# Reflective Report

## Assignment for Course PA2521

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**Article 1: “Choosing the right prioritization method”**

**Motivation for selection:**

This article is valuable in the software requirement engineering domain. In this article, the author mentions requirements prioritization is a vital step in the software development process. Prioritization has many benefits, such as reducing the risk. Then the author mentions four main method for requirements prioritization. They are simple ranking method, MoSCoW method, AHP method and hundred-dollar method. The author not only describes the principle of each method, but also show the advantages and disadvantages of each method. From this article, I can learn lots of method for requirements prioritization. So, I selected this article.

**Implementation plan:**

Because there are four methods has been introduced from this paper. I will select a suitable method for my technique. This method is MoSCoW method. We will follow several steps to use this method. At first, we classified the requirements into different types. Then according to the stakeholders’ opinion and our own experience, we will classify these 208 requirements into 4 different levels. They are Must Have, Should Have, Could Have and Won’t Have. When we do release planning, we will first focus on the Must have level requirements, then focus on the should have level requirements, next we will focus on the could have level requirements, at last, we will focus on the won’t have level requirements.

**Execution:**

　　Because of the requirements have already been divided into 11 different types. So in this assignment, at first, we only need to find out all the must have level requirements from all the different types. Then we need to find out all the should have level requirements from all the different types. Next, we need to find out all the could have level requirements from all the different types. At last, we need to find out all the won’t have level requirements from all the different types. When we do the release planning, we will do the follow the order of Must->Should->Could->Won't.

**Proof of Concept:**

|  |  |  |
| --- | --- | --- |
| Number of RQ | Requirements name | Type of MoSCoW |
| No.11 | Personal Start Page | Must |
| No.77 | Search option | Must |
| No.8 | Course Information | Must |
| No.15 | Course File Archive | Must |
| No.65 | Add New Users as Course Participators | Must |
| No.1 | Restricted Interface | Must |
| No.67 | Reply to Message | Must |
| No.87 | Notification Alerts | Must |
| No.5 | Manage and Conduct a Course | Must |
| No.71 | Grade export not working | Must |
| No.3 | Secure Product | Must |
| No.23 | Discussion Forum | Should |
| No.4 | Limited Views | Should |
| No.57 | Access to change in Course File Archive | Should |
| No.135 | Automatic enrollment | Should |
| No.63 | First login | Should |
| No.199 | Relationship of developers | Should |
| No.181 | Latest Changes | Should |
| No.156 | Course related events | Should |
| No.172 | Collect the files | Should |
| No.26 | Support Unicode | Should |
| No.19 | User Interface Language | Could |
| No.195 | Login information representation | Could |
| No.73 | Streaming Video | Could |
| No.74 | Register option for courses | Could |
| No.104 | Enable and disable option for automatic logout | Could |
| No.85 | User-friendly information | Could |
| No.154 | User profile picture | Could |
| No.93 | Recovery Email validity | Could |
| No.100 | Sentiment Analysis | Won’t |
| No.95 | Admin Functionalities | Won’t |

**Lesson Learned:**

　　For this project, there are 208 requirements. As we know that, more than 1000 requirements are large scale requirements. 208 requirements are not belonging to LSRE, but it is also a difficult thing for us to dealing with these requirements. MoSCoW method is a good method for requirements prioritization. I·t also can help us understand the requirements. From learning this article, I find there are many benefits of MoSCoW method, such as quick and easy to learn, easy to handle and so on.

**Reflection:**

　　There are some other articles that in favor of using MoSCoW method in requirement prioritization. Such as article [3][4], they all propose to use MoSCoW method for prioritizing requirements. From these articles, we known that MoSCoW method has many benefits, but the requirements prioritization method not only have MoSCoW method. There are many different requirements prioritization method, such as AHP, 100$ and so on. When we chose a suitable method to prioritizing requirements, we need to consider both advantages and disadvantages of each method.

**Article 2: “An industrial survey of requirements interdependencies in software product release planning."**

**Motivation for selection:**

　　This article is about interdependencies in requirements. In each release, it is a complex task to determine which requirements should be implemented. So there will be a viable product in each release plan, in order to ensure a viable product, it is important to determine the interdependence between given requirements before developing a release planning process. If we do not consider the dependencies between requirements, when part of requirements changed or new requirements injected, it will be produce a lot of problems that could lead our entire project failure. So, in order to understand how interdependency works between requirements and why this is that much important for release planning, I decide to select this article.

**Implementation plan:**

Because this method needs prior prioritization of the requirements, so, at first, I will according the customer value to grouping the requirements. The method requires top 20 requirements to know the interdependencies so prioritization is necessary. So the next step is requirements prioritization. I will select top 20 requirements as our analysis objects. And I will use an excel sheet for performing this activity. So by using these, I determined interdependency type between requirement.

**Execution:**

The execution process includes six steps; we will follow these six steps to complete our execution phase.

1. Requirements prioritization.

2. Select top 20 high priority requirements from the 208 requirements.

3. Placed these 20 requirements in an excel sheet.

4. Each requirement can pair with other 19 requirements.

5. Determine the six type of interdependencies: REQUIRES, AND, CVALUE, ICOST, TEMPORAL, OR.

6. Use the six type of interdependencies to determine the top 20 requirements interdependency.

**Proof of Concept:**

At first, finish the first step of execution phase.

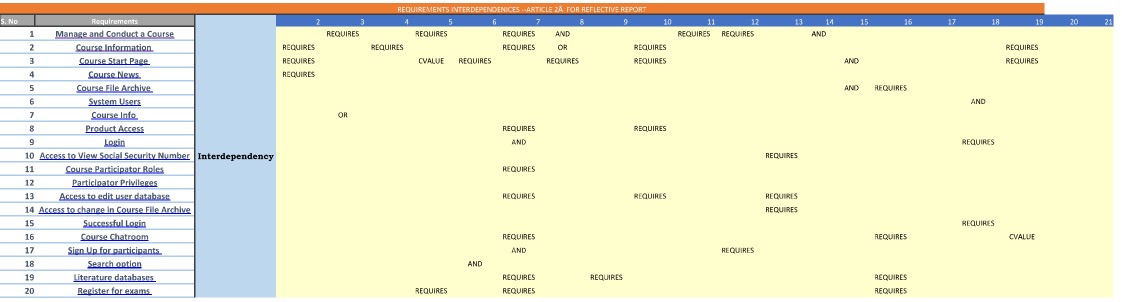
The top 20 requirements will show in the following table:

Top 20 requirements selection:

|  |  |
| --- | --- |
| Number of requirements | Name of requirements |
| No.11 | Personal Start Page |
| No.12 | Course Start Page |
| No.77 | Search option |
| No.98 | Search engine |
| No.8 | Course Information |
| No.15 | Course File Archive |
| No.82 | Access to upload and download assignment |
| No.65 | Add New Users as Course Participators |
| No.75 | Add New Users as Course Participators |
| No.1 | Restricted Interface |
| No.2 | Personalized Views |
| No.27 | Login/Logout |
| No.67 | Reply to Message |
| No.5 | Manage and Conduct a Course |
| No.173 | Account Settings |
| No.71 | Grade export not working |
| No.96 | Course feedback |
| No.107 | Course Assessment Record |
| No.3 | Secure Product |
| No.41 | Access to Course Administration |

Each requirement can pair with other 19 requirements. For example, he above requirement is R1. So R1 is paired with other requirements to do a pairwise assessment. Like following {R1, R2}, {R1, R3}, {R1, R4}, {R1, R5}, {R1, R6}, {R1, R7}, {R1, R8}, {R1, R9}, {R1, R10}, {R1, R11}, {R1, R12}, {R1, R13}, {R1, R14}, {R1, R15}, {R1, R16}, {R1, R17}, {R1, R18}, {R1, R19}, {R1, R20}. We will show the interdependencies use six value. They are REQUIRES, AND, CVALUE, ICOST, TEMPORAL, OR.

The interdependencies between the requirements will be shown in the following figure.



**Lesson Learned:**

From this article, I known that it is necessary to determine interdependencies between requirements. Because it will help which requirements need to be implemented first and which requirements can be implemented any time as there are singular requirements which are not dependent on other requirements. Because of the poor experience and knowledge, I think it is very difficult when we comparing one requirement with other requirements. Because the dependency is very complex. So, in order to find out a right dependency map, we need to read more relative articles. And learn some requirements prioritization method is also very important.

**Reflection:**

I think there is a risk that the interdependent requirement may be rejected which leads to risk in project.

From read literature [5], I think understand the interdependent between different requirements is very important, because it can affect in release planning to select the requirements.

Another question is the technique selection problem. Because interdependency between requirements have traceability issues so a tool should be used to trace correctly and even spreadsheet is difficult. So this technique is important but should be extended by using a tool rather than spreadsheet.

**Reference**

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[3] Leonov A S. Ill-posed Problems in Natural Sciences: Proceedings of the International Conference Held in Moscow, August 19-25, 1991[M]. VSP, 1992.

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