Requirement Engineering

Requirement Discovery

Indranil Saha

Department of Computer Science and Engineering
Indian Institute of Technology Kanpur

Requirements Discovery

- The process of gathering information about the required system and existing systems, and distilling the user and system requirements from this information
- Sources of information during the requirements discovery phase include
  - documentation
  - specifications of similar systems
  - system stakeholders
- You interact with stakeholders through interviews and observation and you may use scenarios and prototypes to help stakeholders understand what the system will be like

Example of Stakeholders for the MHC-PMS

- Patients
- Doctors
- Nurses
- Medical receptionists
- IT staff
- Medical ethics manager
- Healthcare managers

Interviewing

- Formal and informal interviews with all the stakeholders
- Interviews may be
  - closed interviews
  - open interviews
- Information from interviews supplements other information about the system from documentation describing business processes or existing systems, user observations, etc.
- Sometimes, interview may be the only source of information about the system requirements

Challenges

- Stakeholders are bound to use jargons
- Extremely familiar domain knowledge may be missed
- Internal politics

Scenarios

- Useful for adding detail to an outline requirements description
- Descriptions of example interaction sessions
- Each scenario usually covers one or a small number of possible interactions

Content of a Scenario

- A description of what the system and users expects when the scenario starts
- A description of the normal flow of events in the scenario
- A description of what can go wrong and how this is handled
- Information about other activities that might be going on at the same time
- A description of the system state when the scenario finishes

Example Scenario for Collecting Medical History in MHC-PPMS

INITIAL ASSUMPTION:
The patient has seen a medical receptionist who has created a record in the system and collected the patient's personal information (name, address, age, etc.). A nurse is logged on to the system and is collecting medical history.

NORMAL:
The nurse searches for the patient by family name. If there is more than one patient with the same surname, the given name (first name in English) and date of birth are used to identify the patient.

The nurse chooses the menu option to add medical history.

The nurse then follows a series of prompts from the system to enter information about consultations elsewhere on mental health problems (free text input), existing medical conditions (nurse selects conditions from menu), medication currently taken (selected from menu), allergies (free text), and home life (form).

WHAT CAN GO WRONG:
The patient's record does not exist or cannot be found. The nurse should create a new record and record personal information.

Patient conditions or medication are not entered in the menu. The nurse should choose the 'other' option and enter free text describing the condition/medication.

Patient cannot/will not provide information on medical history. The nurse should enter free text recording the patient's inability/unwillingness to provide information. The system should print the standard exclusion form stating that the lack of information may mean that treatment will be limited or delayed. This should be signed and handed to the patient.

OTHER ACTIVITIES:
Record may be consulted but not edited by other staff while information is being entered.

SYSTEM STATE ON COMPLETION:
User is logged on. The patient record including medical history is entered in the database, a record is added to the system log showing the start and end time of the session and the nurse involved.

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