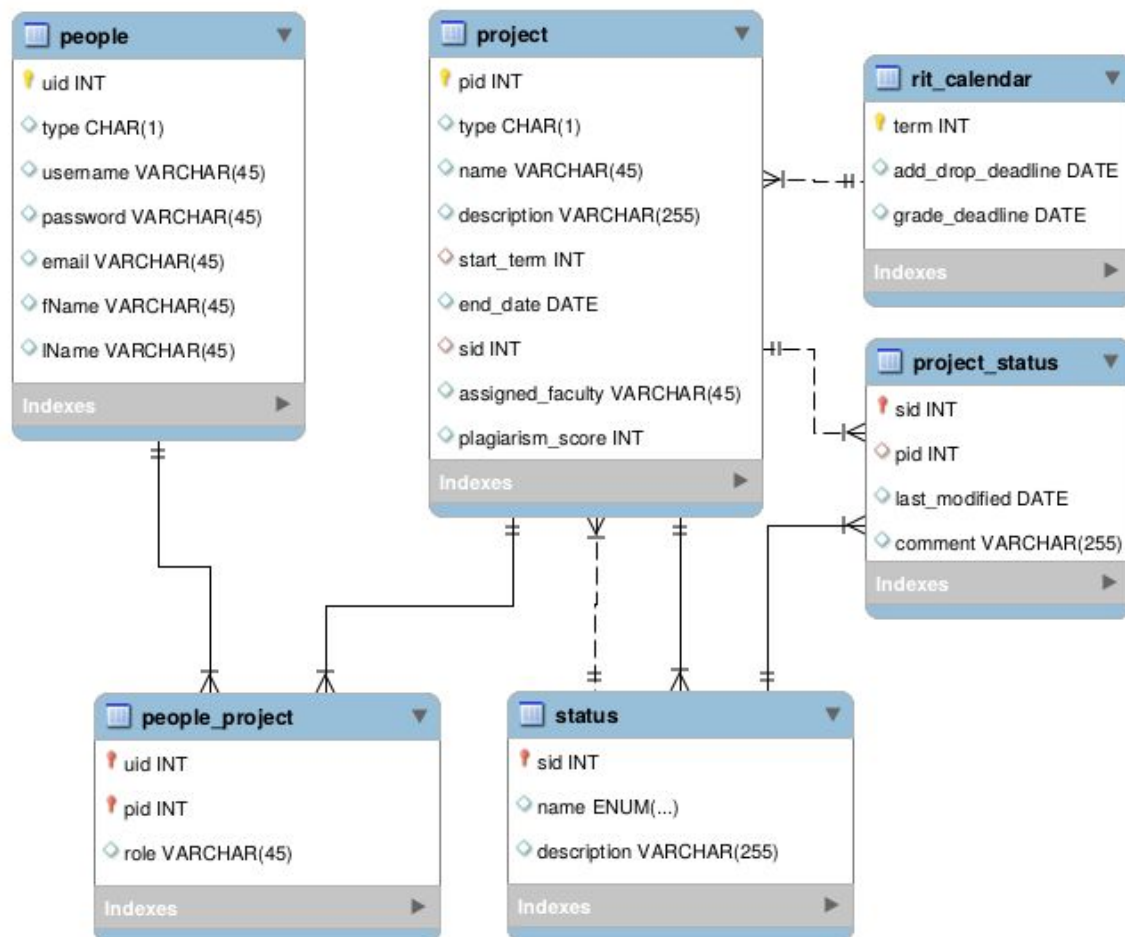# Milestone 0: Requirements Document

ISTE-330: Group 5

 The Capstone Projects Database and the corresponding Java Classes are designed for both students and faculty to register and track the progression on graduation projects. The following document transcribes the requirements for both database and users and what each type of user should be able to do when accessing the system.

EER diagram

General hard requirements

These items are hard database requirements that must be completed for minimal viability of the project. These items are also universal for the application, so they affect both students, faculty, or any user of the application.

- **Users table**:
    - *Purpose*: Contain records for unique users
    - Generated user ID number (UID)
    - User type (student or faculty)
    - Username
    - Password
    - First name
    - Last name
    - Email

- **Projects table**:
    - *Purpose*: Contain records for unique projects
    - Generated project ID number (PID)
    - Project name
    - Project description
    - Project status (*foreign key*)
    - Starting term
    - Expected deadline (can be modified by faculty only)
    - Defense date
    - Grade
    - Plagiarism score

- **Reference table**:
    - *Purpose*: Binds users to projects using both UIDs and PIDs
    - Description field: Explains relationship between UID and PID (e.g. faculty overseeing project or student working on project)

- **RIT deadlines table**:
    - *Purpose*: Determines expected add / drop date and grade due date for each term
    - Primary key: Term ID
    - Sourced from an RIT server (not created by this application)

- **Status table**:
  - *Purpose*: Provide different types of project status with description and ID number
  - Referenced in project table to determine what state a project is in
  - *Possible statuses*: draft, committee_review, committee_pending, in_progress, pending_feedback, grade_pending, graded

- **Project status table**:
  - *Purpose*: Binds project with a status using status and project ID (PID) numbers
  - Includes date of when status was last modified and any comments on project state

General soft requirements

These items are soft database requirements that are not necessary for minimal viability of the project, but improve project functionality. These items are also universal for the application, so they affect both students, faculty, or any user of the application.

Student hard requirements

These items are hard database requirements that must be completed for minimal viability of the project. These items are specific to students that submit projects into the capstone tracker. They are not relevant for faculty members.

- **User table**:
  - Functionality
    - Create new user record if someone is not a registered user
    - Log in with registered username and password
  - Fields
    - *Last login timestamp*: Records last login date and time by every user account
      - Faculty assigned to projects can view the last login date for students working on sponsored projects

- **Project table**:
  - Functionality
    - Register project for consideration (with required project information)
    - Monitor progress of project (e.g. status / comments available)
    - Students can modify any field in their project except their plagiarism_score

■ Students need to be able to add faculty members as advisors for a project.
○ Fields
■ *Last modified timestamp*: Records last time project was updated by any user account
■ *Last modified by*: Records what user account made the most recent change to a project record

Student soft requirements

These items are soft database requirements that aren't necessary for minimal viability of the project, but improve project functionality. These items are specific to students that submit projects into the capstone tracker. They are not relevant for faculty members.

- **User table**:
  ○ *Risk factor*: Calculated value that tries to predict major issues in project status
    ■ Uses last login, project deadline, starting term, grades due date to calculate perceived risk of project failing

Faculty hard requirements

These items are hard database requirements that must be completed for minimal viability of the project. These items are specific to faculty members that sponsor student projects in the capstone tracker. They are not relevant for student users.

- **Projects table**:
  ○ Functionality
    ■ View all projects and their statuses
    ■ Assign account as sponsor / adviser to project
    ■ Assign statuses with comment and grades
    ■ Change deadline for assigned project

Faculty soft requirements

These items are soft database requirements that aren't necessary for minimal viability of the project, but improve project functionality. These items are specific to faculty members that sponsor student projects in the capstone tracker. They are not relevant for student users.

- **Projects table**:

- Functionality
  - Track a project without being assigned to it