Group Diary

Meeting Minutes #1
Date: 27/3/2015
Time:

Agenda
- Meeting with new advisor for new project

Minutes
- Today we met up with our new advisor to talk about the possible projects that we can work on. The previous project seems too difficult due to the lack of expertise in the game development field. We listed a few possible projects that we are interested in and capable of doing from a list of projects. Two projects that stood out was Body Systems and Car systems, both bring distributed systems project.
- We decided to take on the Car Systems project.

Action Item
- Thinking of possible ideas/ways for implementation of software

Meeting Minutes #2
Date: 30/3/2015

Agenda
- Discussion on the project, Car Systems

Minutes
- We discussed how the system would look in terms of its interface. Buttons which surrounds a car represents different parts of the cars, and detailed description is given for each parts.
- For later parts of the project, as we simulate the processes in a car, for example refuelling the car, different parts of the car which are required for the process are shown and a simple animation of sort will show how the process is done.
- The implementation of a quiz to test the users on his knowledge on cars could be implemented in the system.
- Other than learning the processes in a car, the software also aims to teach the users things such as what each dashboard symbol represents and much more.

Agenda
- Learning of Visual C++
- Requirements
- Presentation

Meeting Minutes #3

Date: 2/4/2015

Agenda
- Review on presentation and prototype

Minutes
- Dyalan and Elle showed the prototype they have been working on to Luke. Reconfirmation on what program should be used was also directed towards Luke. Visual C++ and Qt were both being considered for the development of the project. Much more learning would be required for using Qt compared to Visual C++. We decided to stick with Visual C++ for now.
- Kapil then showed Luke the presentation that he has been working on and

the project. Much more learning would be required for using Qt compared to Visual C++. We decided to stick with Visual C++ for now.
- Kapil then showed Luke the presentation that he has been working on and modified from the previous project. Discussions were brought up on things that might require changing. This allow for further understanding of the project in hand for all of us as a group and how we will soon approach it.

Action Item
- Continue development of prototype
- Presentation and requirements

Meeting Minutes #4
Date: 24/4/2015
Agenda
- Meeting up with advisor to discuss what to do from this point onwards.

Minutes
- Elle and Dyalan clarified on the resolution to be used for the program. Pictures to be used for the interior of the car could possibly be found on the manufacturer's website.
- For the quiz, a different car model might be used to prevent users from memorizing parts of the car to answer the quiz.
- The software should have multiregional support, different components of the car is named differently in different countries (e.g boot and trunk). There may also be a difference in which side the driver drives on and should be included.
- We then discussed the deliverables needed for the end of the semester, which includes design documents such as class diagrams and use cases, data dictionary, a short script on how the threading for the simulation would be implemented, test methodology (black box and white box testing), assumptions that can be made, user acceptance testing, convention naming variables(?), design choices, load testing.
- If possible we would try to complete the first phase of the software and also a framework for the quiz.
- We then discussed on how implementation of the infographic section can be done, highlighting different components of the car when a name is clicked on. This process might involve photoshopping a lot of photos. Simple but tedious and time consuming.
- Allocation of work, Wee will work on use case diagram, Elle and Dyalan on the user manual, Kapil on documentation.

Action Item
- Use case diagram and description (Wee)
- User manual (Elle and Dyalan)
- Documentation (Kapil)

Meeting Minutes #5 Date: 1/5/2015
Agenda
- Meeting up with client to for a brainstorming session

Minutes
- We first discuss about the quiz section of the software, addition of an instruction page that will be displayed to the user upon clicking "Quiz" from the main menu which allows the user to be able to prepare before actually taking the quiz; instead of a submit button to confirm submission of answers by the user, we can use next buttons (clicked using mouse) to go the next question and in addition to that we will have boxes at the bottom part of the quiz which will represent number of the question that can be clicked to jump to different questions (different colours to represent different situations, different colour for questions that are not answered, different colour for questions that are answered and different colour for the question the user is currently in); upon submission, the program will have to check if the user has answered all the questions; if the user decides to leave mid-way through a quiz, an abort button will be available for the user to click and it will bring the user back to the main menu; the button to exit the program on the top right should be hidden so that the user will not be able to exit that way (this is to prevent any dynamic memory initialized in the system from being lost); for the review of the quiz,

the user will not be able to exit that way (this is to prevent any dynamic memory initialized in the system from being lost); for the review of the quiz, the user will be able to view all the questions that have been answered, for wrongly answered questions, the box that represents the question that is answered wrongly will be coloured differently so that the user will be available to click and review the questions that he/she has answered incorrectly by clicking on it; we should try to make the system register keyboard inputs by the user so that he can navigate through the questions and also at the same time answer questions; we will also have 10 drag and drop questions in addition to the 10 MCQ; the order of the answer for a question will change; we will also have parameterized questions (context is the same, the meaning of the question is the same but expressed in different words, the answer for the question will also be the same);

- The screen size should not be full screen due to the different screen sizes people will have so for now we have decided that the screen size would be set to 1024 * 768.
- For the infographics part, to register a mouse click of the user on a particular component of the car can either be done by placing a square box on that particular component, or checking the mouse click coordinates against the placement of the component on the screen (hard to express it in words) (quiz interface for drag and drop will use the similar interface); for the infographics part, there will be buttons up, down, left and right, starting from the default view, clicking up will zoom in one layer and by clicking left and right you change views.
- For the videos part, we can use an embedded player or allow the user to open up their local media player instead of going through via Youtube as it will require internet connection. For the embedded player, we will try to darken down the back and put the video layout on top.

Action item

- Use case description (Wee)
- Sequence diagram and communication diagram (Dyalan)
- User manual (Elle)
- Documentation (Kapil)

Meeting Minutes #6
Date: 8/5/2015
Agenda

- Another brainstorming session

Minutes

- Kapil confirmed the documentation needed for the final submission of the first semester and talked briefly on the website. Things to finish up include class diagram, data dictionary and state diagrams (There is actually more than this).
- We started talking a bit on the sequence and communication diagram for the fuel simulation. We discussed on how there would be a normal simulation of the car upon clicking on any simulation.
- As we discussed, we come to an agreement that there would be a persistent UI for the simulation part, where a dashboard would be placed permanently on screen, and any change in data would change accordingly on the dashboard. Things that will remain persistent on the screen would include the dashboard, the start and stop engine button, the speed bar and also the incline (terrain, increase angle [probably needs better wording]) bar.
- We also discussed on the simulation of the fuel system. For example, if the user wishes to fill petrol into his car, he/she would need to reduce the speed of the car and then turning off the engine (probably the off button) before being able to fill his/her car.
- The speed of the car will increase gradually when being displayed on the dashboard (instead from 0 – 40 instantly)
- A normal flow of the system when being used by the user started from the menu, clicks the simulation, the system shows the persistent interfaces (dashboard, speed bar, incline bar, start and stop engine), user starts the engine, speed increases, dashboard updates accordingly. User now wants to try how the increased incline would affect the speed of the car and the rate of fuel consumption, user would be able to see the change in speed on the dashboard

increased incline would affect the speed of the car and the rate of fuel consumption, user would be able to see the change in speed on the dashboard but to view the rate of fuel consumption, user clicks on “Fuel system” and would be able to see in details the changes that occur in the fuel system.

Action Item

- Use case (Wee)
- Sequnce and comm diagram (dyalan)
- User manual (Elle)
- Documentation (Kapil)

Meeting Minutes #7
Date: 15/5/2015
Agenda

- Brainstorming with client again

Minutes

- We talked briefly about the project computers that we have got from the university. Most of the applications that we need are not available and we will have to install all the applications ourselves.
- We then update each other on the deliverables for the final week of the semester. We talked briefly on the dashboard for the simulation of the different processes in the car. We talked about the website. Wee will continue working on the use case, Elle will work on the mockup for the system, Dyalan will work on the sequence diagram and Kapil will work on the website. Things that will need to be worked on after we finish our individual parts is the class diagrams and the state diagrams.
- We got a tablet from Luke today which will be used by Elle for the editing of images for the system
- We also discussed briefly on things that we might want to install on the project computers, Visual Studio is one of them

Action items

- Use case description (Wee)
- Kapil (Website)
- Elle (System mock up)
- Dyalan (Sequence diagram)

Meeting Minutes #8
Date: 29/5/2015
Agenda

- Updating on progress

Minutes

- We talked about the performance of the program that Elle and Dyalan has worked on so far. There seems to be a slight delay when trying to load all the buttons under the quiz section Kapil suggested that multithreading might be able to help us improve the performance of the software. We also would want to reduce the cluster of buttons if possible for the program.
- Development on the threading part for the simulation shall be worked on command line for now. This is because it will make it easier for development among different platforms (Mac and Windows). At later iterations, we will then merge it into the interface of the program.
- We also talked about the default values for the simulation as the car starts up. The speed should remain at 0, temperature set at the “air temperature” (around 20 to 30) and fuel would be set at 80%. There would be slight changes needed to be made for the interface to display the metrics used for the measurement of fuel and the speed. For the incline section below the persistent dashboard, it should also be made bigger so that it would be possible to accommodate 4 digit values.
- For the class diagram, we realized that we can use multiple abstract classes. We then use inheritance from the abstract classes to define different components in the system. We can generalise components to make it look less clustered. The pump should have a pressure variable.
- There should also be a maximum number of incline and maximum number for altitude.

- There should also be a maximum number of incline and maximum number for altitude.

Action items

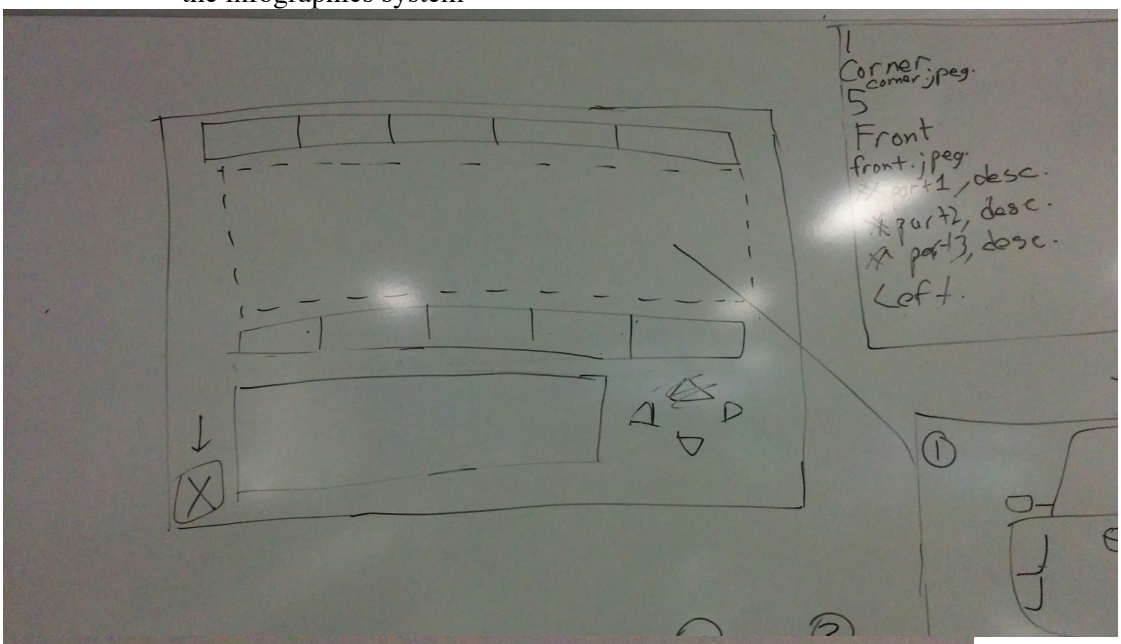
- State diagrams
- Class diagrams
- Compilation will be done by Kapil

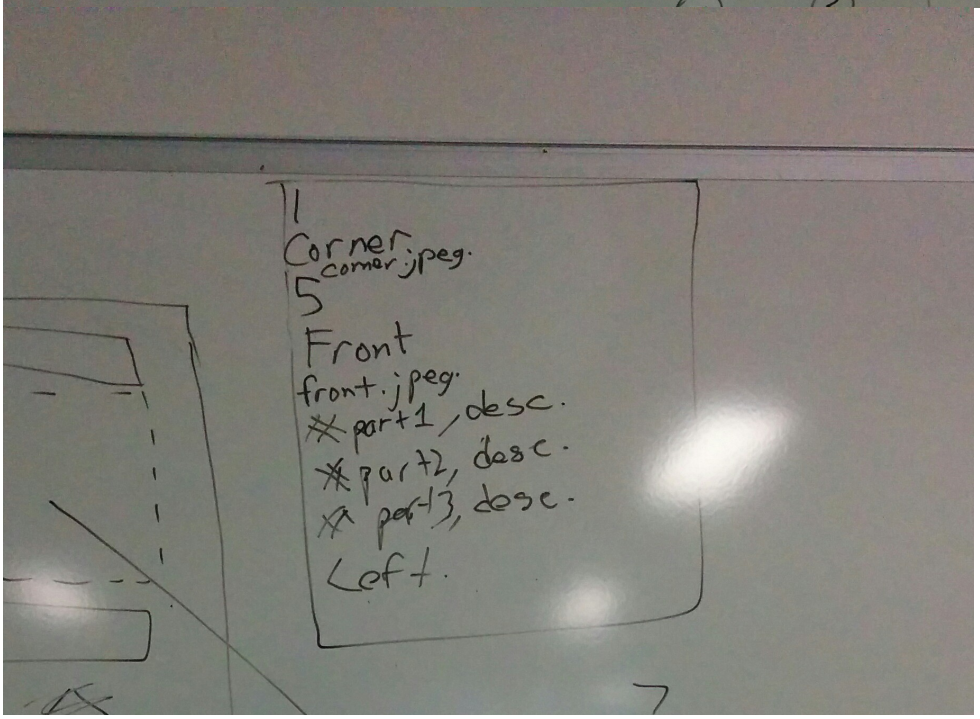
Meeting minutes #9
Week 1 of semester break
Agenda

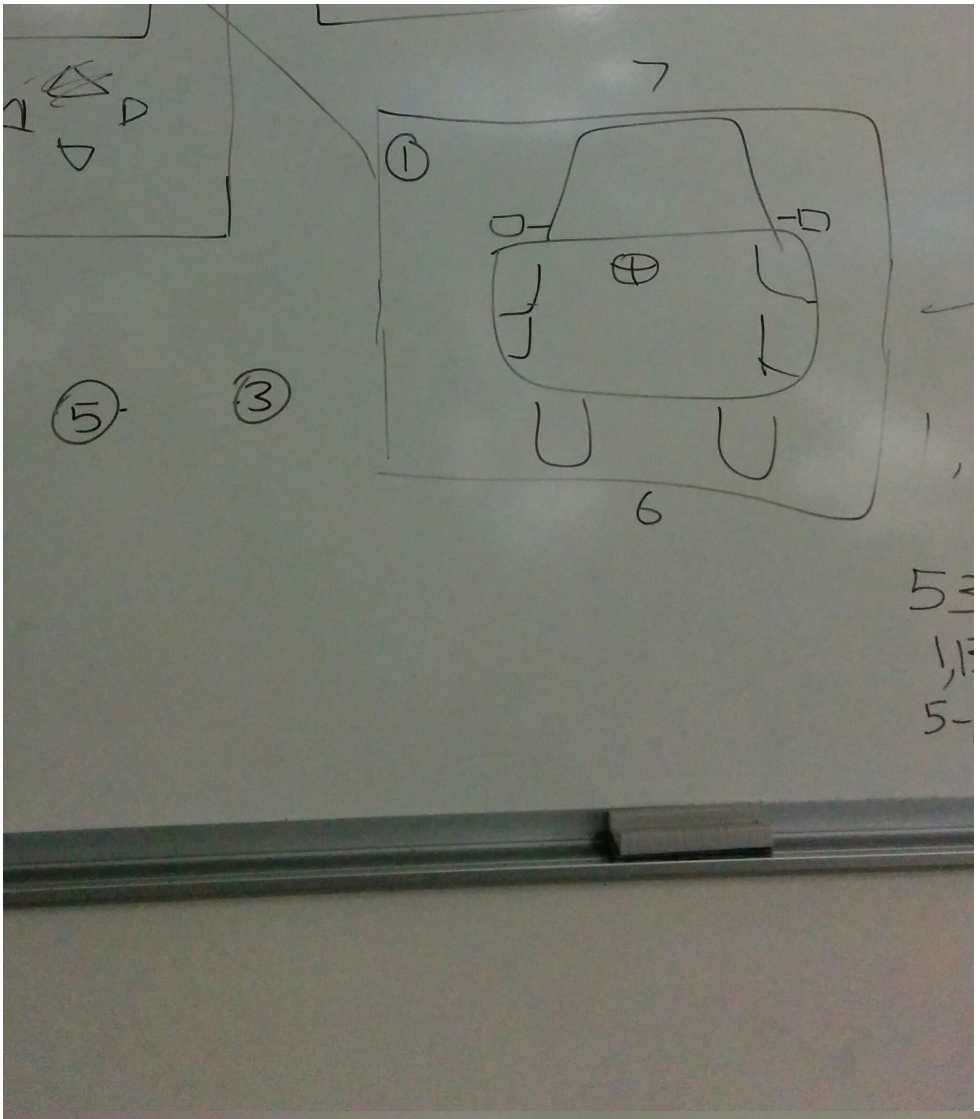
- Just updating on what was accomplished on week 1

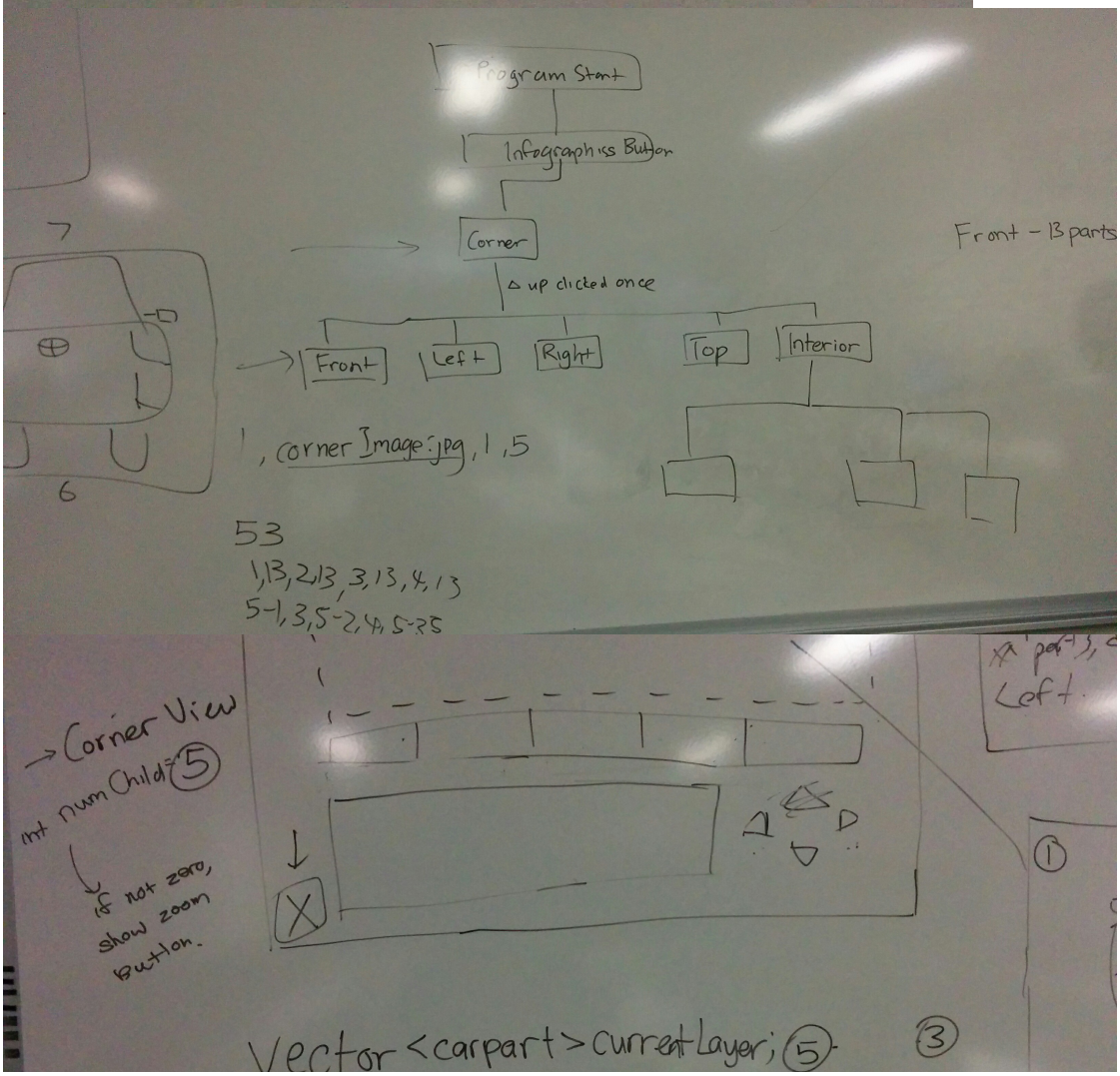
Minutes

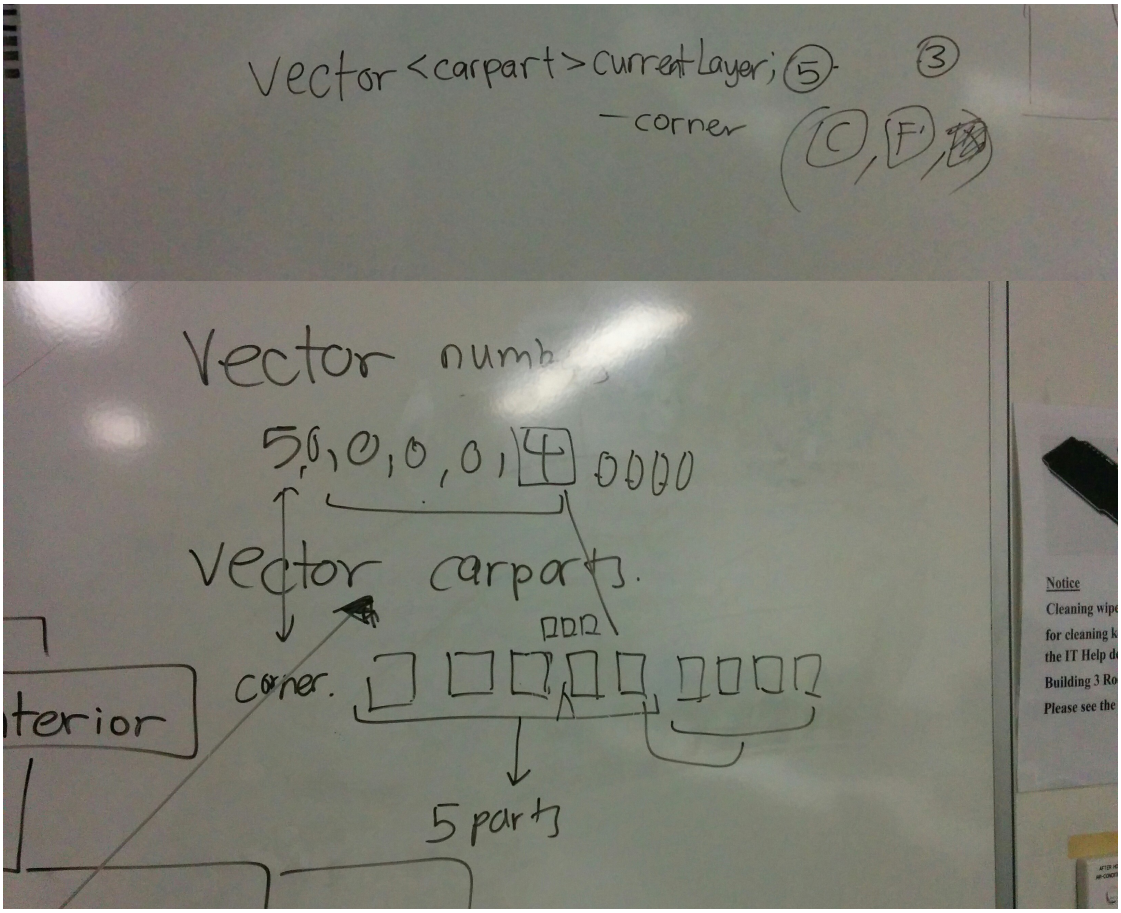
- We manage to sort the infographics into different hierarchies. Wee has been writing the code that will allow reading it in from the text file and putting them as a vector of classes (Inside folder codes). Wee will continue working on making a text file editor, to allow easy changing of the text file in the case of changing component description or names.
- Elle has started working on photoshopping the images and will continue doing so
- Dyalan is working on the visual side of things, the interface. Wee will be working with dyalan in order to integrate the infographics system.
- Kapil will be working on the simulation side of things.
- Below are a few screenshots on how we decided to go about implementation of the infographics system






7
1
5
3
6


Program Start
Infographics Button
Corner
△ up clicked once
Front
Left
Right
Top
Interior
Front - 13 parts
1, cornerImage.jpg, 1, 5
53
1,13, 2,13, 3,13, 4,13
5-1, 3, 5-2, 4, 5-25
7
6
→ Corner View
int numChild = 5
if not zero, show zoom button.
X
Left
1
Vector<carpart> currentLayer; 5
3



Action item

- To continue development of the system

Meeting minutes #10
Date: 30/7/2015
Agenda

- First meeting of the semester

Minutes

- By the end of the holiday, most of the photos to be used for the infographics were already completed. The code also to read in the file to be used for the infographics has also been roughly completed.
- In the meeting today we showed Luke what we have done so far for the infographics, there were a few bugs here and there that required fixing, such as when zooming out the program should be clearing the description box and we should also grey out the button which will tell the user that he/she is not able to zoom in. Testing should also be done for the code used for the infographics. The text file for the infographics should be converted into XML form, but with the presence of the text editor, there is no need to convert it into XML form.
- We also discussed that the simulation for the engine and the fuel tank is to be done in the upcoming weeks

Action Item

- To fix up the bugs in the infographics
- Start working on the simulation codes

Meeting minutes #11
Date: 6/8/2015
Agenda

- Meeting up with Luke again

Minutes

- Today we showed Luke what Kapil has planned on trying to take on the simulation part. We should take into consideration many things when working on the simulation such as when simulating the fuel system, we want to be able to also simulate what would go wrong in the car when the wrong type of fuel is injected into the car. We would have a simulation manager class where it would detect changes in different parts of the system and tells different components on the current situation. We will also be working on console first before integrating it into our Visual Studio project. We should also be using

would detect changes in different parts of the system and tells different components on the current situation. We will also be working on console first before integrating it into our Visual Studio project. We should also be using some external libraries to draw in the program, for example, to simulate the fuel level we will use the external library to draw how much fuel is left. Libraries to be considered are OpenGL and SFML.

- Today we also showed off the project website to Luke and gain feedback on what could be improved for the website
- We then discussed about the demo for the project which is in the upcoming week. We should prepare a list of requirements and mark off which requirement has been accomplished. We should tell the assessors what has been done and what we are going to do in the upcoming weeks.

Action Item

- Learn up external libraries that can be used for drawing in the program
- Continue working on the simulation code

Meeting Minutes #12
Date: 20/8/2015
Minutes

- Last week was the demo for the project. We showed the project to the assessors and gain valuable feedback. Things to work on include improving some parts in the infographics (Adding safety features). We also continue working on the simulation part of the system.
- We showed what we have done so far for the simulation. We showed SFML code and how we had to thread the window on its own as windows form does not work too well with SFML. For the simulation part we also discussed on how audio is to be played when running different simulation (And also playing music for the radio).
- There is not much for the documentation to be working on for now.

Action Item

- Continue working on simulation
- Continue learning SFML

Meeting Minutes #13
Date: 27/8/2015
Minutes

- A part of the simulation has finally been completed. Kapil says we should be able to dish out 1 subsystem per week.
- We also decided that instead of working on SFML and windows form together for the simulation part, we should just use a SFML window entirely instead. Elle has found out that it is difficult to integrate SFML into Windows form, and by using SFML for the simulation instead, it should be easier to work with without having to worry about Windows forms.

Action Item

- Continue working on simulation
- Integrate simulation in SFML

Meeting Minutes #14
Date: 3/9/2015
Minutes

- Elle showed the SFGUI interface that she has been working on. The color scheme should be changed if given the opportunity. We should focus more on the functionality at the current moment as the demo is coming up soon.
- We then talked about the simulation. We should probably, ideally run all the threads of the car instead of running threads for the particular simulation that the user is in as that is more realistic/close to how a real car works. Kapil is currently working on the cooling system and will be finishing up on that soon enough.
- We then discuss briefly on what icons that should be added onto the dashboard. We also talked about adding a start/stop button onto the interface and along with a seatbelt button. The seatbelt button must be clicked on once, to fasten the seatbelt, before being able to do anything in the simulation.

Action Item

- The interface to be done using SFGUI

the seatbelt, before being able to do anything in the simulation.

Action Item

- The interface to be done using SFGUI
- The fuel system to be integrated into the interface
- Simulation to continue be worked on

Kapil Haresh Vigneswaren
4474685

July 3 2015

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

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

July 10 2015

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

Essentially this means the objects (instances) would actually be global variables, ho
they are based of classes, there is still data protection. I could probably speed this u
of friends, such that friends of a class can directly manipulate the values of an objec
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
of my lecturers who taught me CSCI124 while I was doing my degree there to get he
the issue of global objects. From what I have gathered, it seems the use of global ob
bad provided we know what objects are going to be accessing it. For now this seem
way to solve the issue of inter thread communication as I did some research on the
between threads, however this may be too complicated to implement, making it diffi
in some cases.

Also, I did the video shoot for the parts of the car we want to highlight in the infograp
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,
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

July 27 2015

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

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

August 6 2015

Kapil Haresh Vigneswaren
4474685

We went through the other parts of the program this week, namely the infographics
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 discu
the meeting. So far, everyone seems to agree with the flow of the simulations. Also,
we should have a manager function that manages each object that we have, and I th
good idea. This manager function would end up being the one that is multithreaded
manager function being in a thread of their own).

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

In the mean time, I have fully completed the website for the application, on a differer
all the necessary pages up and ready for us when we submit it at the end of the proj
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
meant we had to reduce our progress, and I wasn't able to finish up the code for the
system. However we are still alright for the presentation tomorrow, so that is good. I
time, I have prepared the handouts and agenda of things to be discussed tomorrow,
how it goes then.

August 20 2015

Overall I think we did reasonably alright for the progress presentation last week, tho
have been some improvements in the project that were duly noted. I was able to sta

Overall I think we did reasonably alright for the progress presentation last week, tho
have been some improvements in the project that were duly noted. I was able to sta
the fuel system simulation code and it is currently a work in progress. I did have so
getting it working as for some reason the class object was being constructed twice a
was one object being declared throughout the program. I will have to look into this a
this out.

August 27 2015

A good thing was I was able to fix the issue of the multiple construction of the class
program by implementing a static variable in a function, such that calls to the functio
the object. This has stopped the issue of the multiple calls to the constructor. I was a
finish up the multithreading so that was good. I am now starting to work on the cooli
instead.

September 2 2015

I'm currently still working on the cooling system with most of it completed. All there is
prepare the multithreaded functions and finally multithread it. I am hoping to actually
multithreaded code up for this section by this week if possible.

September 3 2015

After seeing the new version of the UI done in SFML, I must say it looks like a much
compared to the VC++ UI we initially planned to do for the simulation section. Mean
working on the cooling system's code over the weekend and hoping to have that do

Individual Diary
Name: Ng Shien Wee
Date: 27/3/2015
We decided to change our projects due to the lack of game developing students among our group. I am a bit disappointed but for the best of the group we shall then work on a new project. We met up with our new advisor today which is Luke to talk about the projects that we can work on. We were shown a long list of projects and we chose the projects that we are interested in and listed them down. After doing so, we then decided which we shall work on. Body Systems and Car System caught our eye and both projects are distributed systems project. We went with Car Systems, that's a good thing as we had a car enthusiast among us and it might make this easier for us.

Date: 30/3/2015
We met up with the supervisor again today. I happen to be a bit late for the meeting for today as I had a lab. After my lab, I went to find out from my group mates on what was discussed today. I found out that I might have to model a car for the project. I'm not too confident with my modelling skills. The things they discussed today were about how the interface would look like and the different features that might be implemented for the system. A car model where each parts will be highlighted when clicked and the part clicked on will be explained in detail for the users. That seens to be what the first stage of the project would be like

Date: 2/4/2015
We met up with the advisor again today. Dyalan and Elle showed the prototype they have been working on to Luke. Software to be used for development was then discussed. We were discussing whether we should be using Qt or Visual C++. It seems the learning curve for Qt would be much higher compared to Visual C++, and seeing how busy we already are, Visual C++ seems like the most appropriate choice. Kapil then showed Luke the presentation that he has been working on, modified from the previous project and got feedback. We all dished out ideas about the presentation. I think it was a great insight on the project that we will be working on. I will be working on development with Elle and Dyalan.
Date: 24/4/2015
We met up with our advisor today. We confirmed a few things with the advisor. We also discussed how we should approach from this point onwards and we were told that we should work on the final deliverables for the first semester. Submission includes design documents, user manual and also the website. We also discussed how the first phase of the software will be implemented, the process to highlight different components of the car is simple, but can be tedious and time consuming. Hopefully we would be able to implement the first phase of the software and a framework for the quiz. We then allocated work to each other, I was assign the use case diagram and description and to list down possible car parts for the first phase of the software (the infographic section).

Date: 1/5/2015
Today we discussed mostly on the infographics section and the quiz section of our software. We talked about how there would be drag and drop questions for the quiz, how the layout of the quiz part would be like and much more. We also talked about the screen size that we would use for the system. We talk about the infographics part on how we would be registering the mouse clicks of the user. We talk about how the user will be able to view the videos for different components in the system. I think for now, having a good understanding on the 2 other parts first would be good. After that, we can solely focus on getting the simulation part understood. Its going to be busy.

Date: 8/5/2015
Today we started talking more about the simulation part that we would be working on. I did not realize that how good the idea was to have a persistent dashboard for the simulation until Luke gave us the idea. Buttons that will always remain on the main dashboard, and the only

Today we started talking more about the simulation part that we would be working on. I did not realize that how good the idea was to have a persistent dashboard for the simulation until Luke gave us the idea. Buttons that will always remain on the main dashboard, and the only thing changing is the simulation windows. We talk about the normal flow of using the simulation part of the system, how we should expect the components to be interacting with each other. I will be working on the use case which will require me to have a fairly good understanding on how the user will be using the system and how the system is expected to give feedback to the user.

Date: 15/5/2015
Today we had a brief meeting with Luke. We talked briefly on the deliverables expected at week 13. We got told of the things that we should continue our work on. We also got a tablet from Luke today which may come in handy when we start editing the photos to be used for the system. We also finally got the computers in the project lab and theres pretty much nothing in them. We plan to get some things installed on those computers soon enough, probably during the break after the exams. Still working on the use case diagrams.

Date: 29/5/2015
I was a bit late for the meeting since I had a presentation going on for another subject. IT turned out good but its totally unrelated to this diary. When I got to the meeting, Kapil was talking about the deliverables with Luke. We also talked about the possibilities of defining abstract classes for the system and different components will inherit from this abstract classes. Components such as lights, wheels can be generalized. Finally got the use cases done, and I shall now work on the state diagrams. I continued where Elle last worked on, modified some of her state diagrams and shall complete it soon enough. I will then be working on modifying the class diagrams.

Week 1 of semester break
We met up during the break to work on the project. I had to come up with a way to sort the infographics into different hierarchies. It took a while to get the algorithm working. After I got the algorithm working, I will then come up with a text file editor to allow easier editing of the text file. Elle is working on photoshopping the photos to be used in the infographics, and Dyalan is to work on the forms in Visual Studio. Kapil will then be working on the simulation side of things.

Date: 30/7/2015
We had our first meeting with Luke today, most of the infographics are already completed at this point, including the photoshopped images and the text file reader. We showed Luke what we have done so far and realized that there were a few bugs that will need fixing. Luke was saying that for the text file, it will be clearer to present the data in XML form, but then once I showed him the text file editor that I was working on, we could hold that idea for now. We also discussed about simulation of different components of the car that will be done in the upcoming weeks.

Date: 6/8/2015
Today we mostly talked about the simulation, we talked about how we should have a simulation manager class which acts as the middle man between different components, work on console before integrating it into Windows forms and also how we should use graphic libraries to represent some data such as the fuel level. We also showed off the website that Kapil has been working on to get feedback. The demo for the project is in the upcoming week so we also found out about what we should prepare for the demo.

Date: 20/8/2015
The week before was the demo, I showed the code that I have and the text file for the infographics and gained valuable feedback on how I should convert it into XML format for clarity. I have converted it into XML format and also updated the code that reads in the text file. The meeting for the week was mostly about the graphics library SFML that we are trying to use for the simulation. It doesn't work really well with the Windows forms. We will continue looking into how we should approach integrating SFML and the Windows form.

Date: 27/8/2015
Short meeting today. Kapil has managed to finish a part of the simulation and says that he should be able to dish out a subsystem for each of the upcoming weeks. We also decided that

Date: 2/9/2015
Short meeting today. Kapil has managed to finish a part of the simulation and says that he should be able to dish out a subsystem for each of the upcoming weeks. We also decided that instead of having the simulation going through the Windows form and cracking our head over trying to integrate it with SFML, we will have a full SFML window running the SFML instead. We will now then look into how we should get it done with SFML instead.

Date: 3/9/2015
We will be working with SFGUI for the interface of the simulation. I manage to get it working on my laptop and will be working on integrating the completed subsystems into it. We then talked about the simulation and Kapil is currently working on the cooling system and is nearly done with it. We also talked about the icons that we should have on the dashboard for the simulation interface and lastly have start/stop buttons and also not allowing the user to do anything else unless the user has actually fastened his seatbelt.

Individual Diary
Name: Dyalan Shanmugarajah
UOW ID: 4546167
Date: 10/6/2015

After finalizing the documentation we then begun with the coding of the project. Together we met up in college and brainstormed regarding the implementation of the infographics. We decided to code the infographics into different hierarchies which would make our work much easier and also allowing the infographic component to be dynamically changed with ease. Elle and I were tasked with creating the UI for the infographics while our group member wee was tasked with making the text file editor. Ur group leader Kapil headed back to Malaysia during the break and continued his work from there. Kapil was tasked with coming up with an overall idea of how the simulation would be implemented. While getting the initial work underway with the UI I also worked with Wee to come up with a way to integrate the infographic component which was developed on console with the ui.

Date: 30/7/2015

This would be the last week of the holiday in which we have most of the infographic components already fully developed. However, a few bugs were present in the developed infographics which we had to slowly debug and sort out. The quiz component was also being partially developed. We then proceeded to present our work Luke which suggested that an XML based file reading system would be better to populate the infographics because it is much easier to understand. We considered that as an additional improvement which might be implemented in the future if we have time. Kapil had also returned from Malaysia and came up with methods to implement the fuel and engine system.

Date: 6/8/2015

We proceeded to show Luke what Kapil had come up with during the semester break. We discussed with Luke the many things we considered in the simulation before implementing it such as incorrect fuel types, inclined slopes and also dynamically changing the simulation based on the fuel. We were advised to run the simulation first on the console before integrating it with UI. Luke also advised us to try out using SFML to provide a more dynamic simulation rather than coding everything solely through C++. Our project was also assessed by various lecturers such as Marcus for additional improvements. Marcus suggested that we should incorporate danger situations and how to actually overcome them into our program because they could be vital for drivers to understand the dangers and how to overcome them.

Date: 20/8/2015

A demo of our project was accessed by college assessors to gain feedback regarding what we have done. As stated before the safety features in the infographic would be a valuable addition. Kapil continued working on the simulation and we found out that it is highly difficult to thread the UI as it is already multithreaded. Therefore we decided to thread the simulation separately in SFML rather than Microsoft Windows Form. We also decided to include audio for the radio system if possible.
Date: 27/8/2015

A small portion of the simulation was able to be completed in console. The part in question is the Fuel System. Elle, Wee and I decided to work on the SFML window to get the UI ready for integration with the simulation system Kapil has been working on. Through the use of SFML we did not have to worry about multithreading with windows form and also that SFML has a GUI version called SFGUI which also aids us in making the UI much easier. We then proceeded to try and get SFGUI working for our project.

Date: 27/8/2015

A small portion of the simulation was able to be completed in console. The part in question is the Fuel System. Elle, Wee and I decided to work on the SFML window to get the UI ready for integration with the simulation system Kapil has been working on. Through the use of SFML we did not have to worry about multithreading with windows form and also that SFML has a GUI version called SFGUI which also aids us in making the UI much easier. We then proceeded to try and get SFGUI working for our project.

INDIVIDUAL DIARY

Name: YEOH HUI JIA
Date: 10th July 2015

Exams have just finished and I met up with my group members to begin part of the implementation. Before we started anything, we discussed what was pretty much needed for the Infographics and Quiz sections and decided that we should probably start by setting a format for the file where we will be obtaining the details for the infographic from. Wee stated that he would be writing the code for reading in the details and such while Dyalan worked on arranging the user interface for the infographics. I was to continue working on the images for the infographics at this point.

Date: 17th July 2015

.We met up again and this time we spent most of the time working on the code and such. Dyalan found out that it wasn't possible to stack multiple controls on one another as the initial plan we had for displaying the buttons for the components in the infographics was to stack multiple sets of buttons over and display them according to the number of components for that particular view. Nonetheless, he found a workaround for this issue and we showed the result to our group leader, Kapil who was back in Malaysia for the break. I finally finished working on the exterior images and it took longer than expected because it wasn't easy to find an image of a car that had all the components listed, thus I had to resort to edit existing car images to suit the requirements of the car we were to use in our program.

Date: 24th July 2015

Whilst waiting the video and extra images for the interior from our group leader, Kapil, I took the initiative to start doing a little work on the quiz. I managed to create a progress bar which progresses every time the user selects an answer for questions in which he hasn't answered yet. Already answered questions will not affect the bar anymore eventhough the user chooses to change the answer to the question. In addition, I have also written the code to read in the quiz questions and such and have tested it with a set of test data.

Date: 30th July 2015

We held our first group meeting after the break and presented our progress to Luke who commented a little about our progress and such. We confirmed the details of the deliverables for week 3 and decided that we should work a little more for the Infographics and the Quiz segment pretty much until the following week or so as the quiz segment had a little more to add to it and so did the Infographics.

Date: 6th August 2015

The progress presentation is due the following week and we confirmed with Luke regarding the details of what should we present and all. In addition, we showed the progress of the project, including the keyboard functionality and improved parts that we did over the week. Kapil also showed part of the simulation component that he has done as well, and sought Luke's advice over a small error that he has encountered in his code.

.

Date: 13th August 2015

Progress presentation is due and I had also completed the remaining images that was required for the Infographics. We demonstrated the Infographics and the Quiz part of it and the assessors commented on some parts like focusing a little on the safety features that people ought to know when they have a car and such since this program is also aimed at existing drivers. Besides, they

over a small error that he has encountered in his code.

.

Date: 13th August 2015

Progress presentation is due and I had also completed the remaining images that was required for the Infographics. We demonstrated the Infographics and the Quiz part of it and the assessors commented on some parts like focusing a little on the safety features that people ought to know when they have a car and such since this program is also aimed at existing drivers. Besides, they also recommended utilizing a more organized format for our input files like XML.

.

Date: 20th August 2015

We met up again and discussed a little bit on the comments for the progress presentation. Our group leader suggested that we shouldn't focus too much on the other two segments as the simulation part was our priority. I've been trying out the integration of SFML into our project and found that the main program will not respond while the SFML window is on due to an infinite loop. This issue was only faced if I attempt to place the SFML window in an existing control on the form. However, if it existed as a separate window, it wasn't much of a problem. Kapil and Wee then recommended to place the entire Simulation UI into the SFML instead.