Tutorial Week 4

Interview Session: Elicitation with Librarian (Mr. Johnson)

Interviewer: Hello Mr. Johnson, thank you for joining us to discuss the new Library Management System. As the head librarian, your perspective is essential. What are the most important features you need from this system?

Mr. Johnson: The system should allow users to search for books, reserve them online, and check borrowing history. For staff, we need tools to manage inventory, track overdue items, and generate usage reports. It has to integrate with our existing barcode scanners.

Interviewer: How do you currently handle library operations, and what problems do you encounter?

Mr. Johnson: We use an old desktop software for check-ins and check-outs, but it's slow and doesn't support online access. Patrons complain about not being able to search catalogs remotely, and we manually send overdue reminders via email, which is time-consuming and error-prone.

Interviewer: What types of notifications would be useful, and how timely should they be?

Mr. Johnson: Notifications for reservation availability, overdue books, and new arrivals—preferably via email or app push, sent immediately for overdues to encourage prompt returns, but daily batches for new arrivals to avoid spam.

Interviewer: What devices or platforms do you and users typically use, and are there any integration requirements?

Mr. Johnson: Staff use desktops and tablets at the counter, while patrons use mobiles and web browsers. It should work on Windows, iOS, and Android, and integrate with our university's single sign-on for student accounts.

Interviewer: What about accessibility, security, or other constraints like performance?

Mr. Johnson: Security is critical—protect patron data with encryption and role-based access. For accessibility, include screen reader support and large fonts. The system should be fast, loading search results in under 2 seconds, even during peak hours, and reliable with minimal downtime.

Interviewer: Thank you, Mr. Johnson. This will help us shape the requirements effectively.

Tutorial Questions Based on the Interview

1. Based on Mr. Johnson's interview, identify two functional requirements for the Library Management System and explain how they address problems mentioned in the current process.
2. From the interview, derive one non-functional requirement related to performance.
3. Using the MoSCoW prioritization technique, prioritize the requirement for "notifications for overdue books sent immediately" from Mr. Johnson's interview, and provide a justification.
4. Identify a potential ambiguity in Mr. Johnson's requirements from the interview and justify your answer.

Scenario: Warehouse Worker Processes an Incoming Shipment

Actor: Alex (warehouse worker).

Context: Alex receives a new shipment from a supplier and needs to log it into the Warehouse Management System (WMS) to update inventory levels. This is based on interviews where workers mentioned frequent delays due to manual entry and errors in stock counts.

Steps:

1. Alex logs into the WMS using a handheld scanner or tablet with their employee ID.
2. The system prompts Alex to scan the shipment barcode or enter the supplier invoice number.
3. Upon validation, the system displays the expected items (e.g., 50 units of Product A, 30 units of Product B) pre-loaded from the purchase order.
4. Alex scans each item as it is unloaded, and the system updates real-time inventory, flagging any discrepancies (e.g., damaged goods or quantity mismatches).
5. If a discrepancy is found, the system allows Alex to note reasons (e.g., "damaged in transit") and automatically notifies the warehouse manager via email.
6. Once complete, the system generates a confirmation receipt and assigns storage locations based on available space and item categories (e.g., perishables to refrigerated zones).
7. Alex confirms the storage by scanning the location barcode, and the system updates the inventory map.

Exceptions:

- Invalid login: System prompts for retry or password reset.
- Barcode scan failure: Allow manual entry with validation checks.
- No available storage: System suggests alternatives or escalates to manager.

Tutorial Questions Based on the Scenario

1. In the scenario for the Warehouse Management System, what is the main actor and their role?
2. Name one exception mentioned in the scenario and describe what the system does in response.
3. Based on the scenario, identify one functional requirement for the Warehouse Management System and explain how it supports the worker's process.
4. From the scenario, derive one non-functional requirement related to usability and justify its importance.
5. Identify an ambiguity in the scenario and explain your answer.