantasy engineer
2x3
8x3
B:01
3d figurer
4x3
C:04
House of Heroes HB
5,5x3
C:05
SVRVIVE - a VR games studio
3,5x3
C:00
Hidden Treasure Comics
3x3
C:01
ÅRETS SPEL
4x3
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DL Förening
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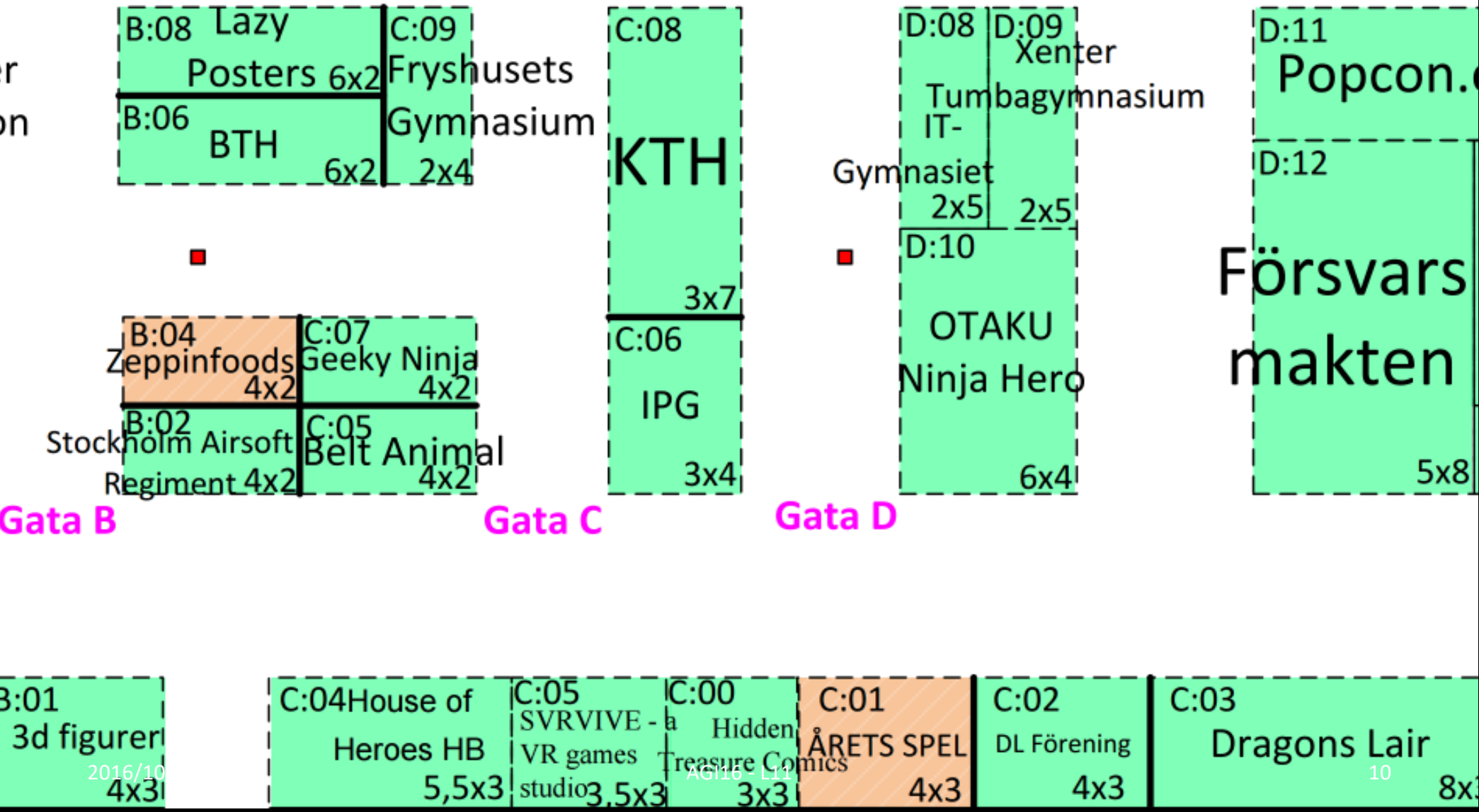
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D:09 Xenter Tumbagymnasium 2x5
D:10 OTAKU Ninja Hero 6x4
D:11 Popcon
D:12 Försvarsmakten 5x8
B:04 Zeppinfoods 4x2
C:07 Geeky Ninja 4x2
B:02 Stockholm Airsoft Regiment 4x2
C:05 Belt Animal 4x2
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C:04 House of Heroes HB 5,5x3
C:05 SVRVIVE - VR games studio 3,5x3
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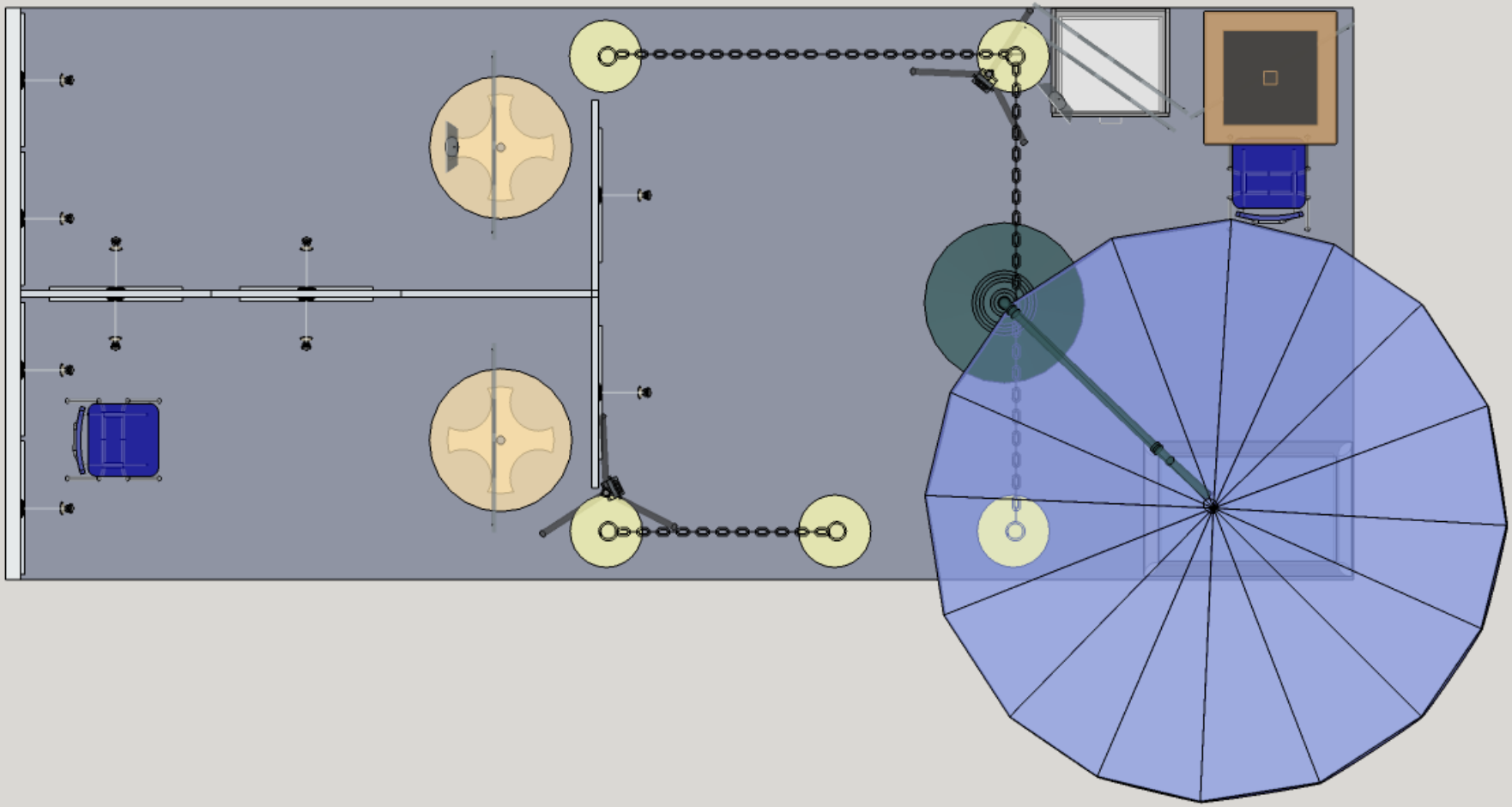
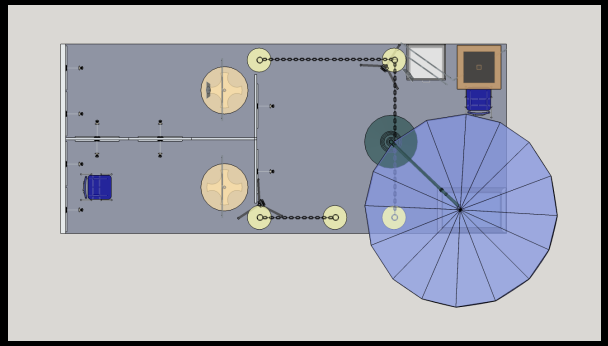
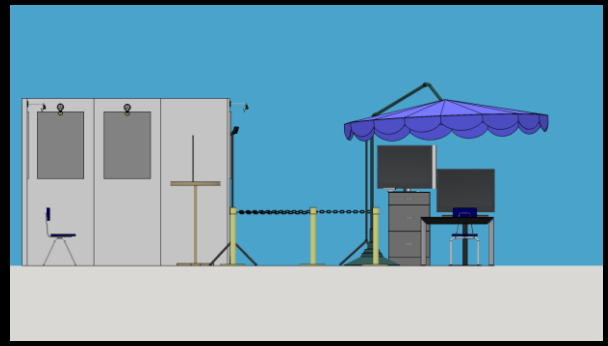
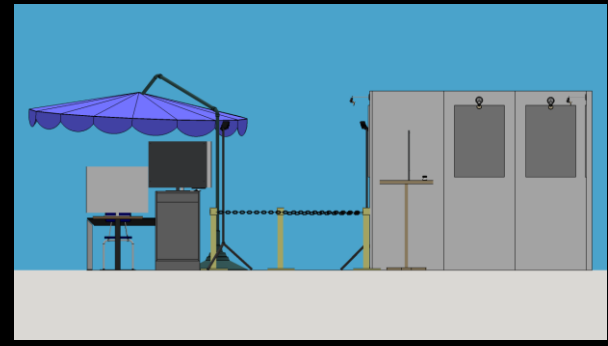
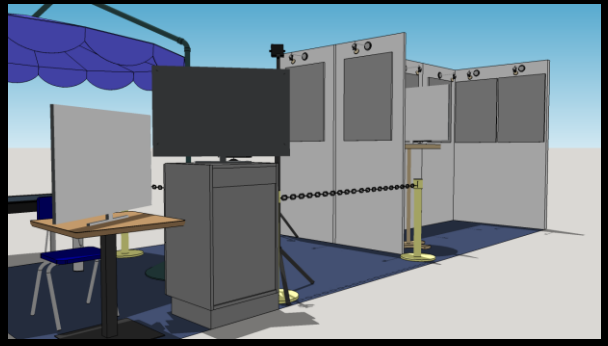
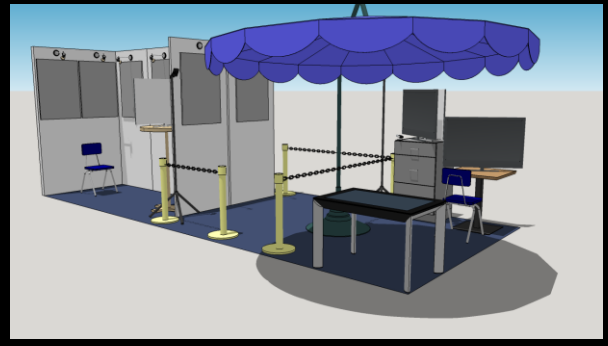
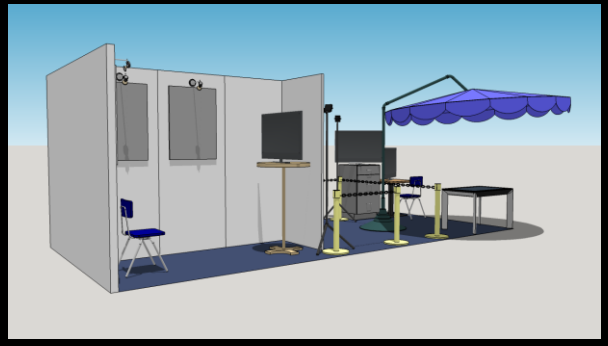
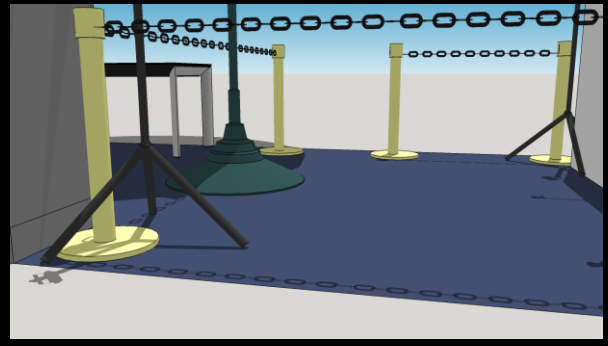
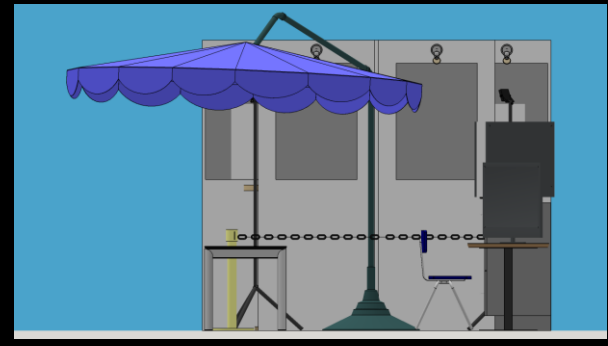
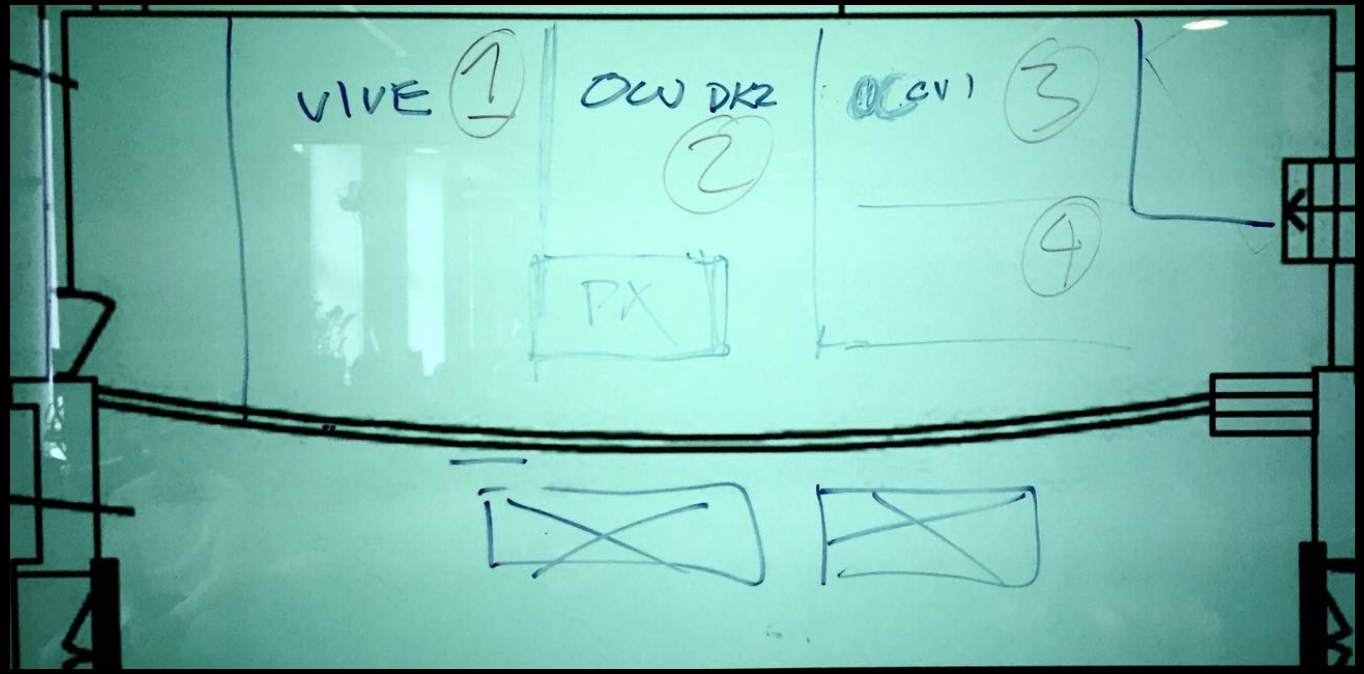
C:02 DL Förening 4x3
C:03 Dragons Lair 8x



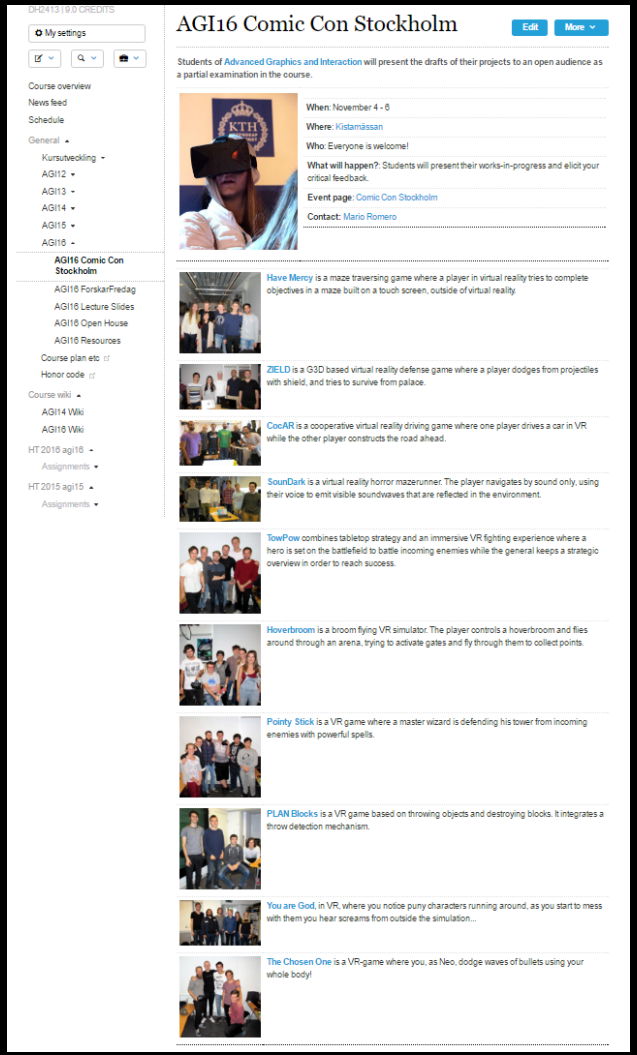






# Debaser 3rd floor stage



# Web links working!



**Pointy Stick**

## Lessons

- Need a tutorial for spell casting
- The game control should feel intuitive
- Need an objective in the game
- Need more variety in the game
- Keep the stable version and testing differentiated

**Pointy Stick**

## Plan

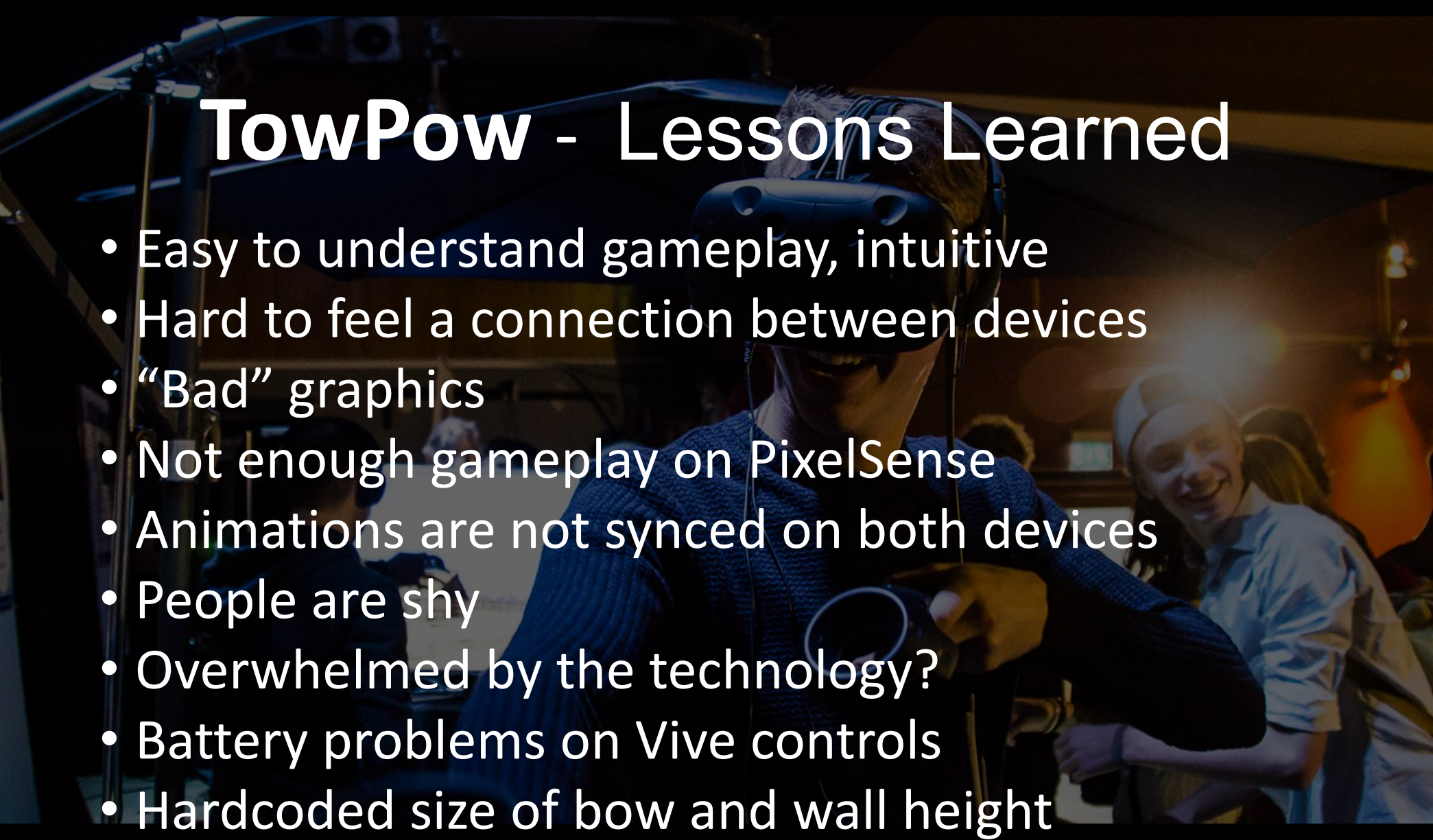
- Making a virtual book for the tutorial
- A virtual wand following the controller in the game
- Implementing proper gameplay
- Implement more castable spells with various properties
- Keep the master branch to the working version while development is done in separate branches

# WHAT ZIELD LEARNED

- Having an idle screen for the game
- Interaction:
  - hand to use
  - sound
- Graphics: details in the environm
- Performance difference betwee
- Presentation method: target audience
- Lack of instructions:
  - Guideline, make it clear before wearing headset

# PLAN FOR COMIC CON

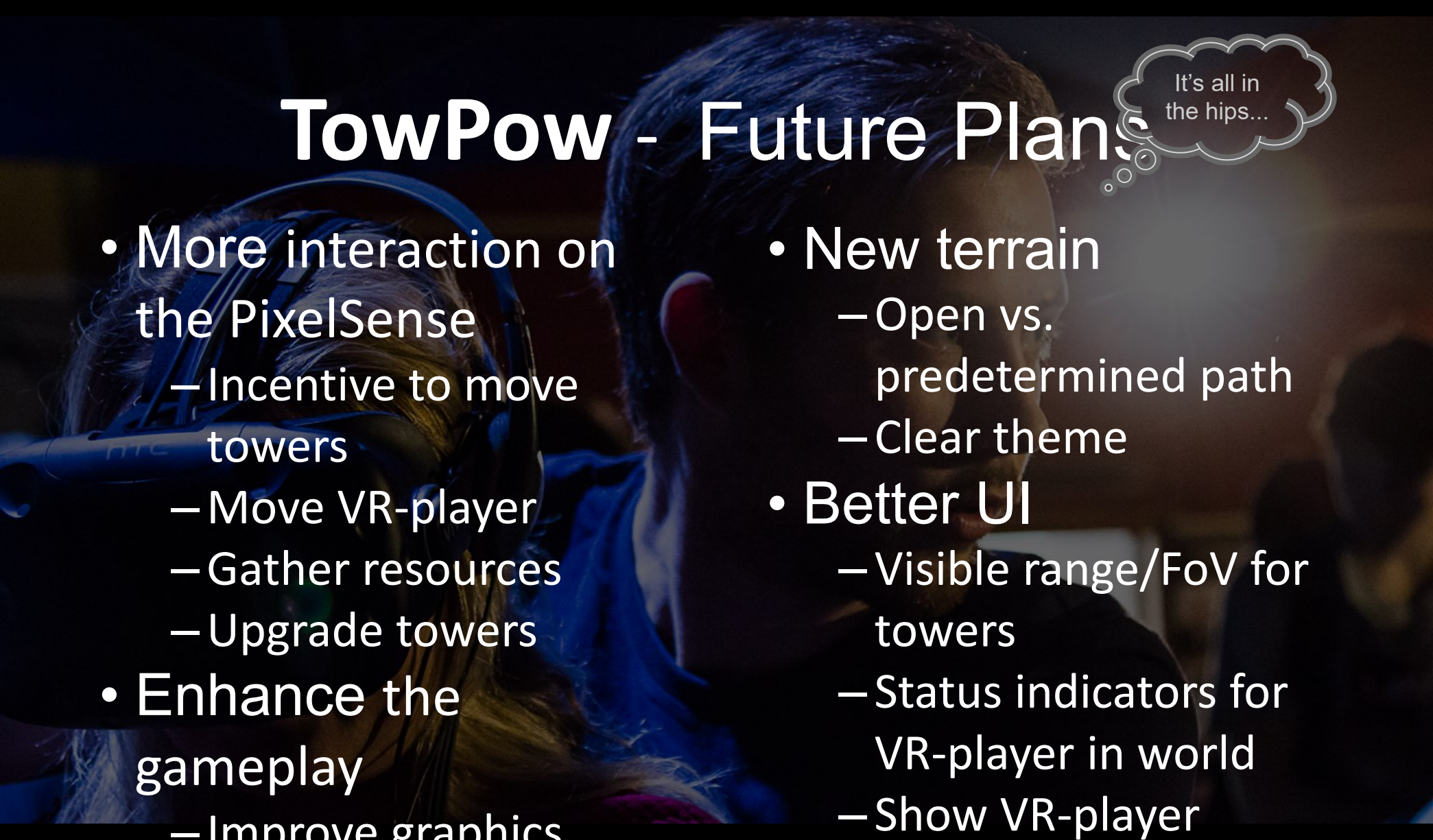
- Change the engine
- Interaction
  - More interaction
  - Top-down view
  - Audio shield: Music stuff
- Graphic
  - Change the scene
  - Better graphics
    - Particles
    - Shading
- Game Mechanics
  - Power Ups
  - Weapon choice
  - Level of character



# **TowPow** - Lessons Learned

- Easy to understand gameplay, intuitive
- Hard to feel a connection between devices
- “Bad” graphics
- Not enough gameplay on PixelSense
- Animations are not synced on both devices
- People are shy
- Overwhelmed by the technology?
- Battery problems on Vive controls
- Hardcoded size of bow and wall height

# TowPow - Future Plans




- More interaction on the PixelSense
  - Incentive to move towers
  - Move VR-player
  - Gather resources
  - Upgrade towers
- Enhance the gameplay
  - Improve graphics
- New terrain
  - Open vs. predetermined path
  - Clear theme
- Better UI
  - Visible range/FoV for towers
  - Status indicators for VR-player in world
  - Show VR-player

# What have we learned

- People without technical experience more critical on gameplay
- Positive feedback gives the user confidence, they dare to try more
- Hard to get critical feedback and ask non-leading questions at the same time
- People makes the crowd
- Kinect ‘s imprecise detailed tracking more noticeable in VR
- Interference between Kinect’s and Vive’s IR, Too many chefs makes bad soup
- Skin Weights are a pain in the ass

# Comic con plan

## Interaction

More accurate body tracking with the kinect
Better sound effects
Connect Vive hands with the Kinect skeleton

## Graphics

See bullets in the distance
Rebuild scene from the movie
Textures and materials

## Gameplay

Bullets from more directions (Multiple shooters)
Mark in-game player area
In-game introduction
Time is bound to player movement
Stop bullets with hand

# Lessons

- Younger and less experienced players are more prone to try again after their interaction is interrupted by unexpected behavior or bugs
- Getting so many new players with new perspectives, meant getting a lot of valuable testing of features we may not have thought of otherwise
- Having a screen facing the audience meant players shared new discoveries, leading to more valuable feedback

# Plan

1. Bugs (juggling, make grabbing work better, various other bugs)
2. Grabbing (trees, rocks, maybe roofs)
3. Smashing (make a fist, break houses/maybe other objects, respawn)
4. Sound design (indicator for finding player, splash when falling in water, breaking sounds, etc)
5. Polish (better scene with hiding places/better

# HOVERBROOM - What we learned

- Some people do not feel comfortable sitting on the broom
- Use of controller and leaning is not obvious
- People with different body proportions have problems using the entire range of the controller
- Difficult to explain gameplay in words
- Aiming is difficult without crosshair
- Not clear which ammunition is loaded
- Harry Potter pull up broom to brake
- Some people got stuck at the arena walls

# HOVERBROOM - Plan for Comic Con

- Flying tutorial level
- Shooting button separated from wiimote
- Refine physical controller
- Reducing ‘elements’ to make the gates easier to distinguish
- Polish graphics, HUD and UI
- Visible helmet to reduce motion sickness
- Graphical feedback when ammunition is collected
- Create working executable
- Crosshair / aiming help for shooting

# Lessons Plan Blocks

- hardware likes to fail
- people need clear instructions and/or visual tutorials
- always have a plan B
- people tend to move closer to the screen
- you have to predict different ways users interact with the game
- throwing is hard

# Plan

- improve throwing algorithm
- extend gameplay
  - add scene movement
  - new events, powerups, weapons
- extend graphics
  - add visual effects
  - visual indicators at hit
  - block destruction graphics, weapon/environment interaction
- improve scene - make more dynamic
- show highscore for motivation
- prevent people entering the playing area (kinect)

# Lessons learned

People understood what to do quickly, and were good drivers!

We thought we were building a two player game, but it became a 2-8 player game!

We have not done much advanced graphics yet, so we are looking forward forward to the development up until ComicCon.

Presentation wise we were able to take a big step back because the demo was very stable, and we could watch people try the demo themselves. It was intuitive!

# Comicon plan

## Game

- Car physics
- More ways to lose
- More road segments
- More levels, random levels?
- High score
- Canon
- Jet pack
- Collectibles
- Player communication
- **World scale**

## Interaction

- **AR**
- Rotation
- (Drag blocks)
- **Develop fiducials (stability/painting)**
- Improve the smoothness in building and removing tiles
- Force feedback
- **Colliders**

## Graphics

- **AR**
- **Visual effects on appearing road blocks**
- **Make the car more visual on the pixelsense**
- Picture in pixelsense?
- Day/Night cycle

## Other

- Big screen
- Better computer
- Sound and music?
- Highscore
- **Stream line game start**

# Have Mercy - Lessons learned

- Interaction
  - Delay on dropping walls was confusing
  - Only dropped walls close to objective and player
  - Difficult to grasp implemented features
    - Holes in long wall chains
  - Want more feedback to in-game actions
- Graphics
  - Framerates were not optimal
  - Graphics sufficient for this game
- People
  - Few got nauseous
  - Instructions in game

- Presenting and Demoing
  - Provide information on an appropriate level
  - Charging and maintaining mobile devices
  - Using our own equipment was a problem
  - Dedicate space for VR-player

- Installing
  - Installing was easy
  - Difficult to troubleshoot

# Plan for Comic Con

## Input

Less delay on wall drop or pop up walls from below

Audience wanted something else to do in VR

Jump

Activate invisibility

Create pillars that have slow effect, change to that action through touch GUI

## Output

Special effects

Sound on objective reached

Menus and instructions

Improved sound

GUI progress for VR-player

## Game logic

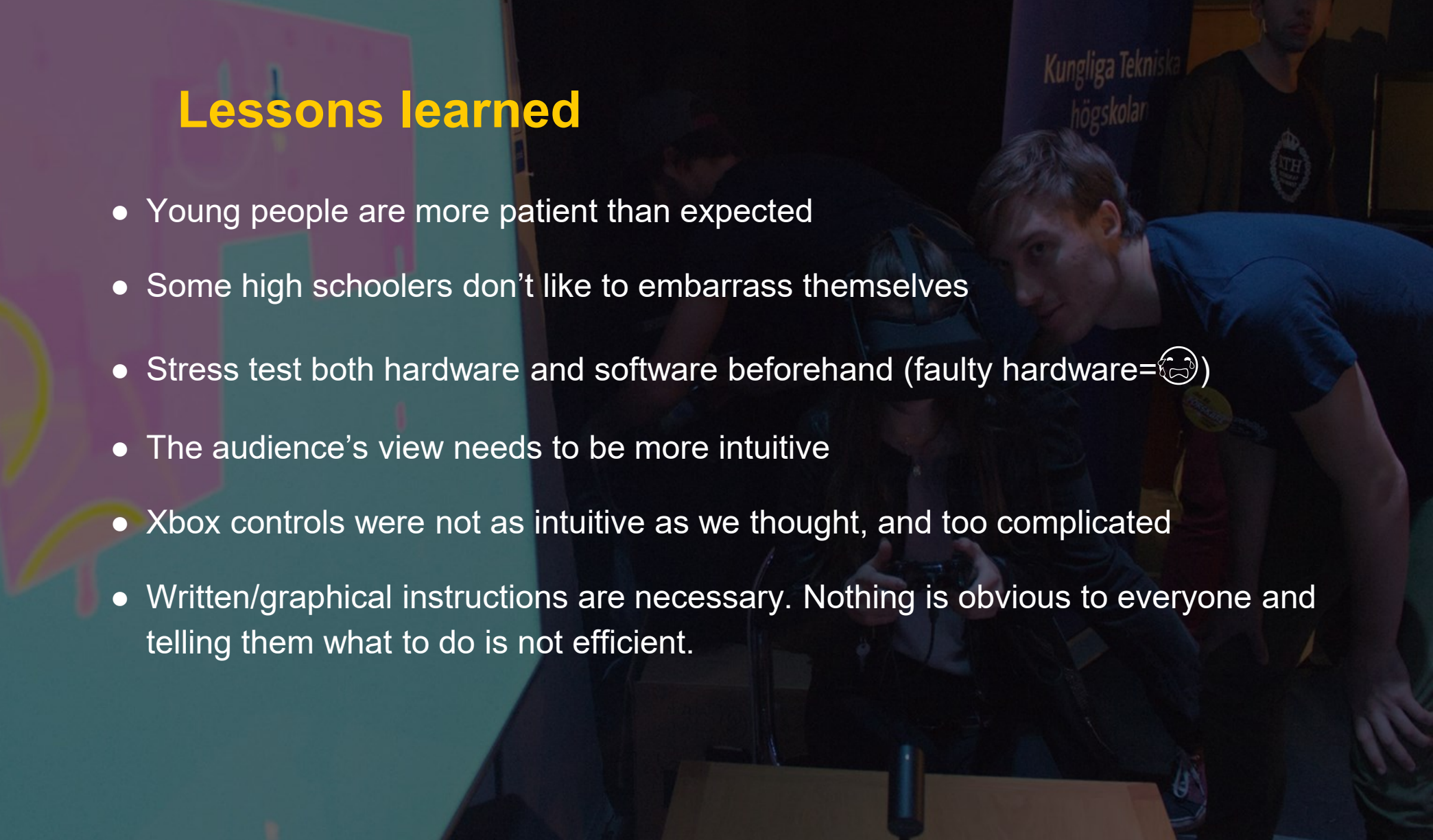
Game balancing

Time limits - finding the sweet spot

Objects

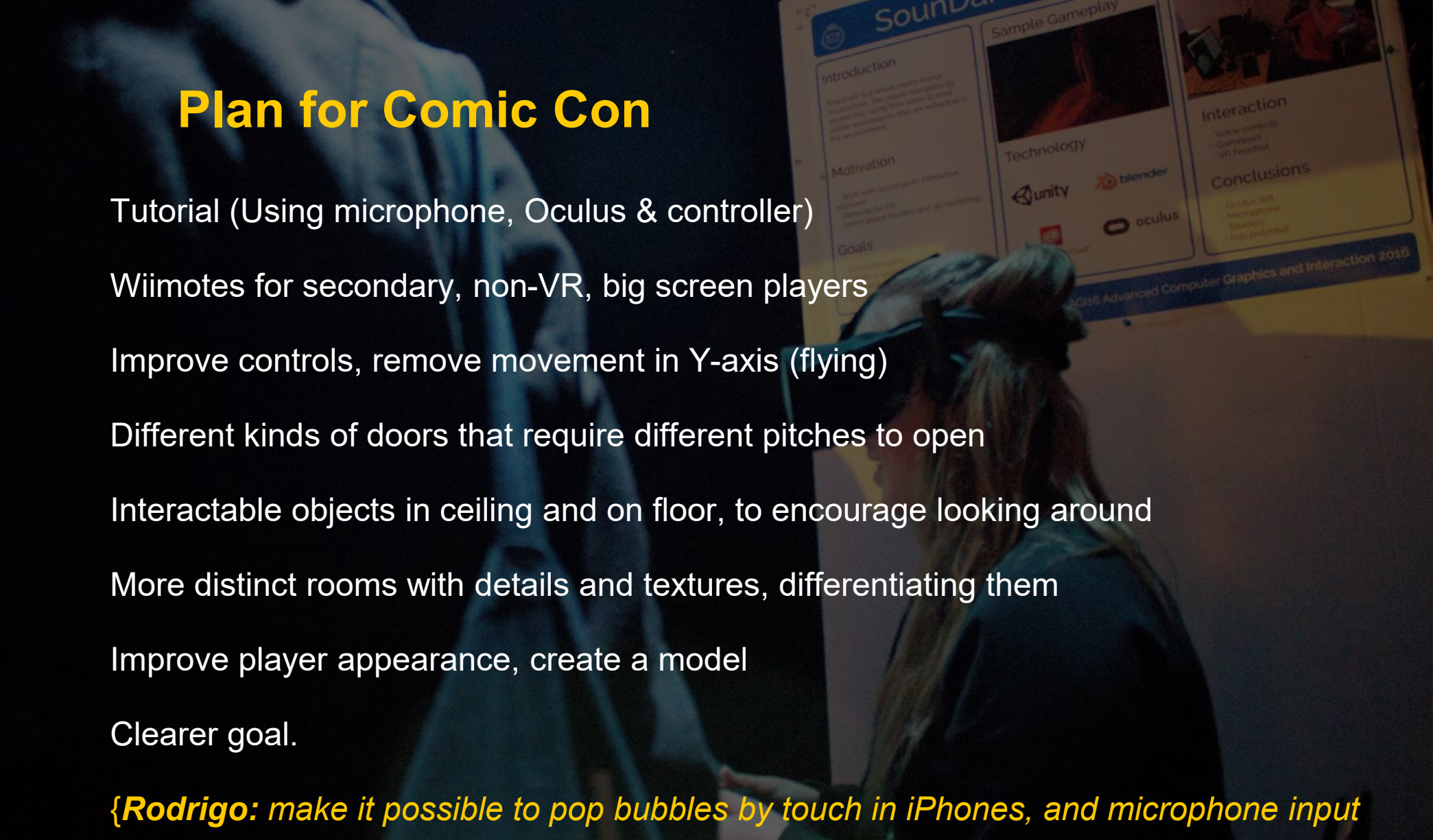
Wall drops

Player connects on the network




# Lessons learned

- Young people are more patient than expected
- Some high schoolers don’t like to embarrass themselves
- Stress test both hardware and software beforehand (faulty hardware=😭)
- The audience’s view needs to be more intuitive
- Xbox controls were not as intuitive as we thought, and too complicated
- Written/graphical instructions are necessary. Nothing is obvious to everyone and telling them what to do is not efficient.




# Plan for Comic Con

Tutorial (Using microphone, Oculus & controller)

Wiimotes for secondary, non-VR, big screen players

Improve controls, remove movement in Y-axis (flying)

Different kinds of doors that require different pitches to open

Interactable objects in ceiling and on floor, to encourage looking around

More distinct rooms with details and textures, differentiating them

Improve player appearance, create a model

Clearer goal.

{***Rodrigo:*** *make it possible to pop bubbles by touch in iPhones, and microphone input*

# Questions?