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**TUNKU ABDUL RAHMAN UNIVERSITY COLLEGE**

FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

BAIT2133 WEB ENGINEERING

PRACTICAL 2

**Work in your team: Wong Kai Yin & Tan Pak Kin**

1. Perform Requirement Engineering activities on your Assignment.

Requirements Elicitation and Negotiation. There are several techniques for elicitation such as interviews, brainstorming, and case analysis. Firstly, Interviews are strong medium to collect requirements, we had an structured interviews with stokeholders to gather requirement information. We also had an group interviews to see the goals and critical issues, subjective. Interviews are good to get an overall understanding of what stakeholders need, how they might interact with the new system, and the difficulties they face with the current system. Secondly, Brainstorming it helps to get our mind on the right track by sharing all the information to the rest of the group. We gatethering of stakeholders and the exchange of ideas in an open to think about different answers and questions we no thought about before. Finally, Case analysis, we use case captures some visible function of the system, it allow us to record what and how user interact with system to help us accomplish more greater accuracy system. Besides that, we also have a process of requirement negotiation to discussing requirement conflict with stokeholders and discuss how the problem can be resolved.

Requirements Documentation.

1. As a librarian i want an effective system in order to reduce all the manual work.
2. As a student, I want an effective searching features to easily search and find the books.
3. As a developer I want to create a Simple & Easy to Use system to fulfill stakeholder requirements.

**Requirements Verification and Validation.** Verification and validation are very important in the defined for development, define the system that the customer really wants. It is helpful to avoid duplicate and wrong requirement. Ensure specify things correctly . There are several techniques for Verification and validation such as Test case, prototyping and Requirements Reviews. `Firstly, We test the Requirement mentioned in requirement document, The tests carried out show the error in the requirement. This help us that if the test is difficult or impossible to design, it typically means it is difficult to execute and rethink. Secondly, Prototyping will validation the prototype of the system presented before the end-user, they experiment with the presented model and check if it meets their need. This type of model is help us to collect feedback about the requirement of the user, if any problem we will Document and reporting the problems. Lastly, Requirements reviews we invited a group of people that including students and stakeholder in web surveys to analyze the error and uncertainty document requirement.

Requirements Management

Requirement management systems are important to ensure that the organization validates and meets the needs of its customers and external and internal stakeholders.

1. Stakeholder- A person or entity that is materially affected by the system's outcome. Usually, stakeholders include both the client and user.
2. User- A person who will use the system that has been developed.
3. Project manager- A person who role with overall responsibility for the project.
4. Tester- A person who is responsible for ensuring that the system meets the stated requirements
5. Developer- A person who responsibility for designing the necessary functionality in compliance with the standards and procedures adopted by the project.
6. Administrator- A person who responsible for setting up the project structure in the Requirement Management system.
7. Describe the how the activities is organized.

The activities are organized Requirements Elicitation and Negotiation, Requirements Documentation, Requirements Verification and Validation and Requirements Management. Requirements Elicitation and Negotiation is to collect the technical, feedback, requirements, information or data maybe not yet be recorded in our hands. Therefore, requirements must be cited or developed, and the approach must be logical and detailed. The first is to comprehensively and accurately understand the business needs of the project, and to select appropriate stakeholders and elicit technologies. The next step is to ensure that enough numbers and stakeholder combinations are obtained during the project. Example requirements Elicitation and Negotiation Techniques Scenario-based methods, multi-criteria decision processes, facilitation techniques, interviews, or document analysis. Requirements documents is Informal descriptions such as user stories, and semi-formal descriptions such as use cases are particularly relevant. Requirements Documentation are used to communicate the aims of a project in a clear, concise way to ensure all stakeholders are on the same page. Requirements Verification and Validation is the process of confirming the completeness and correctness of requirements and process of confirming that the designed and built product fully addresses documented requirements. For example, Internet users can be invited to participate in a web survey to express their satisfaction with web applications. Requirements management is the process of collecting, analysing, refining, and prioritizing product requirements and then planning for their delivery. The purpose of requirements management is to ensure that the organization validates and meets the needs of its customers and external and internal stakeholders. Requirement management systems are important for change management and traceability of requirements

1. Produce a list of requirements gathered.

Firstly, every member of the library should be able to borrow a book, return a book, and renew. Secondly, Each book will have a unique identification number and other details including a track number which will help to physically locate the book and search books by their title, author, subject category as well by the publication date. Thirdly, librarian management should be able to do member registration, login, member and books information modification, user permissions and other functions. Forth, The system should be able to retrieve information like who took a particular book or what are the books checked-out by a specific library member and collect fines for books returned after the due date. Finally, The system should be able to send notifications whenever the reserved books become available, as well as when the book is not returned within the due date.

1. Categorize, group and elicit the requirements.

Non Funtional Requirements.

Performance Requirement. When a library management system is introduced, the library is easily accessed by the user as the search and book transaction is much quicker.

Reliability Requirement. The system should conduct Student Registration, Student Validation, Report Generation, Book Transaction and Search with accuracy.

USABILITY REQUIREMENT The system is designed for a user-friendly environment such that students and library staff can perform the different tasks easily and efficiently.

Funtional Requirements

1.Library Management System should used by the user to log in to the device. They are required to enter the user ID and the password before they are allowed to enter the system. The user ID and the password will be checked and the user will not be allowed to enter the system if the ID is invalid.

1. The Library Management System should store all the information about librarians, students, and books.
2. The Library Management System should allow searching books by author, title or keyword.
3. The Library Management System should allow librarians to add, delete and modify items
4. The Library Management System should send notification to user after they done activities