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July 3 2015

As we are now on our university break, I am currently back at home in Malaysia for the month, till the 3rd week of July. In the mean time, we decided to still continue working as per usual, with the rest trying to sort out the infographics and the quiz, while I work on trying to figure out the simulation section.

Right now, I have been spending some time to get acquainted with multithreading on Windows. It is not the same as Unix, and personally I find it more confusing than Unix as there are multiple ways to create a thread. Having said that, this is most likely because I have been working on Unix for a long time, so I guess some time is all that is needed to get used to multithreaded coding on Windows.

July 10 2015

I have been spending some time trying to think of a good way of sharing data between threads. I am thinking of having the engine object, fuel tank object and fuel pump object at the global level. This means that even when I spawn off my handler functions for this object that runs the object, if say the fuel pump takes fuel from the fuel tank, all I need to do is call the global fuel tank's update function from the fuel pump runner function.

Essentially this means the objects (instances) would actually be global variables, however because they are based of classes, there is still data protection. I could probably speed this up with the use of friends, such that friends of a class can directly manipulate the values of an object, while others can’t. However, we may need to look into this later on.

July 17 2015

This week, I made a trip to UOW’s partner campus in Malaysia (Inti Subang Jaya) to speak to one of my lecturers who taught me CSCI124 while I was doing my degree there to get her opinion on the issue of global objects. From what I have gathered, it seems the use of global objects isn't too bad provided we know what objects are going to be accessing it. For now this seems to be the best way to solve the issue of inter thread communication as I did some research on the use of pipes between threads, however this may be too complicated to implement, making it difficult to get right in some cases.

Also, I did the video shoot for the parts of the car we want to highlight in the infographic as well this week. It was a good thing I was at home as I could do it in a relatively closed area.

I would be going back to Wollongong next week, so I would pretty occupied by that, hence I doubt I would be able to update much about progress.

July 27 2015

We had our first CSCI321 lecture for the session today. So far I think we are on track right now. I would most likely be starting to code out the simulation section over the next few days, working with the fuel combustion system.

Right now I am planning to work out the flow of components in each simulation we plan to do as this would probably make it easier to see the interactions between the components as our current class diagram seems pretty complex to quickly see how things would work together. We are currently on track with work, so I guess that is good.

August 6 2015

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We went through the other parts of the program this week, namely the infographics and the quiz section and for the most part, it seems that we are nearly done with those sections.

As for the flow of the components, I already have worked them all out, and we discussed about it in the meeting. So far, everyone seems to agree with the flow of the simulations. Also, Luke proposed we should have a manager function that manages each object that we have, and I think that is a good idea. This manager function would end up being the one that is multithreaded then (each manager function being in a thread of their own).

In terms of the graphical representation of the simulation, Luke suggested looking into OpenGL for the animations. I did some research on it and it doesn't seem too hard to master, so we should be able to have an OpenGL box that will run the graphics in the simulation section of the program.

In the mean time, I have fully completed the website for the application, on a different service, with all the necessary pages up and ready for us when we submit it at the end of the project. This means one less thing for us to worry about now, so that's good.

August 12 2015

Unfortunately, 3 out of the 4 group members were down with a bad flu this week, me included. This meant we had to reduce our progress, and I wasn't able to finish up the code for the first simulation system. However we are still alright for the presentation tomorrow, so that is good. In the mean time, I have prepared the handouts and agenda of things to be discussed tomorrow, so we'll see how it goes then.