Software Engineering-Assignment (Theory) 1

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TITLE: LIBRARY BOOK MANAGEMENT APP

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AGENT BASED SOFTWARE ENGINEERING

By an agent-based system,we mean one in which the key abstraction used is that of an agent.Agent is a system that enjoys the properties of autonomy, reactivity, proactiveness and social ability.
A multi-agent system consists of a group of agents, interacting with one another to collectively achieve their goals. They allow a software developer to conceptualize a complex software system as a society of cooperating autonomous problem solvers. The discipline of intelligent and smart agents has emerged largely from reasearch in AI and IOT respectively.

CHALLENGES AND SOLUTIONS

1. Managing book records:
It becomes very cumbersome to manage book records. Most of the library record is maintained in Excel sheets,and is manually entered making it difficult to manage and is also prone to loss.
RFID technology :It offers a solution to the above mentioned problem.It uses em fields to automatically identify tags which helps in eliminating human errors and saves time.

2. Notifying student on arrival of a book of his/her interest:
In case of new arrival, it is very difficult to inform students and faculty about new books of their particular interests.
Context awareness:The user’s past history is logged in the form of session records. A clustering algorithm is applied on the user’s history using intelligent agents to determine his preferences and interests. The algorithm then outputs the predicted user interests and sends an alert whenever a particular interest book arrives.

3. Book Searching:
It becomes very difficult to locate a book or literature. This requires manually maintaining location of books in excel sheets which would be stored in the app database and searching in those sheets for a particular book.
Tracking: The library books are identified with RFID tags. It helps in tracking the current location of books in the library i.e. where the books are located.

4. Topic Searching:
The user searched for a topic and that topic are not available in any of the books present in the library.
Web Crawler**:** The user will be given a choice by the system for the web search. The web search is done by a topical web crawler which browses the World Wide Web in a methodical automated manner .