Reflective Report

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Selected articles:

1. **Gorschek & Wohlin "Requirements Abstraction Model"**
2. **Khurum & Gorschek "A method for early requirements triage and selection utilizing product strategies"**

Article 1 was selected due to its concept of placing the requirements into the four abstraction levels. Classification of requirements into four levels will enable the team to set the priority order of requirements and helps in simplifying the release planning process. RAM model was executed in a company and results show the model usefulness in ensuring the comparability between the requirements. Therefore I opted this model to see its working when applied to my list of requirements.

Article 2 was selected due to its concept of market driven requirements selection. It is necessary to select the requirements according to the business goals. Including the requirements based on the targeted market will certainly improve the sales and helps in achieving organizational goals. This method was validated in industry for its usefulness and results were promising. So I selected this method to get to know more about market driven requirements selection by applying them to my list of requirements.

Implementation:

Article 1 gives an overview of how the place the requirements into four abstraction levels. By analyzing the process from the article 1, I will try to implement the model by breaking down the requirements and placing them into four abstraction levels. I will implement the model on the 15 initial requirements of course management system.

Article 2 gives an overview of how the market driven requirements selection works. I will try to implement the method by identifying the importance of the requirements and giving weightage values based on some factors. I will implement the method on the initial 15 requirements of the course management system.

Execution:

1. **Placement of requirements into four abstraction levels.**

I have selected course management system requirements for the execution. 15 of the initial requirements are identified and placed into four abstraction levels.

2. **Identifying priority of requirements by assigning weights.**

Identifying the normalized values (NV) of each requirements and comparing each requirement to identify priority order.

Proof of Concept:

1. **Placement of requirements into four abstraction levels.**

Step 1 Specify

RQ 1: Restricted interface

Description: All access to systems must take place via system's own interface.

Reason/Benefit/Rationale: Improves security of the system.

Benefit: The user can use the system without security issues and compatibility problems.

Restrictions/Risks: There maybe decline in the number of users using the system due to its restricted interface.

RQ 2: Personalized views

Description: The system should be able to display only user relevant information.

Reason/Benefit/Rationale: Information provided should interest the user.

Benefit: Easy browsing of the information.

Restrictions/Risks: Some of the information might be skipped by the user.

RQ 3: Secure product

Description: The system should be secured.

Reason/Benefit/Rationale: To avoid unauthorized use of the system.

Benefit: The user can use the system without security breaches.

Restrictions/Risks: System will require login credentials which might result in users using the system occasionally.

RQ 4: limited views

Description: The system should be able to provide functionality to users according to their classes.

Reason/Benefit/Rationale: Allows the system to provide functionalities based on the user.

Benefit: Important system functionalities will be available only to specific users.

Restrictions/Risks: Some basic users need to contact privileged users to gain access to some functionalities.

RQ 5: Manage and conduct a course

Description: Provides teacher the functionality to conduct the course and manage it.

Reason/Benefit/Rationale: For easy management of course.

Restrictions/Risks: limits the functionality only to teachers who have logged in through their account.

RQ 6: Market

Description: The system is targeted to launch in Swedish market but maybe launched in other countries as well

Reason/Benefit/Rationale: System usage can be widened by launching in different markets.

Benefit: System will become more popular.

Restrictions/Risks: Management might require more resources if at all launched in different markets.

RQ 7: Course information

Description: Provides course information to the user.

Reason/Benefit/Rationale: The user should be able to find relevant information.

Benefit: Provides access to course information according to their authority.

Restrictions/Risks: Only registered users can view course information.

RQ 8: Course participant administrator

Description: The system should provide the functionality to administer course participants.

Reason/Benefit/Rationale: Allows to administer course participants.

Benefit: Only eligible candidates can be administered.

RQ 9: Usable product

Description: The product shall be usable in terms of accessibility, understandability and performance.

Reason/Benefit/Rationale: Users will be interested in using the system more frequently.

RQ 10: Personal Start page

Description: Each user will have personalized start page.

Reason/Benefit/Rationale: Users will be able to find the unread news about the course.

RQ 11: Course Start page

Description: Course page will have course start page.

Reason/Benefit/Rationale: Information of the course can be found in this page.

Benefit: Users will be able to access course details easily.

RQ 12: Quick and Easy overview of relevant information

Description: Allows users to obtain information without effort.

Reason/Benefit/Rationale: To enable users to find relevant information quickly

BENEFIT: Acquiring data will be easy.

RQ 13: Course news

Description: Course news can be attached to inform students.

Reason/Benefit/Rationale: To keep students up to date about the activities in the course.

RQ 14: Course file archive

Description: Course material can be distributed to students through course file archive.

Reason/Benefit/Rationale: Sharing the material with students will be easy for the teachers.

RQ 15: Personal Profile

Description: Users will be able to enter personal details about them.

Reason/Benefit/Rationale: To allow other users to find contact information.

Benefit: Interaction between students will increase.

Step 2 Place

After specifying the requirements, they can be placed into four different abstraction levels.

Product level: Restricted interface, secure product, market, usable product

Feature level: Personal start page, personalized views, quick and easy overview of relevant information, personal profile

Function level: manage and conduct a course, course participant administrator, limited views

Component level: course information, course news, course file archive, course start page

Sept 3 Abstraction (work up)

This third step of RAM involves abstracting and/or breakdown of a requirement, depending on the initial placement of the original requirement. The work-up process involves creating new requirements (called work-up requirements hereafter) on adjacent abstraction levels or linking to already existing ones, depending on the situation. Next step is to prioritize the requirements.

2. A Method for Early Requirements Triage and selection Utilizing Product Strategies

In order to explicitly state the goals and objectives of a product, it is important to specify the directions of movement for the product deduced from the organization's mission statement. Thus it is important to answer the three strategic questions **Where we want to go?, (2) How to get there?, (3) What will be done?**) for each product. The output of this step is an explicit understanding of goals and objectives associated with a specific product which can be used to perform requirements triage and selection for individual products. As the system is course management system 15 requirements are selected and the method is applied to them.

Where we want to go? Can be answered by assigning weights to the Profit (40), Growth (30), and Market share (30)

How to get there? Can be answered by assigning weights to the European market (60), American market (20), and Asian market (20)

What will be done? Can be answered by assigning weights to the System promotion (60), distribution (20) and Service (20)

Questions	**Factors**	**Weightings of factors**	**Sub Classification**	**Sub Classification weightings**	**Normalized weightings**	**RQ 1**	**NV**	**RQ 2**	**NV**	**RQ 3**	**NV**	**RQ 4**	**NV**	**RQ 5**	**NV**
Where	Market growth	30			30	50	15	100	30	50	15	100	30	50	15
	Market share	30			30	0	0	0	0	0	0	0	0	0	0
	profit	40			40	50	20	0	0	50	20	0	0	50	20
		100			100										
How	Customer segments		European market	60	60	40	24	40	24	40	24	40	24	40	24
			American market	20	20	30	6	30	6	30	6	30	6	30	6
			Asian market	20	20	30	6	30	6	30	6	30	6	30	6
				100	100										
What	System promotion	60			60	50	30	50	30	40	24	30	18	30	18
	Distribution	20			20	0	0	50	10	30	6	30	6	30	6
	Service	20			20	50	10	0	0	30	6	40	8	40	8
		100			100										

					Total		111		106		107		98		103

RQ6	NV	RQ7	NV	RQ8	NV	RQ9	NV	RQ10	NV	RQ11	NV	RQ12	NV	RQ13	NV	RQ14	NV	RQ15	NV
40	12	30	9	0	0	50	15	30	9	30	9	30	9	30	9	30	9	30	9
30	9	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
30	9	0	0	30	12	50	20	0	0	0	0	0	0	0	0	0	0	0	0
40	24	40	24	40	24	40	24	40	24	40	24	40	24	40	24	40	24	40	24
30	6	30	6	30	6	30	6	30	6	30	6	30	6	30	6	30	6	30	6
30	6	30	6	30	6	30	6	30	6	30	6	30	6	30	6	30	6	30	6
50	30	50	30	0	0	60	36	100	60	100	60	100	60	0	0	0	0	0	0
50	10	50	10	0	0	40	8	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	100	20	0	0	0	0	0	0	0	0	100	20	100	20	100	20
	106		85		68		115		105		105		105		65		65		65

The normalization of the data is done and the restricted interface requirement is prioritized by comparing total normalization value with other requirements.
The priority order for fifteen requirements will be RQ9, RQ1, RQ3, RQ2, RQ6, RQ10, RQ11, RQ12, RQ5, RQ4, RQ7, RQ8, RQ13, RQ14 and RQ15.

Lessons Learned:

During the implementation of RAM method there was a little confusion on placing the requirements into four levels. Some of the requirements were easily placed into their levels while some requirements took a little more study to get clarity on which level these specific requirements are to be placed. Then the requirements are breakdown into upper levels and lower levels. Some requirements were easily break down into lower levels while others took some effort. Through the implementation of the RAM method I have learned that requirements abstraction is necessary to allow the team to deal with the problems of requirements priority while developing a system.

During the implementation of early triage method in article 2 there was some confusion on giving weightage values of each requirements. There is a necessity of giving weightage to the requirements based on some factors. These factors influenced the requirements weightage and priority list was made according to the normalized data. From the implementation of early triage method I have learned that sometimes requirements are needed to be prioritized based on the factors such as market, profits, competitors, sales. It allows development of market driven system. I also learned that implementing early triage method on more than 100 requirements will be difficult due to its need of total normalized data for each requirement.

Reflections:

Through my experience with the method in article 1, I think that RAM model will prove useful in cases of identifying the right requirements for the release. Through RAM model importance of the requirement can be identified and prioritized by placing them into levels. Sometimes it may confuse novice developers like me on the right placement of requirement which can be solved through some study of the requirements.

Through my experience with the method in article 2, I think that early triage method is easy and useful in projects which have less than 100 requirements. With the help of this model accurate priority list of requirements can be made through calculated normalized data. As the system developed is market driven, it will give assurance that the developing system will be productive in the market.