

Mini-Project E_PhD

E-PhD is an information system for a large university aimed to manage all the activities, events, documents and reports for PhD students. The system was proposed as it was found that PhD students have very different needs than bachelor or master students.

Once admitted to a PhD coordinator the student has 3 (or 4 years with an extension) to present his thesis. In order to be accepted for thesis defense the student must participate to 4 courses, have at least 4 publications, out of which 2 in international journals, present to his commission (coordinator + other 2 professors in the same field) his progress every 6 months, enter a report on the site monthly, upload his thesis 3 months before presentation in order for it to receive comments and be checked for plagiarism. Finally a student has to have an internship at another faculty or research institute.

The system should have the following functions:

- when a student publishes in the journal he must add this publication to his monthly report. The system automatically checks the validity of the publication (if it was indexed in scientific databases). The monthly report is accepted only if validated by the coordinator in due time.
- when a student's work is accepted at a conference all the travel documents (delegations) are prepared by the system and also the bookings for hotels and transport are also performed using the system. The conference fee, upon uploading the proof for payment, is reimbursed in the student bank account.
- the coordinator must choose in the site what are the courses the student will attend. After that the professors for those courses are given access rights to put grades for the student.
- once the thesis is uploaded, it is visible for comments for all the members of the faculty department, the comments are sent to the student and the coordinator. The thesis is checked for plagiarism both with available scientific databases and also with other theses from the same university.
- the transport and accomodation for internship are also discounted so the student must enter all internship details (location, period, documents proving he was accepted for internship there)
- finally the system allows the student to have his personal webpage in the faculty website. The page is automatically generated from his reports but the student can also add personal details

Work Packages:

A. WP1-Systems Engineering Methodology:

- A1 Partition the current system according the processing and the processor views in a System Modeling Template
- A.2 Draw the Architecture Flow Context Diagram for the system

B. WP2-Structured Methodology:

- B.1. Define the environmental and behavioral model for the information system
- B.2. Starting from the level 3 DFD, propose a design model based on transformational and/or transactional flows.

C. WP3-Enterprise Wide Methodology:

- C.1. Draw the activity diagrams for the main business process
- C.2. Map the enterprise organigram and specify the business functions of each division.

D. WP4-Object-Oriented Methodology:

- D.1. Draw the domain model for the business.
- D.2. Draw the Business Use Case Diagram
- D.3. Interaction diagrams for the main business scenarios
- D.4. For the software use case of **TBD** write the use case description, system sequence diagram and describe an operation using an operation contract.
- D.5. Propose a software architecture for the system, arguing for the design decisions you have made.
- D.6 Draw the statechart for a **TBD** object lifecycle.

TBD = to be decided: The task will be assigned by your tutor based on your project so far.