**Individual Release Planning**

***Assignment For Course PA2521***

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**Brief Product Description：**

Our system is a course management system, aims at serving the university students and teachers. It should satisfy the basic teaching requirements and make the daily teaching more convenient and efficient.

Based on the previous experience and our current course student’s suggestions, we have listed 208 requirements that present on GitHub. After I read and summary the requirements, I think our product is a multifunctional Web-platform software product. It includes most of functions that ItsLearning platform has, and there are some more addition and improvement.

**Company size and investment in product**

1. *Two agile development teams will go to work on this product.*
2. *For each team, there are 5 individuals who do the actual work (including the basic development process:* analyze, design, develop, test, document, etc*)*

*3. Both agile teams will involved in the whole product development, for reducing the risk of frequently change staffs cause bad influence.*

**Roadmap**

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| --- | --- | --- | --- | --- |
| Date | Jan.2017-Mar.2017  3 months | Apr.2017-Sep.2017  6 months | Sep.2017-Mar.2018  6 months | Apr.2018-Jun.2018  3 months |
| Name | Version 1.0 | Version 1.1 | Version 1.2 | Version 2.0 |
| Goal | Build an executable product as soon as possible. The user can view the interface and search for the information that they want | The user can have some more operations that interact with the system or other users. | Implement the preferred function requirements，other requirements and satisfy the NFRs to serve the stakeholders.. | As, the product is mainly complete, we can add some function that we should or could to better it. |
| Feature  /Theme | Set Up Basic web platform frame. | Set up like a management system. | Add more elements based on university course background.  And ensure the quality. | Some more additional features that help better the product. |
| Source | 2 agile development team with separated working place | | | |
| Metrics | 1. The response time of accessing the interface 2. The number of sub-page, bottom, frame | 1.The response time of sending and receiving message. 2. The speed of uploading and downloading | 1. Some little functions performance. 2. If a new user can register easily and assess in the system | 1. How many requirements finished additionally. |

During the pre-study, we have focused on discuss about summarize the stakeholders’ viewpoints. There are mainly which we discuss on ItsLearning as following:

|  |  |
| --- | --- |
| Role | Viewpoints |
| Teacher | Uploading the relevant file, Collecting student’s assignment, evaluating by giving feedback and grade. Communication… |
| Student Admin | Modify student information, Grade and credit management, Notification, Communication… |
| Students | Edit for own account, course register, Email alert, View Course schedule, View our course information… |
| Developer | Database to store the data, High compatibility to run in different environment, High Security for personal information should be executed… |
|  |  |

**Releases**

For theme 1: 1-A.Complete User Interface 1-B.View 1-C. Search

For theme 2: 2-A Basic login/ logout function 2-B. Upload and download function 2-C. Communicate 2-D. Edit or delete

For Theme 3: 3-A Register 3-B. Notify 3-C Evaluate 3-D. Other 3-E.Non-functional requirements

For Theme 4: Should have requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Jan.2017-Mar.2017  Release 1 | Apr.2017-Sep.2017  Release 2 | Sep.2017-Mar.2018  Release 3 | Apr.2018-Jun.2018  Release 4 |
| Team1 | 1-A | 2-A, 2-B | 3-A, 3-B, 3-C | For 1-A 2-A, 2-B  3-A, 3-B, 3-C related requirements |
| Team2 | 1-B, 1-C | 2-C, 2-D | 3-D, 3-E | 1-B, 1-C 2-C, 2-D 3-D, 3-E related requirements |

There are about 208 requirements in total. After we have processed the joint activities, we label and classify the requirements.

We come up with several types of requirement to classify our requirements.

There are 12 types of our requirements as following:

Upload and download file, Non functional requirement, Communicate, Log in and log out, Notify, Edit or delete, View, Search, Other, User Interface, Evaluate, Register.

In the first release, I want to select achieve the requirements which related to User Interface, View, Search, For this part, the basic frame with basic function can be completed.

In the second release, I want to Basic login/ logout function, Upload and download function, Communicate, Edit or delete,

In the third release, I want to implement Evaluate, Register, Notify, Non functional requirement, Other.

In the last release, I want to pick and implement some rest of the requirements.

For building up our roadmap, we would like to group requirements into themes, we organize our roadmap in a way that describes value to stakeholders. Our primary goal is to get a working product as soon as possible.

For agile release cycles should be kept as short as 6 months or 3 months, I would like to divide my project into 4 releases. For each release, the iterations are going to be 2 weeks each, so for 6 months, the release will consist 13 iterations.

**Release Planning Strategy**

***Release Planning Method:***

The release planning method that I would like to use is ***Theme-based Product Release Planning.***

Theme-based Product Release Planning is a method that aims at offering features in a particular release with considering of their cohesiveness. And the release plans are generated based on a balance between two targets: 1) considering the values of each feature 2) detecting and utilizing effects between related features.

***Motivation:***

As I have summarized and listed the requirements and understand what features of the product should have. It’s easy to base on analyzing their dependencies and applied the Chinese Whispers algorithm and get the Clustering result which could help us get a release plan that with theme based. For there are total 12 types of requirements that I listed, it could be easier to combined with the theme-based method to build a great release planning.

***Prioritization Method***

I would like to choose ***MoSCOW***

MoSCOW is a prioritization method that can give a hierarchical order of preference for groups of requirements. MoSCOW plays an important role in Agile project management.

Instead of numbers or ranking, this method is executed by four priority groups: MUST, SHOULD, COULD, and WON'T

***MUST have***: Requirements labeled as must have has the highest priority, if one is not includes, the project delivery will considered as a failure.

***SHOULD have***: Requirements labeled as should have are important and of high priority, it would be nice if achieve it.

***COULD have***: Requirements labeled as should have are Preferred but not necessary,

***WON’T have:*** Requirements labeled as won’t have can be postponed and suggested for future execution, they are not necessary at this time.

***Motivation:***

With this technique, we can prioritize requirements in a more directed and easier way that we don’t have to rank or score each requirement. And MoSCOW has several advantages: 1. It is quick and easy to perform 2. It helps category information 3. It is Suitable for Goals and High Level Requirements

**Execution of Release Planning**

The 208 requirements are referenced from the GitHub source from <https://github.com/mickesv/LSRE-ReleasePlanningProject/issues> and we have classified them by different types.

Before I conduct my release planning, I should have a deep understanding of what the requirements describe and who are the stakeholders that come up with the requirements. So the repeated content of the requirement will be deleted (for I mark Won’t have for them without deleting them directly.) I should stand for stakeholders’ view to judge how the requirements will influence the whole product.

Firstly, I want to use MoSCOW to detail analyze the requirements. I will stand from different roles to summary the prioritization of different requirements.

I will use Red for Must have, Orange for Should have, Blue for Could have, Green for Won’t have.

For User interface

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| Number of RQ Title/Content   |  |  | | --- | --- | | 11 | Personal Start Page | | 12 | Course Start Page | | 19 | User Interface Language | | 21 | Course Info | | 23 | Discussion Forum | | 39 | Course Start Page Contents | | 40 | Personal Start Page Contents | | 64 | Link to Course | | 66 | Calendar Item Contents | | 68 | Contents of Message | | 144 | Editing layout of the course page | | 145 | Easy to use of User Interface | | 164 | Layout customization support | | 207 | Compatibility different Resolutions | |

For View

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Number of RQ Title/Content   |  |  | | --- | --- | | 2 | Personalized Views | | 8 | Course Information | | 28 | List Courses for User | | 32 | Basic Contents of Personal Profile | | 34 | Access to View Social Security Number | | 35 | Extra Contents of Personal Profile | | 47 | Access to View Course Info | | 49 | View Course Links | | 51 | Discussion Forum message overview | | 56 | Access to View Course News | | 58 | Access to use Course File Archive | | 90 | New/Extra curricular activities | | 97 | Teacher timetable and meeting | | 114 | Contact information | | 122 | Teacher's contact information on the course page | | 123 | Comment section for lecture streams | | 132 | Hand in overview | | 143 | Reading PDF files support | | 155 | User profile Information | | 159 | Student information view | | 160 | Students management | | 177 | Participants list | | 182 | Course Options | | 191 | Grade checking | | 195 | Login information representation | |  |  | |

For Search

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| --- | --- | --- | --- | --- | --- | --- |
| Number of RQ Title/Content   |  |  | | --- | --- | | 77 | Search option | | 98 | Search engine | | 189 | Course Schedule | |

Login in and log out

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| Number of RQ Title/Content   |  |  | | --- | --- | | 1 | Restricted Interface | | 27 | Login/Logout | | 61 | Incorrect login | | 62 | Successful Login | | 63 | First login | | 88 | Login Credentials | | 89 | Information provided to the user on restriction | | 103 | Automatic logout | | 104 | Enable and disable option for automatic logout | | 109 | Session Manager | | 137 | Log in time reset | | 187 | Automatically Log Out | | 197 | Account automatically sign out | |

For this part, requirements of 103,187,197 are very similar, I would like to regard them as one requirement as Automatic logout as 103.

Upload and download file

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Number of RQ Title/Content   |  |  | | --- | --- | | 15 | Course File Archive | | 31 | Download files from Course File Archive | | 57 | Access to change in Course File Archive | | 72 | RTF files | | 73 | Streaming Video | | 76 | Supportable formats | | 81 | Export grade with csv, xls, xlsx, pdf | | 82 | Access to upload and download Assisgnment | | 83 | Download examination forms | | 84 | Download files to desired location | | 86 | Upload personal files | | 118 | Resource Sharing | | 129 | Hand in | | 130 | Upload files | | 148 | Hand in file size | | 149 | Links to websites | | 151 | Hand in options | | 152 | Hand in deadline | | 163 | Course literature management | | 166 | Uploading file | | 169 | Publish Assignment | | 174 | Cannot submit after deadline | | 180 | Bulletins | | 184 | Download File | | 185 | Course related information | |

For 166 and 184 is repeated，I regard them as Won’t have .

Communicate

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| Number of RQ Title/Content   |  |  | | --- | --- | | 59 | Access to Discussion Forum | | 67 | Reply to Message | | 69 | Course Chartroom | | 108 | Discussion about the assignment | | 117 | Send Messages | | 119 | Campus Forum | | 121 | Course Platform | | 131 | Chart room | | 146 | Hand in feed back privacy | | 176 | Communication | | 186 | Send Message | | 193 | Comments Replying | | 199 | Connect Relationship of developers | | 205 | Communication | |

The Won’t have are repeated.

Edit and delete

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Number of RQ Title/Content   |  |  | | --- | --- | | 5 | Manage and Conduct a Course | | 14 | Course News | | 16 | Personal Profile | | 17 | Manage Course Participators | | 20 | Course Calendar | | 24 | Product Access | | 25 | User Calendar | | 29 | CRUD course news | | 30 | Add / Remove files to file archive | | 33 | Edit Basic Contents of Personal Profile | | 36 | Add/Remove Participators to Course | | 42 | Course Administration Contents | | 43 | CRUD Calendar Items | | 44 | Synchronise Calendars | | 45 | Access to Change Course Calendar | | 46 | Access to Personal Calendar | | 48 | Access to Edit Course Info (syllabus) | | 50 | CRUD Course links | | 52 | View/add messages | | 53 | Access to edit user database | | 54 | Edit Course News | | 55 | Access to Add, Edit and Remove Course News Items | | 70 | Cannot import calendar | | 78 | Profile progress tracker | | 80 | Access to delete the message in course discussion form | | 91 | Data Backup | | 99 | Language and Country | | 101 | Trash Box | | 126 | Post messages | | 133 | Save main users' information | | 134 | Enroll students | | 136 | Add, delete, update function | | 138 | Course edit options | | 140 | Publish information function | | 141 | Course management | | 147 | Privacy of personal information | | 154 | User profile picture | | 156 | Course related events | | 165 | Course dashboard management | | 167 | Edit comment for the files uploaded | | 170 | Edit comment for the assignment published | | 171 | Set the deadline for the assignment published | | 173 | Account Settings | | 178 | Profile Management | | 194 | Account and Profile Modifying | | 201 | Modify Student Information | |

Register:

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| Number of RQ Title/Content   |  |  | | --- | --- | | 65 | Add New Users as Course Participators | | 74 | Register option for courses | | 75 | Sign Up for participants | | 111 | Register for exams | | 135 | Automatic enrollment | | 179 | Course Registration | | 183 | Publish the registrations | | 192 | Outdated courses cancelling | |

Notify

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| Number of RQ Title/Content   |  |  | | --- | --- | | 85 | User-friendly information | | 87 | Notification Alerts | | 112 | Auto-generated mail | | 113 | Unread notifications for messages | | 120 | Notification | | 124 | Push Notifications | | 181 | Latest Changes | | 188 | Email Notification | | 190 | Email Alert | | 196 | Receiving information | | 203 | Grade Notification | | 204 | Exam Notification | |

Evaluate

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| Number of RQ Title/Content   |  |  | | --- | --- | | 71 | Grade export not working | | 96 | Course feedback | | 107 | Course Assessment Record | | 125 | Grading | | 161 | Student evaluating | | 172 | Collect the files | | 175 | Evaluate the answer for assignment | | 198 | Get feedback from customer | |

Other

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Number of RQ Title/Content   |  |  | | --- | --- | | 6 | Market | | 7 | Heterogeneous System Access | | 9 | Course Participant Administration | | 18 | System Users ID | | 22 | Course Links Archive | | 37 | Course Participator Roles | | 38 | Participator Privileges | | 60 | Change Privileges for Course Participators | | 92 | Recovery Email | | 94 | Literature databases | | 95 | Admin Functionalities | | 100 | Sentiment Analysis | | 105 | Course library | | 106 | Access to edit, delete and add the books in course library | | 110 | Database for projects | | 115 | Course Book Library | | 139 | Permission setting function | | 142 | The language can be transformed | | 150 | Visual presentation of students progress | | 157 | Clear requirement document | | 158 | Smart Phone application | | 168 | New Student Activation | | 200 | Deliverable requirements | | 206 | Database established | | 208 | Authority management | |

Non functional requirement

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Number of RQ Title/Content   |  |  | | --- | --- | | 3 | Secure Product | | 10 | Usable Product | | 13 | Quick and Easy Overview of Relevant Information | | 26 | Support Unicode | | 41 | Access to Course Administration | | 79 | Account activity | | 93 | Recovery Email validity | | 127 | Phone compatibility | | 128 | File compatibility | | 153 | Profile privacy | | 162 | Quality Requirement: Usability | | 209 | Security | |

**Result**

***Release 1:***

For first release, the achieved theme is User interface, Search and View. And the main features that I would like to achieve are the red parts and then the orange parts. For this release, I want the first version of the software product that could be run with a simple but rich-content interface, we can view the relevant content and search for content that we want. To build such a product as soon as possible, the first release will last 3 months.

For the release 1, Must have requirements include number: User interface 11, 12, 21, 39, 40, 64 and then implement of View 8, 28, 32, 47, 49, 56, 97, 114, 122, 155, 159, 177, 191 for search: 77, 98, 189 should be implement.

***Source:***

We assume that a developer salary is 30,000sek/ month and the workplace with network for each team is 10000 Sek/month

The developers have their own computer. The basic hardware for local development environment is around 1000 Sek/ month. Cloud Service is needed for simulating the school database server, the fee is about 2000 sek/month.

Budget: 30000\*5\*3+10000\*2\*3+1000\*2\*3+2000\*3=522,000

***How matches the roadmap:*** The first release, we have set up a basic website platform that include functions of searching, viewing and user interface. When we deliver it to the customer, they can do the common activities on the product. Get the information that they want. At least, the product can work, and include some information of university.

If they have some dissatisfactions about the Version 1.0 whole style, we can fix it quickly without influencing the later work.

***Release 2:***

For release 2, the software has a deeper improvement with more functions. It’s Version 1.1 that we can do a lot more than the previous version. We can login/ logout, upload or download through the product, communication is realizable and the content in the platform can be modified if we have the permission.

For Release 2, the number of requirements that must be achieved: Login and logout part are 27,61,62,88. Upload and download are 15,31,57,76,84,86,129,130,169,180. Communicate: 67,69,117,121,176 Edit and delete: 5,7,16,17,20,25,29,30,52,55,80,134,141,167,170,171,194,201

***Source***: Also as release 1 analyzed above, budget is double.

Budget=30000\*5\*6+10000\*2\*6+3000\*2\*6=1,044,000

***How matches the roadmap:*** There are many more functions that added into the product for 6-month release. The product becomes more functional. There are more course management elements are added, and make the system more perfect. The user can interact with the system to achieve their need. The Version 1.2 can satisfy the main daily course study need.

***Release 3***

For Release 3, the improvement mainly improves software in course and grade areas that is high relevant to the stakeholders. It’s regarded as Version1.3 which added more functions. This is the version of product that contains the most of functions that a course management system should have.

For release 3 The number of requirements that should be implemented: Register: 65, 74,75,135,79 Notify: 87,112,113,188,196,203,204 Evaluate: 96,107,125,161, 172, 175 Other: 6，7，22，110,142，168 Non-functional requirement: 3, 10,13, 41,153, 209

***Source***:

Also as Release 1 analyzed above, the budget is double. Budget=30000\*5\*6+10000\*2\*6+3000\*2\*6=1,044,000

***How matches the roadmap:***

For release 3, the requirements are added to better the system, the system can satisfy the most of the after-class course need likes evaluate, notify, register and some requirements that we not classify them. To ensure the quality of the software, the requirements of measuring the quality are selected and done.

***Release 4:***

For Release 4, it is the time that we can base on the team’s ability to do the ***Should have*** requirements to better the software. Based on the experience of lot of ***Must have*** requirements, the ***Should have*** requirements can be more easier to achieve.

The number of requirement are 19, 23, 144, 145, 207, 34, 35, 51, 132, 143, 160, 182, 103, 137, 81, 83, 118, 149, 151, 152, 163, 174, 185, 59, 67, 108, 146, 43,44, 45, 46, 48, 50, 91, 99, 101, 133, 136, 138, 140, 147, 154, 156, 165, 183, 192, 198, 9, 18, 37, 94, 95, 139, 150, 208, 26, 127, 162.

***Source***: Also as analyzed above,

Budget: 30000\*5\*3+10000\*2\*3+3000\*2\*3=522,000

***How matches the roadmap:*** For the last release, we have to select and do part of the should have requirements. It’s the last release to improve the product. The requirements can be executed within the team ability and time. As the Should have requirement defined, if the requirement achieved, it will be better. And we will regard this version as Version 2.0, which should be pretty excellent.