

NetworkCraft

Members

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Overview

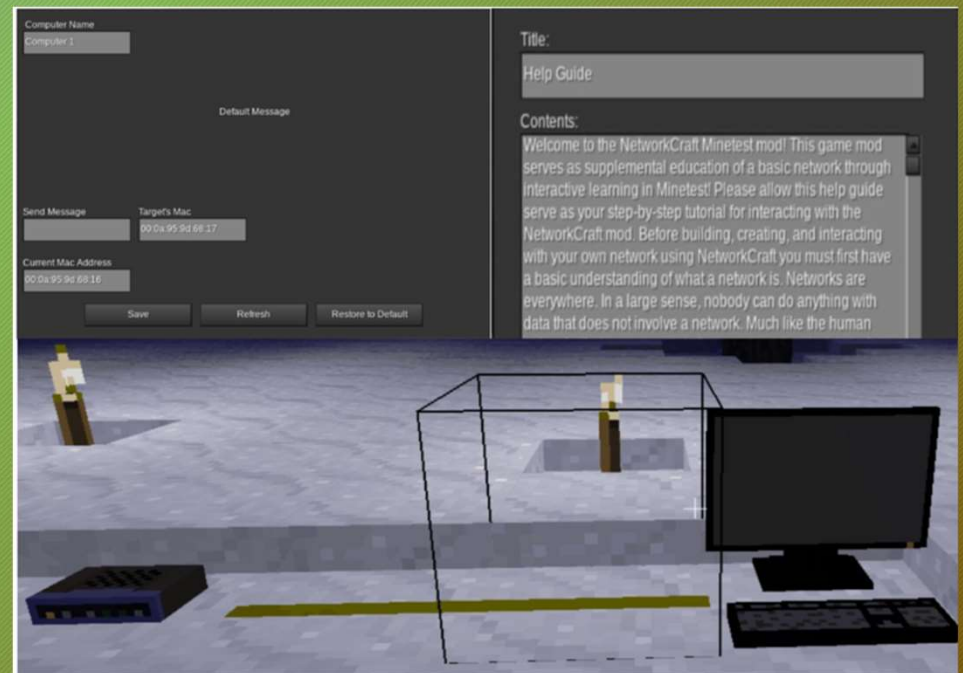
- Objective
- Previous Team's Work
- Minecraft vs. Minetest
- Goals
- Roadblocks
- Outcomes
- Lessons Learned
- Q&A

Objective

“Develop a Minecraft Mod OR Minetest Mod that enables realistic modeling of TCP/IP networks for research and instruction.”

Previous Team's Work

- Minetest Mod
- Given GitHub repository
- Little Documentation
- Couldn't get their demo to work



Minecraft vs. Minetest

Minecraft

- Java
- Published video game
- Sandbox/Survival Game
- Not meant for modding
- Extremely popular and well-known

Minetest

- Lua
- Free software game engine
- Minecraft-ish
- Specifically made to be modded

Goals

Get basic devices
created as
Minecraft blocks

- Desktop
- Laptop
- Switch
- Network Wires

Implement
simulation of
Layer 1 properties

i.e. Send data between
two devices through a
switch

Roadblock 1

- Desktop Block creation in BlockBench
 - Textures weren't loading in correctly
 - Solution was mapping BlockBench json file with MCreator's editor

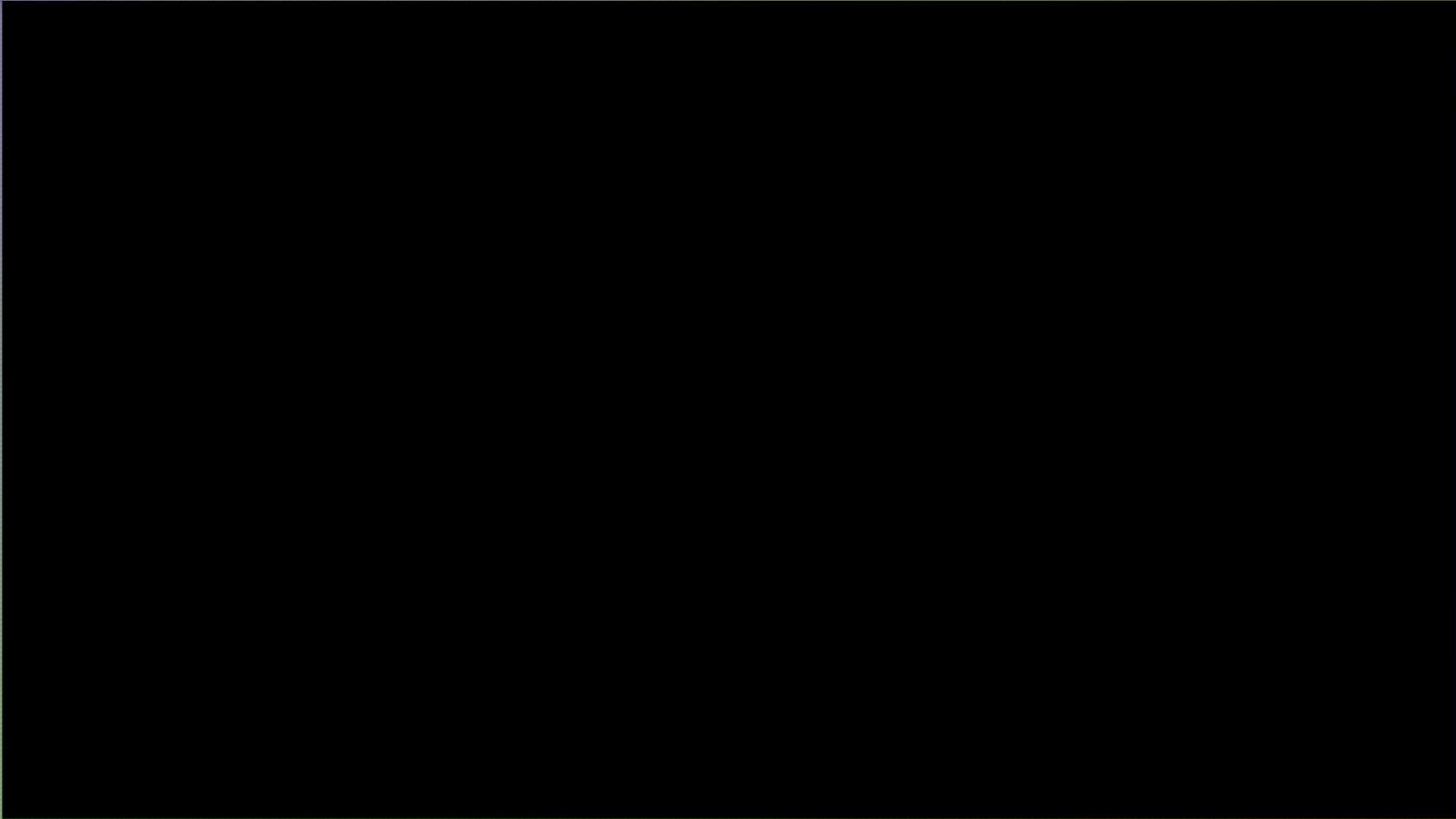
Roadblock 2

- Desktop GUI - Assigning Random MAC addresses
 - Took a long time to solve
 - Had to comb through the code created by MCreator
 - Solution had to do with initializing the Desktop dependencies in the world

Roadblocks 3 & 4

- Github/MCreator sync issues
- Environment had to be manually added to files

Outcomes - Demo



Lessons Learned

- Team Recommendations
- Platform for Development
- Documentation Practices

Team Recommendations

- Students are on the same campus
- Minimum of 3 team members

Platform for Development

Unity

Pros

- Full, professional documentation and references available
- Full control of scripting and game development
- Any who have taken Software Engineering have used Unity

Cons

- Must start from scratch
- Must get really comfortable using the Unity game engine

Minecraft Mod

Pros

- Easy distribution of mod
- Don't need to start from scratch

Cons

- Don't have full control
- References are mostly fan-based
- MCreator isn't up to the task

Documentations

- Poor documentation all around
- Impossible for following team to continue where we left off
- Should have discussed and agreed on strict documentation and coding standards to follow throughout the whole project

Conclusion

- What we currently have is next to useless
- Start again in Unity
- Get documentation standards defined first thing

Thank you! Questions?