

October 2nd, 2020 Client Meeting

Meeting Time: 1 Hour

Know:

- Requirements video is due October 14
- Requirements doc is report is due October 21
- Video demo November 25
- Peer testing #1 is due December 2
- Peer testing #2 is due March 2
- Final report in April
- Agree with client on features for each milestone

Ask about:

- Access to Minecraft Education
- Python? **-YES**
- Would there be a prereq to our course, or should students be able to start the lessons as if it's their first computer science/programming class?
- Tech stack? DFD?

Ideas from Andy:

1. **AI robot:** Players can build a programmable AI Robot by finding some resource in the game. They can have different types of AI Robot for example Guard robot and mining robot. Player should train the robot correctly, otherwise the robot will have unexpected action.
2. **AI Home System:** In the Minecraft world there are some NPC monsters, NPC thieves and other players. Therefore, each player can build an AI secure system, like face recognition system to secure them resources when they are leaving.
3. **Enchant weapon:** There could be some elemental monster or Boss monster during the adventure, and players can enchant their weapons to attack monsters more effectively. (enchant can be done by some simple programming games)
4. **Explore the world:** There are some Ancient ruins in Minecraft world and player can explore the ruins and get some information about the Ancient Slates (some programming knowledges)
5. **Next level:** Players can complete the game by finding some Ancient Slates in Minecraft world and decipher the information on the slate (can be some programming game). Once they decipher all information, they can get a key and go to the next level of the game.

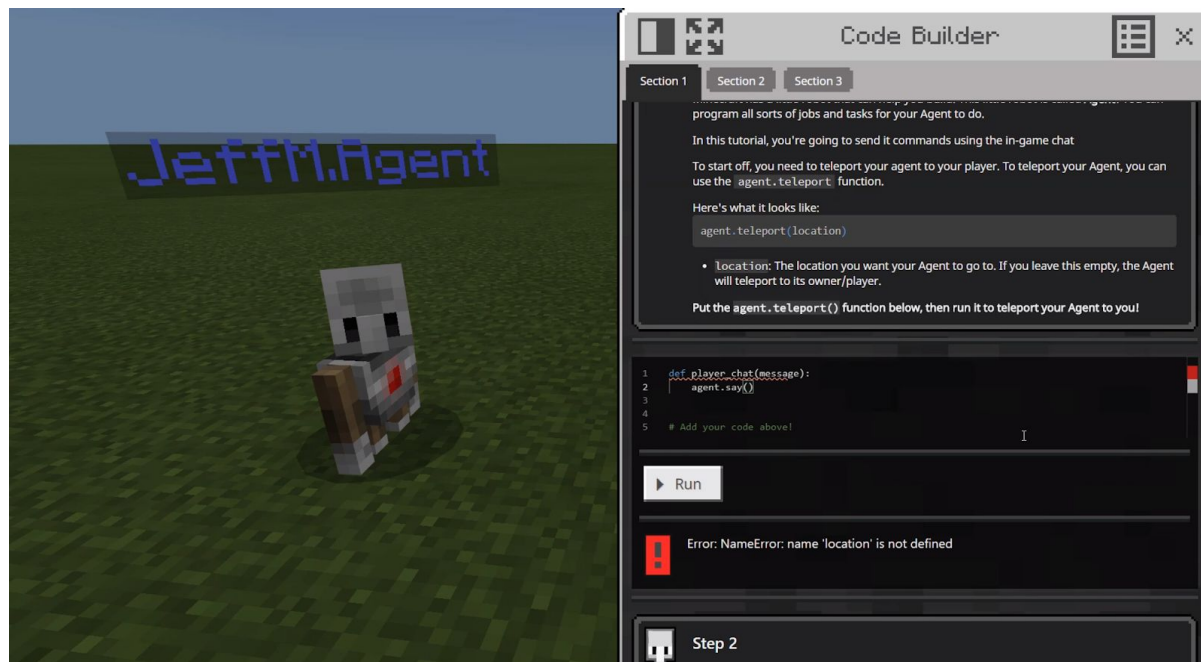
Other ideas:

- translate the block-based code to python code. E.g. make the python code as a password of a treasure box in the game and set the block code as password prompt. user can find the comparison table for block code and python code somewhere in the game.
- **Computer Vision System** E.g. We can have some face recognition functions in the game like an alarm system in the yard, user can train an CV model and when a monster come to the yard the system will alert the user.
- **supervised/unsupervised learning:** user can train a robot to do some specific job. E.g. train a robot to mining automatically. give a diamond to a robot and set as the prefer element to collect. And give a soil to the robot and set the soil as the element that must ignored. This is the concept of supervised learning
- **some programming games** E.g. we can build some easy programming games in the game. For example, when user explore the game, there is a cave of the lost civilization, player should finish a programming game to open the door of the cave. (some easy games like sort an array or delete duplicate values in a list to help the player to be familiar with some programming knowledges)

Notes:

Mostly in C++, except for other platforms there is a 'shim' layer. Ie: Objective-C for iOS shim layer.

Tech stack: C++, Python, Azure Notebook, classroom mode (web based, electron app), azure, tensorflow, pytorch



There's a code builder where we can have instructions and run code, like CodeAcademy or Jupyter Notebooks.

From now to December, focus on the lessons. What we are really delivering is a curriculum

Run commands from command blocks

Can be connected with designers?

There's a camera in minecraft education that can label photos

**You can create a portfolio of images, put them in a book and name the book
Export them to PDF**

**We can give the robot blocks to identify - it may be a make code lesson
The agent can dig**

Zombies/Not Zombies?

One of first coding lessons was finding water on mars

Everything we write should be testable.

Middle school - teaching the robot AI models

Just want to fake it

With crafting table, could code output of training with portfolio (model) with camera gives a smart camera. Or combine with agent to get a smart agent

Get samples -> train model -> combine with agent

Cat finder agent, food finder agent, diamond finder agent

Next week, meet on Thursday. Walkthroughs. Feature requests for Jeff, what do we need in the game?