1. Introduction

Each spring semester, Ph.D. students may apply for a GTA (Graduate Teaching Assistantship) for the next school year. Their applications are evaluated by the Graduate Committee (GC) consisting of several professors in the department. The best applicants are selected based on their academic performance. Your team is to develop a Web-based database application, called GTAMS, to support this activity.

There are four different groups of GTAMS users: (1) the GTA applicants, (2) their academic advisors, (3) the GC members, and (4) the system administrator. The system administrator is responsible for setting up a new session for each round of GTA evaluation. Once the session has been set up, the students may submit their application online. The system then emails their academic advisors to request their support letters. The GC members use this system to evaluate the applications and collectively select the winners.

2. System Description

GTASS has four user interfaces, one for each of the four categories of users. We discuss these four interfaces in this section.

2.1. User Interface for GTA Applicants

A Ph.D. student applies for a GTA by filling out an online application form. This form requests the following information:

- Name of the applicant
- PID (Personal Identification Number) of the applicant
- Email address of the applicant
- Phone number of the applicant
- Is the applicant a Ph.D. student in Computer Science? Applicant answers by selecting (1) “Yes” or (2) “No”.
- Number of semesters as a graduate student
- Has the applicant passed the SPEAK Test. Applicant answers by selecting one of four possible answers: (1) YES, (2) No, (3) Graduated from a U.S. institution, or (4) Newly admitted student
- Number of semesters (including summers) working as a graduate teaching assistant
- List of graduate-level courses completed. For each course, provide the letter grade.
- G.P.A. for the above courses
- List of publications (providing citation information for each publication)
- Name of current Ph.D. advisor at UCF
- Name and time period of previous Ph.D. advisors at UCF

The system timestamp is automatically added to this form, and it is stored in the database. If an application misses the deadline, GTAMS displays the “missing deadline” message to caution the applicant.
At the end of an application session, the student is informed of the responsibility to remind his/her academic advisor to submit the support letter by a specific deadline.

2.2. User Interface for Academic Advisors

For each online application created by a Ph.D. student, GTAMS emails his/her academic advisor to request a letter of reference by a certain deadline. A URL is provided in this email to allow the advisor to conveniently access an online Advisor form. Through this form, the professor can either directly type in the letter, or click on a button to upload a pre-prepared letter in PDF format.

The GTAMS system emails an academic advisor a reminder to warn him/her about the deadline in two days if he/she still has not provided the letter.

2.3. User Interface for GC Members

Each GC member needs to log in to use this service. Through this user interface, a GC member is presented a Score Table with the following columns:

- Name of nominator
- Name of nominee
- Ranked by the nominator
- Existing or New student
- One score column for each GC member (identified by the last name)
- The average score. If a score has not been entered, a “0” is used as the default score in computing the average.

By default, the Score Table is sorted based on the nominators in alphabetical order. For each nominator, the nominees are listed according to their ranking order. Alternatively, the Score Table can be displayed in terms of the average scores of the nominees. For each nominee, the GC member is asked to give a score between 1 and 100 under his/her column in the Score Table. The GC member can also add comments under his/her table column to explain the score. Clicking on the name of an existing student brings up the information page of this nominee in a popup window. This mechanism allows the GC member to review the performance about a nominee before giving him/her a score. It is assumed that a separate system (not part of this project) is available for reviewing the admission applications of the new students.

In addition to the Score Table, this service allows a GC member to display a list of any incomplete nomination with one of the following two reasons for the incomplete: “nominee did not respond” or “nominator did not verify nominee’s information”.

2.4. User Interface for System Administrator

Before GTAMS can accept applications for a given round of GTA selection, the system administrator needs to set up a new session. A system administrator needs to log in to use this service. A session is identified by the semester of the application deadline (e.g., Fall2016). In setting up a session, the system administrator provides the following information:

- Names of the GC members and their email addresses
- Name of the GC Chair
Once the new session has been set up, an email is sent to each GC member to inform them of their login name and password. A URL is also provided in this email to allow the GC member to access a GTAMS form to change the login name and/or password if so desired.

When a given round of the GTA selection process has been completed, all the information is saved in the database for future reference. Each GC member may access information from previous rounds.

3. **Project Requirements**

   The GTAMS can be implemented using any of the programming languages and software development environments discussed in class. No software framework may be used for this project. In addition to submitting the software on a USB drive or a DVD, each team is given 15 minutes to give a demo presentation. Online deployment for demonstration is encouraged but not required. Every team member must participate in the presentation. The following documents are also required:

   - **Design document**: It explains the design of the system with relevant diagrams and the reasoning behind.
   - **User manual**: It includes instructions to operate the program from the provided files. If compilation is required, instructions must be given. File indexes to the source files that include important functionalities should be listed.
   - **Individual report**: Each team member gives each of his/her teammates a score between 0 and 100 based on his/her contribution to the team project. Explain the contribution of each team member including that of the reporting student. These reports are confidential and should be submitted individually to the instructor in hard copy. The report should include the name of the reporting student and the team number.

4. **Grading Policy**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functionality</td>
<td>40%</td>
</tr>
<tr>
<td>User Interface</td>
<td>30%</td>
</tr>
<tr>
<td>Demo Presentation</td>
<td>10%</td>
</tr>
<tr>
<td>Documentation</td>
<td>20%</td>
</tr>
</tbody>
</table>

Individual score is adjusted based on the peer-review reports and attendance of the demo presentations by the other teams. Attendance will be given and everyone is expected to actively participate by giving comments and asking questions.
5. **Important Dates**

- **04/01/2016**  Team progress report
- **04/14/2016**  GTAMS software, presentation slides, design document, and user manual due
- **04/14/2016**  Team presentations, peer-review reports due before each presentation
- **04/19/2016**  Team presentations, peer-review reports due before each presentation
- **04/21/2016**  Team presentations, peer-review reports due before each presentation
- **04/26/2016**  Team presentations, peer-review reports due before each presentation