**SPRING 2017**

**CMPE405/CMPE406 SOFTWARE PROJECT**

**COMMUNICATION AND INFORMATION SHARING PLATFORM DEVELOPMENT**

* The project is about the design and implementation of a platform for facilitating information sharing and communication between instructors and students regarding instructional activities.
* Instructors will use a web interface, whereas students will use a mobile application to access the platform.
* The application will work similar to Facebook in concept: each course will have a “page” on the platform, with instructor of the course, as well as students having the right to post on the page
* Each semester, the system will reset (i.e. new “pages” will be created for each offered course, with new authorization granted to the students and instructor; however, pages from previous semesters will be accessible in read only mode as well)
* **Design constraint**: it must have web service based architecture.
* **Team organization constraint**:
  + One team member responsible for database design and implementation
  + One team member for web service design and implementation
  + One team member for mobile app design and implementation
  + One team member for web app design and implementation
  + Other jobs to be distributed among team members themselves
* Four types of users are envisaged:
  + **Administrator** (through a web interface):
    - Grants user rights to the platform
    - Defines courses for a given semester
  + **Department** (through a web interface)
    - Broadcasts message to all students
    - Broadcasts message to all instructors
  + **Instructor** (through a web interface (and optionally through mobile app ))
    - Posts materials related to his/her course
    - Uploads grades
    - Makes announcements on his/her course page on the platform by posting there
    - Sends private messages to specific users of the platform (e.g. students, other instructors)
    - Answers posts of students, which are visible to other students. This can create threaded discussions, just like in Facebook.
    - Adds items to a “calendar” (e.g. “quiz on 20 February”, assignment due on March 21st etc.). It should be possible to provide hyperlinks in the calendar entry as well, so that more information about the activity can be provided. Reminders about the activity should be sent to each student, and the instructor, one day before the activity, and also one hour before the activity.
    - Broadcasts message to all students in taking the course, which are displayed immediately on the students’ phones (e.g. “no class today” etc.)
  + **Student** (through a mobile phone app):
    - Posts questions about the page of the course to which he/she is registered
    - Uploads documents for the course in any format (such as JPG, PDF, ZIP etc.)
    - Receives notification on his/her phone of messages sent to the page of the course he/she is registered to
    - Receives notification on his/her phone of messages sent by the departmental administration
    - Answers posts of others (like in Facebook)
    - Sends/receives private messages to other users of the platform (like the chat facility of Facebook)
    - Sees all the material uploaded for the course by the instructor in a convenient manner
    - Views the calendar for the course, but cannot make modifications to it
* **All the requirements above are mandatory.** However, students are encouraged to add other creative functionality to the platform.
* **Required Components**: Database, a Mobile application, Web-based interface, Web services.
* **Optional Component:** Mobile application for instructors as well, in addition to the web interface.