

SEGP2 Plugin Group Milestone 7 Report

Total Hours Spend: approx. 339 hours

Executive Summary

Milestone 7, the final milestone for this project, began by reviewing what were the leftover work and issues needed to be addressed. These leftovers are mainly bug fixes and code cleanups. Besides that, the group looked up what sort of documents should be produced and delivered to the customer, Rising Sun Pictures (RSP). Finally, the members had concentrated their resources on integrating the system as a whole. The following were the tasks that had been set by the group at the beginning of the sprint:

- **Week 1:** Cleanup, patch-up and documentation the daemon and GUI plugins design, development and implementation.
- **Week 2:** Continue with cleanup and documentation, and open up resources to the entire group for integration.
- **Week 3:** Finalize all codes and documentations, and hand the project back to RSP.

This is the only sprint that a strict policy of no new designs, research and codings was set, which is mainly a code-freeze throughout the group. This is to ease integration activities, and free up resources to address GIT merging issues that were discovered in the previous sprint. Also, this sprint do not have a formal Gantt as it was agreed to have the members to be self-initiative in assisting integration with the other sub-group. However, there were several deliverables that were planned:

- Metadata (GUI & Daemon plugins) *Mohammad, Keane and Xiaodong*
- Daemon status (Daemon plugin) *Filimoni and Mohammad*
- File Monitor (Daemon plugin) *Ken, Ida and Mohammad*

The deliverables were presented as demonstrations during the final presentation. All three items are related to each other, which are to showcase the improved plugins implementation both in the back-end (the daemon) and the front-end (the GUI). Besides the stated deliverables, new scripts (`earth_plugins`, `list_plugins` and `uninstall_plugin`) were also showcased during the presentation as part of plugins management.

Ken had produced the daemon plugins documentation in this sprint, as part of the documentation tasks assigned. Also, he had helped in producing the GUI plugins documentation as well. Besides documentations, he also assisted in integrating all the works done in previous milestones, and plugins. He helped by planning and strategizing how the mergers should be done with the other core members of the integration as well. He spend about 10 hours this sprint to complete this project.

Filimoni continued with enhancing the daemon feature by redirecting all status information to the front-end. On top of that, he also assisted in the documentation of plugins as a proof-reader. Another significant contribution from him was the assistance on integration as well. He, together with Mohammad and Jon, had managed to have their respective repositories integrated into the final branch. He had spend about 91 hours in this sprint.

Xiaodong and Keane produced the GUI plugins documentation, which presented their thoughts in designing the framework from the ground up. They had spend 42 hours (Xiaodong 24 hours and Keane 18 hours) in having the document written.

Ida pursued with Mohammad to have the `uninstall_plugins` script corrected to support dependent extension plugins. This error was discovered by Ken in the previous sprint while testing. He suggested to Ida that this can be fixed by making the script intelligent enough to

block the removal activity if the plugin being removed has dependent child plugins extended from it. She spend 14 hours in this sprint to have the script amended.

Mohammad had spend 60 hours in this sprint reviewing the daemon plugins code and made sure that there is enough and clear comments. He then performed more tests to confirm that the system is working as expected. Finally, he joined the group in integrating all the codes from all groups and individual repositories as part of the merging activity.

Individual Reports

Attached are the individual reports of each member of the group.

Ken's Milestone 7 Report

Executive Summary

I helped in strategizing how integration should be done, together with Fil, Mohammad and Jon. I suggested to use branches instead of forks to have the integration done. In the end a new fork was created and in that fork, there were several branches created as a buffer for each integration stages. The stages are partial integration between groups. The first two groups were first integrated, then followed by plugins. I have also helped in documenting the plugins design, development and implementation. I mainly re-wrote the document that was written by the GUI plugins group, and compiled all the notes on daemon plugins into a structured document. I was also put in charge of creating the final presentation slides.

Tasks and Activities Assigned

- Co-writing plugins documentations.
 - Daemon Plugins
 - * Description: There were already several prepared notes about daemon plugins that were written by myself. In this sprint, the focus was on getting the plugins integrated and properly documented. The task is to compile the notes into developers comprehensible documents for future reference.
 - * Affected files: `plugin_group/daemon_plugins/*`, `plugin_group/GUI_plugins Doc/*`
 - * Git commits: (pamalite/segp2) `efb25d3bb17772440d08e98f53ede927bc1c16cf`
 (pamalite/segp2) `eee6f84c9a9160d1d17e452b9bc91fb3ecb15676`
 (pamalite/segp2) `55801f180e90aa91ddf88f79d2a7762c40fa7d80`
 - * Estimated time taken (planned): 2 hours
 - * Estimated time taken (actual): 2 hours
- Strategizing and testing integrated branches.
 - Description: Started strategizing with Jon, Fil and Mohammad on how to mitigate merge errors during integration with GIT. Also, I pointed out that we needed a strategy on not relying too much on GIT's merge algorithms as they tend not to merge files properly. Thus, it was suggested to merge files in stages, and each stage is a branch from the master trunk. However, I did not do the merge. I tested the merged stages to help check whether the mergers were properly made. I fixed some errors and committed the corrections back to the respective branches. Some minor merge errors were related to Ticket 66 and missed codes for other tickets which broke the system upon a more in-depth testing was conducted. However, the Unit Test was given up as it was realized that there is not enough time to re-write the extension points codes to cope with Rails' unit test cases.
 - Git commits: (Jonv/earth/group1.2) `619b85e55cabe9c959ea128d8e8536d5fc684d96`
 (Jonv/earth/group1.2.earthd_plugins) `ca3c9fda5539cb10881166195df76e99806bcbfb`
 (Jonv/earth/group1.2.earthd_gui_plugins) `ca3c9fda5539cb10881166195df76e99806bcbfb`
 (pamalite/earth/group1.2) `572f62ecb1c8b806d2745ea69a3698af6f1f84c7`
 (pamalite/earth/group1.2.earthd_plugins) `901bda47ff97d8f4d43a313971653b66b1f15f1a`
 (pamalite/earth/group1.2.earthd_plugins) `1ea191e6ba50bb2458987dd22bed2eda95d935cf`
 (pamalite/earth/group1.2.earthd_plugins) `f643d7727a9f563ab3c1a04f2039f109f2054788`
 (pamalite/earth/group1.2.earthd_plugins) `fe2aea30ec40e46b4d88ca9960a138f864f81bce`
 (pamalite/earth/group1.2.earthd_gui_plugins) `d40768224acf690b7fc0395730ffffb1b78c2bff`
 (pamalite/earth/group1.2.earthd_gui_plugins) `286490b58f53edb0601672efd33bb3c3757b5d04`

```
(pamalite/earth/group1_2_earthd_gui_plugins) 901bda47ff97d8f4d43a313971653b66b1f15f1a
(pamalite/earth/group1_2_earthd_gui_plugins) 1ea191e6ba50bb2458987dd22bed2eda95d935cf
(pamalite/earth/group1_2_earthd_gui_plugins) f643d7727a9f563ab3c1a04f2039f109f2054788
(pamalite/earth/group1_2_earthd_gui_plugins) fe2aea30ec40e46b4d88ca9960a138f864f81bce
```

- Estimated time taken (planned): 4 hours
- Estimated time taken (actual): 4 hours

Resource Contributions

For this milestone, I have estimated that I had spend about 10 hours (including 4 hours meeting time) over the spread of 3 weeks. I have budgeted 45 hours (15 hours per week) for this semester. The other 15 hours were spend on my research project.

Looking at the hours I felt that I have had a productive sprint, though I am only using a fraction of my budgeted hours. The rest of the hours were used on the research project thesis. However, I observed that my skills on using GIT matured the most in this sprint, due to the fact that I was requested to create a backup repository incase that Jon's repository was mistakenly broken. I have also spend some time to help Jon understand some GIT commands to ease integration and synchronizing with the backup repository.

Rooms for Improvement

- Low levels of patience was observed during this sprint. This was because one of the members were not showing interest in helping out with the closing of the project. I lost my patience with the member and had ignored his complaints and ranting completely as I thought this member can be hindrance towards the success of this project, and I focused myself on members who are interested in having a proper project closure. I will try to be more approachable and keep my cool in future projects by trying to have a constructive confrontation with such members.

Xiaodong's Milestone 7 Report

Executive Summary

Milestone 7 is the last milestone for the whole year project. We focused on clean up, polish and integrate existing codes, and also tried to implement a ticket by combining Daemon and GUI plugins. During this milestone, I wrote a document for the GUI plugin, and then integrate my code to the group repository, and worked with others to create the metadata GUI plugin.

Tasks and Activities Assigned

- GUI plugin system documentation
 - Sub-task 1: Write GUI plugin system documentation
 - * Description: The GUI plugin system documentation can help users to understand the idea behind the system, includes introduction, investigation, preparation, implementation, and installation, also an example was given in the instruction section to explain how the whole system works. The draft was created by GUI plugin system development team, and then viewed and corrected by other group members.
 - * Affected Files:
 - Subgroups/plugin_group/GUI plugin Doc/gui_plugins.pdf
 - * Git commits: (pamalite/segp2.git)
 - * Estimated time taken (planned): 25 hours
 - * Estimated time taken (actual): 24 hours (15/10/08-20/10/08)
- Clean up, polish, and integrate existing codes.
 - Sub-task 1: Clean up and polish the existing codes.
 - * Description: The codes for tickets and plugin should be cleaned and polished so that the irrelevant stuff must be removed and useful comments must be added. Also, need to past all the tests before pushing to the repository.
 - * Estimated time taken (planned): 10 hours
 - * Estimated time taken (actual): 12 hours (18/10/08-23/10/08)
 - Sub-task 2: Integration
 - * Description: The code for tickets and plugin system must be integrated to one repository to make a final version of earth.
 - * Affected Files:
 - app/controllers/browser_controller.rb
 - app/controllers/graph_controller.rb
 - app/controllers/servers_controller.rb
 - app/helpers/application_helper.rb
 - app/helpers/graph_helper.rb
 - app/models/earth/directory.rb
 - app/models/earth/server.rb
 - app/models/size.rb
 - app/views/browser/flat.html.haml
 - app/views/browser/show.html.haml
 - config/earth-webapp.yml
 - test/functional/browser_controller_test.rb

- * Git commits: (segp2sg1/earth.git) a0854e2c929e958bfb422b2ecff46883270ebd86
- * Estimated time taken (planned): 10 hours
- * Estimated time taken (actual): 15 hours (25/10/08-28/10/08)
- Implement a plugin for milestone 7 presentation using both daemon and GUI plugin systems (metadata).
 - Sub-task 1: Implement the GUI plugin part with other GUI plugin team member for metadata plugin.
 - * Description: The GUI plugin for metadata plugin contains three filter fields (job, shot, sequence) and one tab (category), the search results must be displayed under the tab.
 - * Estimated time taken (planned): 15 hours
 - * Estimated time taken (actual): 13 hours (21/10/08-27/10/08)

Resource Contributions

For this milestone, I have estimated that I had spend about 68 hours (including 4 hours meeting time) over the spread of 3 weeks. I spent the first week writing up GUI plugin documentation, and then spent the following week to clean up and integrate my ticket and plugin codes, and also spent some time with other group members working on the metadata plugin for end milestone presentation.

Rooms for Improvement

- The integration should be done at the end of each milestone but not the last one. I think each new milestone should be developed based on the works done in previous milestones by the whole project group.
- The project is coming to the end, I started with no experiences on rails project, and then little by little with other group members, we managed to solve several tickets and set up plugin framework for Earth project. I have learnt alot from this project, especially from the second semester. The first semester was not very good for me, because I felt I was working on tickets individually, with no communication with other group members, and things changed in second semester, I worked with other group members as a real team, focused on one thing, and worked together to achieve our goal. So, the second semester was the one that we achieved the most. I think what I learnt from the project will be very useful for me in my future work.

Filimoni's Milestone 7 Report

Executive Summary

For this milestone, integration of all the features and fixes that were developed during the previous development sprints was the highest priority. Hence, changes made in individual and subgroup repositories were pushed to the main group repository. The relevant documentation also had to be reviewed and updated on the project document repository. Furthermore, some pending modifications such as the display of daemon status information on the web-based graphical user interface had to be completed before being included in the main group repository. There were also some significant improvements in the milestone planning processing, in particular the allocation of resources to tasks.

Tasks and Activities Assigned

1. Modify configuration page to update daemon status information in real-time
 - Description: This task involved capturing the daemon status information and displaying it on the web-based GUI in real-time.
 - Affected Files:
 - app/controllers/servers_controller.rb
 - app/models/earth/server.rb
 - script/earthd
 - Git commits: (`ssurfer/earth.git`) `dc1a5ef6cbb3898bf66702304d70e3a5d283993e`
 - Estimated time taken (planned): 30 hours
 - Estimated time taken (actual): 30 hours
2. Integrate tickets done by Subgroup1 in previous development sprints (milestones)
 - Description: This task involved merging the fixes for tickets that were attempted during the early development sprints for subsequent integration with the main group repository.
 - Affected Files:
 - app/controllers/browser_controller.rb
 - app/controllers/graph_controller.rb
 - app/controllers/servers_controller.rb
 - app/helpers/application_helper.rb
 - app/helpers/graph_helper.rb
 - app/models/earth/directory.rb
 - app/models/earth/server.rb
 - app/models/size.rb
 - app/views/browser/flat.html.haml
 - app/views/browser/show.html.haml
 - config/earth-webapp.yml
 - test/functional/browser_controller_test.rb
 - Git commits: (`segp2sg1/earth.git`) `a0854e2c929e958bfb422b2ecff46883270ebd86`
 - Estimated time taken (planned): 30 hours
 - Estimated time taken (actual): 30 hours
3. Assist with integration of SEGP2 Repository for Milestone 7 (Final)

- Description: This task involved integrating the repository of the various project sub-groups to create the final group repository.
- Affected Files:
 - app/controllers/application.rb
 - app/helpers/application_helper.rb
 - app/views/browser/_breadcrumb_and_filter.html.haml
 - app/views/layouts/application.haml
 - vendor/plugins/plugin_bios/MIT-LICENSE
 - vendor/plugins/plugin_bios/README
 - vendor/plugins/plugin_bios/Rakefile
 - vendor/plugins/plugin_bios/generators/plugin_bus/USAGE
 - vendor/plugins/plugin_bios/generators/plugin_bus/plugin_bus_generator.rb
 - vendor/plugins/plugin_bios/init.rb
 - vendor/plugins/plugin_bios/install.rb
 - vendor/plugins/plugin_bios/lib/plugin_bios.rb
 - vendor/plugins/plugin_bios/tasks/plugin_bus_tasks.rake
 - vendor/plugins/plugin_bios/test/plugin_bus_test.rb
 - vendor/plugins/plugin_bios/uninstall.rb
- Git commits: (Jonv/earth.git) e55a0dc1bda43819357e849373f72f4074089481 (branch: group_1.2_earthd_gui_plugins)
- Estimated time taken (planned): 20 hours
- Estimated time taken (actual): 16 hours

4. Review Earth Daemon and Earth GUI plugins documentation

- Description: This task involved reviewing the documentation of the various aspect of the Earth application, particularly the newly added plugin framework, to ensure better comprehension and understanding.
- Affected Files:
 - Subgroups/plugin_group/daemon_plugins/daemon_plugins.pdf
 - Subgroups/plugin_group/GUI plugin Doc/gui_plugins.pdf
- Git commits: (pamalite/segp2.git)
- Estimated time taken (planned): 6 hours
- Estimated time taken (actual): 12 hours

Resource Contributions

Apart from the under-resourced Task 4, the planned allocation of resources (time) was quite accurate for the designated tasks (Task 1 - Task 3) during this development sprint (M7). This can be explained by the improvements made during the previous development sprints. As a developer works on a project for a number of development sprints or cycles, planning efforts is expected to improve. As a result, the planned development time of 86 hours for this milestone was quite close to the actual development time of 88 hours.

It should also be noted that for Task 1, the initial design of updating and fetching the daemon status information in real-time through the database, was quite inefficient and lacks the necessary responsiveness for such feature to be of any practical use. Further investigation showed that the implementation of the daemon status update feature could be improved significantly by simply

bypassing the database processing. This would involve having the necessary model method spawn a sub-process to invoke status command on the daemon and return the daemon status information to the parent process, which subsequently passes it on to the relevant view page for display on the web-based GUI (browser).

For Task 4, the documentation review process took more time than budgeted due to the inconsistency of the various part of the document. It had been wrongly assumed that the different parts of the documents (drafted by different developers) will adopt a similar writing style and cohesiveness. This was not the case and further efforts had to be expended to improve documentation for the plugin systems. While the submitted final documents is not quite perfect, it is certainly more understandable than the initial draft.

Room for Improvement

As in previous milestones, some improvements could have been made during the course of this (M7) development sprint. In addition to the swift resolve of the problems with Tasks 1 and 4 mentioned above, the integration of ticket fixes should be made as and when they become available. This involves pushing all the changes up to the main group repository perhaps at the end of each development sprint. It should not be left until the final development sprint because it ties up a number of significant resources that could have been better utilised on other aspects of the project.

Kun Zhou's Milestone 7 Report

Executive Summary

In this milestone which is the last sprint of project, following the progress of last six milestones, we decided to integrate all the ticket and the plugin system including daemon part and GUI part. Additionally, for the GUI plugin system, a completed documentation is required, including research and instruction. After that, on friday, there is a final presentation for RSP. Each of us need to introduce the progress of earth in the whole project.

Tasks and Activities Assigned

- Documentation
 - Based on the process of GUI plugin system development, a documentation is created. I am in charge with the GUI plugin structure and instruction part. It is very complex to describe the whole structure of GUI plugin system and how to use it. Therefore, a lot of diagrams are attached with the document to make the whole process a little distinct.
 - Estimated time taken (planned): 15 hours
 - Estimated time taken (actual): 18 hours
- Integration for GUI plugin
 - Sub-task 1: Improvement of GUI system structure
 - * For the future development, i made a little modification of GUI plugin system before integration. The latest version is very convenient and easy to be understood. This version is the one shown on the presentation and in the document.
 - * Estimated time taken (planned): 5 hours
 - * Estimated time taken (actual): 6 hours
 - Sub-task 2: Integration
 - * After integration of all the completed tickets and the daemon plugin system, GUI plugin system is integrated as a another branch of earth. The testing did not cost me too much time. Because of the version of postgresQL, I cannot migrate database correctly. Therefore, I cannot test it completely. Fortunately, the modification is just about the GUI. There is no relationship with new feature of database structure.
 - * Estimated time taken (planned): 18 hours
 - * Estimated time taken (actual): 20 hours
- meeting and discussion
 - In this milestone, most of work need teamwork and cooperation. For this reason, we took a lot of time on meeting and discussion. That is the base of progress.
 - Estimated time taken (actual): 10 hour

Resource Contributions

In this Milestone, time management is pretty good. Most of time was mainly spending on integration. Because of the final spring and the progress of previous milestone, the whole work went in plan.

Rooms for Improvement

This is the final milestone, improvement is great obviously. Each work was completed almost on time in plan. However, the skill of planning still need to be improved.

There are still some problems to solve: Firstly, Rails development is huge. I can't understand such a great structure in just 7 months. Some more research is needed. Secondly, resource management is required to be better. For becoming a good software engineer, I still have to improve the ability. Fortunately, I have passed and got a lot of skills. It should be improved in the future. Additionally, I cost too much time on solution of a particular problem and tried to gain it individually. I should have sent it to the whole group and discusses with the others. It should be a better way to conquer the wall of difficulties.

Mohammad's Individual Milestone 7 Report

Executive Summary

This report records my activities which are related to the Earth project development for Milestone 7 period from 13-October-2008 to 2-November-2008.

In this sprint, the main focus was on integrating all the previous milestone's code into one repository. I started by reviewing the earth daemon plugin's code and make sure that there is enough and clear comments in the code. Then, I performed more tests to confirm code success. Finally, I joined the group in integrating the code from all groups and individuals repositories into one main repository.

Tasks and Activities Assigned

- ***Reviewing Earth daemon Plugins' Code:***

Review all Earth daemon code and make sure that the code is clean and readable. Then, insure that the plugins installation is smooth. Also, add comments to ease understanding the code.

This includes the following code changes:

1. New special methods were added inside each new plugin. These methods will be used to provide any required data which needs to be inserted into the system database. An example of this is a plugin extension points. So, when a plugin is installed a special method named (migration-up) will be called to add new records to the database. On the same way, a special method named (migration-down) will be called when a plugin is uninstalled to remove any data which is used by this plugin.

Git Commits:

Jonv/earth/ab698ee229

Jonv/earth/1a027b0118

Jonv/earth/d514a875ad

Jonv/earth/6512ef9d4476

2. Read the search criteria in the GUI from the metadata attributes table. By doing this, the GUI search criteria will be flexible and it will be changed depending on the installed plugins.

Git Commits: Jonv/earth/941ffe0d6d5

3. Change the file monitor status reading approach. When we changed file-monitor to a plugin the earth daemon (status) script was damaged. That is because the old script is reading the (status) information from a file-monitor instance variable. I changed this so the script will read the status from a log file instead.

Git Commits: Jonv/earth/4296cc85b8e

Jonv/earth/356c49fe2c7

Jonv/earth/2337035f1

4. Give the developers a choice of running file-monitor as a plugin or not. This choice makes testing file-monitor easier.

Git Commits: Jonv/earth/1982dd82fcec

5. Add more comments and perform minor fixes like changing some method names to avoid any Ruby methods overriding problem.

Git Commits: Jonv/earth/3fb9eedc3

Jonv/earth/1e508f971

Jonv/earth/914bf757f3

Jonv/earth/22b584ab1

- ***Integrating All Groups Code into One Repository:***

I worked in conjunction with Ken, Filli and Jon in integrating all groups code into one unified repository. We started by creating a new repository to hold the merged code. Then, we created separate branches for each group: group1, group2 and group3. Then, we merged group1 and group2 into a new branch: group1-2. Next, we add earth daemon plugins code: group1-2-earthd-plugins. Finally, GUI plugins code was merged: group1-2-earthd-gui-plugins.

Git Commits: Jonv/earth/f803e612ac

Jonv/earth/bd2182473e

Jonv/earth/40e772e229

Jonv/earth/a93251ff7b

Jonv/earth/69c958090b

Jonv/earth/4e0d8b7a38

Jonv/earth/819cbbea2a

Jonv/earth/addf7a99e0

Jonv/earth/ea6e6fa36d

Jonv/earth/b0d3c77061

Jonv/earth/dea6c53537

Jonv/earth/a79f386e74

Jonv/earth/e55a0dc1bd

- ***Fix Deleting Directory Feature:***

When integrating the code, a new problem occurs when testing the deleting directory feature with the files metadata. The problem was fixed immediately and easily.

Git Commits: Jonv/earth/733dc42588

Resource Contributions

I estimated that I will spent about 50 hours for this milestone. I have spent about 60 hours including meeting times. It seems that I underestimated the integration effort. It includes many meetings and consumes huge time and effort until we made it right. In addition, I spent about 10 hours in preparation for the last presentation.

Milestone Observations

Different groups have worked on developing this project. In addition, the groups distribution has changed during the project lifetime. Each group has created its own Git repository. This adds more complexity to the integration process. In order to avoid this problem, the repositories must be in sync at the end of each milestone.

At the end of this project, I think we managed to deliver a very good framework for creating daemon plugins and GUI plugins. In future, this framework could be used to redevelop the whole earth GUI as plugins. In addition, different daemon plugins could be developed easily and new functionality could be added.

Qing Yang's Milestone 7 Report

Executive Summary

This milestone was the final milestone for the Earth project. The first task for this milestone was completing and polishing, so that all the functionalities were implemented properly. The second task is integration and finishing all the documentation. Finally we prepared for the final presentation.

Tasks and Activities Assigned

- – Finishing the uninstall script with dependencies
 - * Description: Finishing the functionality of uninstall script with all the dependencies. It means that when a plugin is removed, all its child-plugins and the related extension point should be removed at the same time.
 - * Affected files: `earth/lib/Earth_plugin_interface/plugin_manager`
 - * time taken (planned): 16 hours
 - * time taken (actual): 14 hours
- – retesting all the functionalities
 - * Description: I tested all the functionalities that I have implemented so far and making sure everything is proper before integrating.
 - * time taken (planned): 15 hours
 - * time taken (actual): 15 hours
- Writing comments for all the code that I have written so far.
 - Description: I wrote comment for the code that I added to clarify what the code means and how it works, so that other developers will work on it easier.
 - time taken (actual): 15 hour
- Preparing for the final presentation
 - Description: We had meeting for the final presentation, everyone was assigned to present a part related to his/her work. I was assigned to present the part about the installation of daemon plugin.
 - time taken (actual): 8 hours

Resource Contributions

For this milestone, I have estimated that I had spend about 60 hours (including the meeting hours) over the spread of 3 weeks.

Huang Jian's Milestone 7 Report

Executive Summary

In this milestone, I fix test case for my gui plugin technology and finish my research report. Meanwhile, because we choose rails plugin technology for Earth Gui Plugin, I join the other two members to finish our final presentation.

Tasks and Activities Assigned

- Test Case
- Description: Compared with rails plugin, my way is new. And the one of the benefits of the rails plugin is that it supports developers to test what they code easily.
- Estimated time taken (planned):30 hours
- Estimated time taken (actual): 30 hours
- Individual Research Report
- Description: Document what I've done. And thank ken for checking my paper.
- Estimated time taken (planned):20 hours
- Estimated time taken (actual): 15 hours
- With gui plugin members to fix and develop the way to create plugin for gui, and prepare our presentation.
- Description: Document what I've done.
- Estimated time taken (planned):30 hours
- Estimated time taken (actual): 25 hours
- Use rails plugin to try to create my idea.
- Description: Rails plugin uses a debating function BaseSend. It destroys the structure of rails. And I try to use my technology to avoid using it.
- Estimated time taken (planned):0 hours
- Estimated time taken (actual): 0 hours

Project Summary

In this whole year project, I think I've learned a lot, not only the knowledge on the new web developing language, ruby on rails, but also the way to learn and work in australia. If say that I was confused at the beginning of this project, I have walked through the dense fog at the end.