Task 2 – Lab: FSM & Python

Summary:

Create and document your own finite state machine design. Get started with Python, and implement your design.

Step 1: Update Doubtfire … commit to git as you go

Update the task status on Doubtfire to "Working On It"! ☺. As you progress, commit your work to your repository (see the git add, git commit and git push commands). Remember to keep your documents as well as your code.

Step 2: Finite State Machine Design

Individually develop a finite state machine design (on paper) for a single NPC of a computer game genre of your choice. As discussed in the lecture details, your design must:

- Start with identification of at least three states (write a list) ("defending", "attacking" …),
- List the variables needed (at least two) (eg "thirst" level, "money", "damage" …),
- Identify the actions or variables that will cause a state change (in words),
- **Create a state diagram to descript your system. Submit this design to Doubtfire.**

Show your design to the tutor and make sure you are on the right track.

Remember: Save your design to your repo now! If your design is not digital, take a picture and save it.

Step 3: Getting Started with Python

Does python work on your machine and do you know how to run python code? If the answer is "yes", move on to the next step.

If your answer was "no", your job is to change that answer to "yes"! How you get started with Python will depend on your previous experience with programming and the type of languages you know. The lab machines should have python and a number of tools installed. If you usually work on your own machine, now is the time to make sure it is setup and working. However, for this first lab, you can simply use a web-based python interpreter so that you don't have to worry about software. Use Python 3+

Is Python Installed and Working OR Web-Based?

- If not installed, get Python from http://www.python.org/

Python From the Command Line?

- If you open a command window and type "python" does the shell start?
- If not, you may want to set the environment path so that it knows where to find python.
- Create a simple "hello world" python script file and run it from the command line

Step 4: Create a Simple FSM in Python

- Using a simple loop with if statements be able to implement part, or all of, your FSM design. (You only need a single file. If you have many, or many classes, you have probably over-engineered this task. Keep it very simple. There will be time for fancy OO design and code later!)
- **Submit this python code to Doubtfire.**

Step 5: Update Doubtfire & Commit + Push!

- Save and push your code to your repo.
- Update your Doubtfire task status to "Ready for Feedback" to let your tutor know.

By the end of this lab you should have created a basic FSM design and implemented it in python. Your **design** and **code** must be in your repo, and submitted to Doubtfire.