GitHub repo:

Overview

I found this exercise to be quite difficult overall. I wish that we had more time to work on understanding the entire problem as a class, as I believe there is an awful lot to cover in only a few weeks between assignments. Given more time I believe I could have made a stronger submission.

It was interesting to work on cloning a game as a way to further familiarise ourselves with Unity. This assignment built on the knowledge that the class should have learnt during the first two assessments and so give enough time and effort a novice at using Unity should be able to create a Missile Command clone.

What went right

So using the examples we were given did help to clarify some of the problems I had in understanding the assignment. This helped in making the general idea of the assignment sink in, however there were a number of gaps in my understanding of the assignment which really did hamper my progress. Upon looking at my assignment it should be obvious what these are but overall the structure of the project is there. Referring to knowledge from previous assignments was essential in the completion of this one.

What went wrong

There were a number of things I struggled to understand with this assignment and I believe it is because I lack proper understanding of many of the terms and logic that Unity and C# uses. Given the enormous library of functions that C# can call it would have benefitted me greatly to have researched these functions earlier than I had instead of the night before it was due.

The end of each level has proven itself to be something I struggled with, for example, the city bonus function I tried to write doesn't work at all. So I simply added 6 multiplied by the city bonus multiplier to get the score at the end of each level whether or not the player had 6 cities or not:

```
//City[] cities = GameObject.FindObjectsOfType<City>();
int cityBonus = 6 * cityBonusPoints;

int totalBonus = missileBonus + cityBonus;

missileBonusText.text = "Missile Bonus: " + missileBonus;
cityBonusText.text = "City Bonus: " + cityBonus;
totalBonusText.text = "Total Bonus: " + totalBonus;
```

Furthermore the score and stage text fields do not update after each level given how I coded them:

```
score += totalBonus;

stage += 1;

ammoLeft += 20;
```

What I'm unsure about

There are three main features the game is missing (among others): end of level conditions, missile trail, and different subsequent stages. I didn't implement these features properly or even research on how to add them as I simply ran out of time between this and other assignments.

One bug that I'm unsure about how to fix is how the mouse cursor seems to be offset from the game window. The missiles don't travel to exactly the right position that is clicked. I believe this has to do with the conversion of the mouse cursor position to world space not being implemented correctly.

Conclusion

Overall this was an interesting assignment that I unfortunately struggled with due to time constraints for other subjects. This assignment has shown that creating clones of other games in Unity is a good way to practise working within that framework.