**Detailed Work breakdown**

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| **Week** | **Activity** | **Time(hrs)** | **Description** |
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| All | Lecture | 20 | Approximated time on lectures. Main goal Upskilling |
| Register to Logbooks and minutes | 10 | This includes time spent every week to update logbook, create minutes, communicate with the team through slack and other tasks that was minor to be recorded. |
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| 1 | Email | 1 | Several attempts to organize meeting with Supervisor |
| 2 | Trello board preparation | 1 | I took initiative to create a Trello board which includes the items to be delivered on the project proposal. Also set such it will guide the team through the project. |
| Google drive Preparation | 1 | I have also created a shared google folder for sharing information\files. |
| OneNote Preparation | 1 | OneNote was set to assist us to create reports and real time editing as a group. |
| Meeting | 2 | Meeting with supervisor took about 30mins and we learned that will be a change of supervisor and therefore the current supervisor can be of not help. At this stage we are "stuck".  Team took advantage of this meeting to discuss future steps and to add few tasks on Trello.  We will await on supervisor email by Monday. |
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| 3 | OneNote preparation | 1 | Given structure to the Project Proposal, this refer to every single documentation that will be presented and order. Included is the time taken to record questions to Moderator\Client. |
| Group meeting | 1 | Refer to all minutes for this week |
| Working on documentation | 4 | I have reviewed the Documentation and added new information to it. I have created a Rationale for the project and temporary project Scope and Objectives, I edited the projected opportunity to a better description. |
| Meeting with moderator | 2 | Our meeting with the moderator Dr. Stephen went well, some advice was given and further explanation about the project problem too. Several questions was addressed. \* Refer to the log Section for further details |
| Meeting with Client | 2 | Later on the same day we met our Client Dr. Hankins as well as Dr. Stephen. Client explained his vision and the problem, showed us a video of the competition. Several requirements were introduced. \* Refer to the log Section for further details |
| 4 | Group Meeting | 3 | Refer to meeting 23-03. We worked together on different sections of the project proposal, discussed information that should be included and which should be left aside. Also, in this meeting we reviewed information acquired from meeting with Client and moderator from week before. At the end of this meeting there was a clearer vision on what we would be doing for each section. |
| Trello preparation and tasks delegation | 1 | Addressed names to tasks, due dates, priorities. Uploaded documentation, such as requirements project prospectus, link to video of Mathex |
| terms of ref. | 1 | Self-explanatory |
| rationale | 1 | Self-explanatory |
| scope and object | 1 | Self-explanatory |
| project plan | 2 | Self-explanatory |
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| 5 | Group meeting | 1 | Refer to minutes 28-03-17 . More info bellow |
| Project proposal development as a team | 4 | Within the same meeting each team members worked on their individual tasks and review with group constantly. By the end of the meeting we had a project proposal draft which needs to be refined. Project proposal is still in development, justification and project phases to be specified . |
| Project Plan dev. | 2 | Define project plan and project phases |
| formatting the final version | 3 | Final review and format after Heyley put all together. Included missing project plan parts.  Edit\Format network diagram, WBS and provisional Milestone Plan. |
| Presentation | 2 | Project proposal presentation |
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| 6 | Meeting with Supervisor | 1 | Received Feedback of our proposal and recommendations |
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| 7 | Upskilling\research | 6 | Spent several hours, if not days, leaning the basics of how to use Google App Engine. This was done to get a feel of how is to use a platform as a service system. Because I believe that this would be the best choice for our project based on team members skills and time we have I decided to research on the subject . The time claimed for this tasks has been minimized. |
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| 8 | Group Meeting | 2 | The meeting goal was to get everyone back on track and it worked. Refer to meeting form 11-05-17 |
| Trello Board Updated | 1 | Added new tasks to our board\ new suggestions\ reviews\ those were taken from the project proposal feedback and then allocated to each person accordingly. |
| Team track | 1 | After the break was important to know where we stopped and where we were intending to go. I reviewed our progress and what need to be changed. Came up of ways to approach the project plan and put the team back in track. |
| Approach plan | 1 | I spent time thinking of ways to advise team members such that each one would know what they have to do and that would be simple and clear enough to carry out independently. Question such as what part of the feasibility study should be done first and why? Who should do them and why? Who should work with whom? Listed missing documents such change management plan and quality management plan. |
| Upskilling | 4 | Watched several videos on youtube learning how to use JSP and servlets. The more we discuss of what will be built java is the preferable language by my team mates, because I don not have any experience on this matter, I took few lessons online. The time claimed for this task has been minimized. |
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| 9 | Prepare week plan | 1 | As discussed and agreed last group meeting, created a to do list for this week. This will be available at request. |
| Review supervisor feedback | 1 | Supervisor provided many points to look into, for example technologies to be used, possible hardware assumptions, infrastructure requirements. Critics to project proposal. Highlighted what will be relevant to my part, hardware research. |
| Research about feasibility study | 1 | Define what is necessary to satisfy the report. Learned main points for different feasibility study, focused on technical study. |
| Prepare question and requirements for the technical study report | 1 | Define guidelines for future work and the report. Set requirements which should satisfy our study |
| Group meeting | 1 | Learned about Torteizegit, evaluate advance on the project |
| Other Tasks among the week plan | 3 | Time allocated to work on the tasks assigned for this week. This is an assumption as tasks involved communicating with many external parts and research undertaken on any free time. |
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| 10 | Research | 2 | Research into networking hardware such routers, wireless access points, DHCP servers Got familiarized with the questions that must be answered in order to set up a system |
| Meeting with engineer | 2 | My Friend Network engineer went through several components of a network. helped me identify more questions that would help in our project and recommended  Devices such routers and etc. Also, advised on some 3rd party companies |
| Meeting with supervisor | 2 | Meeting supervisor was very helpful to acquire more understanding about the technical component of the system. We went through the feedback provided previously and attempted to have a clearer idea of the project. Also, discussed benefits between a cloud-based system to a locally hosted system. Supervisor also advised on few infrastructure components |
| Creation of quality Plan | 1.5 | Build a quality plan for the project. Further review is needed |
| Creation of Change management | 1.5 | Build a Change management Plan and a change request template. Further review is needed |
| Email\Communication | 1 | Email stakeholder about the venue\ inform team about updates throughout the week |
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|  | Total | 101 | Total for 10 weeks. Week 11 and 12 not included. |

**Work breakdown summary**

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| Lecture | 20 | Approximated time on lectures. Main goal Upskilling |
| Register to Logbooks and minutes | 10 | This includes time spent every week to update logbook, create minutes, communicate with the team through slack and other tasks that was minor to be recorded. |
| Meetings | 20 | Group, supervisor, client, external meetings |
| Project Proposal | 26 | Includes all activities\work done towards the project proposal |
| Planning phase | 16 | Includes research\ production of report\ questions\ communication with external part. |
| Upskilling | 10 | Time spent on learning new skills\ tools\ research of new technologies. |
| Total | Approx. 102 |  |

**Leaning achieved**

The R&D project has been very challenging from the very start and it has tested our team’s patience, organizational and communication skills. Although, It is a paper that involves several technical components as it is expected to there has being so far a significant demand for adaptation and proactivity in order to deliver.

From the very start we have had one full-time worker and a part-time worker who is me and all team member leave considerable far distance from town. It then points out the difficulty to organize meetings or anything if not with much notice prior any event. By the first week the team had met and attempted to contacted the supervisor which was only available in an acceptable time on week 2. On our meeting with the supervisor we learned that she would not be our supervisor anymore and did not know who would. Consequently, we were only presented to our supervisor in week 5 as we presented our project proposal.

Because of the facts presented, I have learned the importance of recording any or all events that happen in the project and understood its benefits. I realized that in some real environment project we could simply not have enough information and yet you must ensure you can present work and be prepared for when it comes. Out of necessity I took the leader role to guide the team and assist with delegating tasks. Soon I noticed that it is harder than I expected, there was some reliability that I would know what to do and who should do what as well as maintain track of progress.

Moreover, in our planning phase the amount of research and introduction to new technologies were just overwhelming. I have had a change to explore technologies such Google App Engine, learned about servlets and JSP, explore the use of Tomcat server, introduced to GitHub project manager, got to use the tortoiseGit tool which we have used to keep version control of this report among others such OneNote. However, the biggest challenge has been understanding infrastructure needs such networking devices and how it works, for instances routers, wireless points and DHCP server.

For the hardware requirements, I am currently researching options that support the requirements for the project in proposal. So I was required to research about servers and implementation strategies to come up with solutions but only after understanding the purpose of reverse proxy server, application server and database and how to fairly be able to know what specifications these ones must hold to satisfy demand. I am still deepening my knowledge into virtualization and much more is still to be developed in this area of the project.

To conclude, the flexible scope or this project allow us to explore many areas of technology, apart of what mentioned above there is much more I could learn about Iaas, Paas and Saas. But for now enough have been explored, to add some more to my list we have got familiarized with Feature driven development(FDD) and Kanban, Slack and even seen how a project plan is useful for instance. This journey has been frustrating due to my unexperienced and limited knowledge but little by little we have achieved our goals.