

# **UTD Computer Science Degree Planner Use Cases**

By Student Name (studentid)

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## Context Diagram

The following figure illustrates the actors and use cases present in the application.

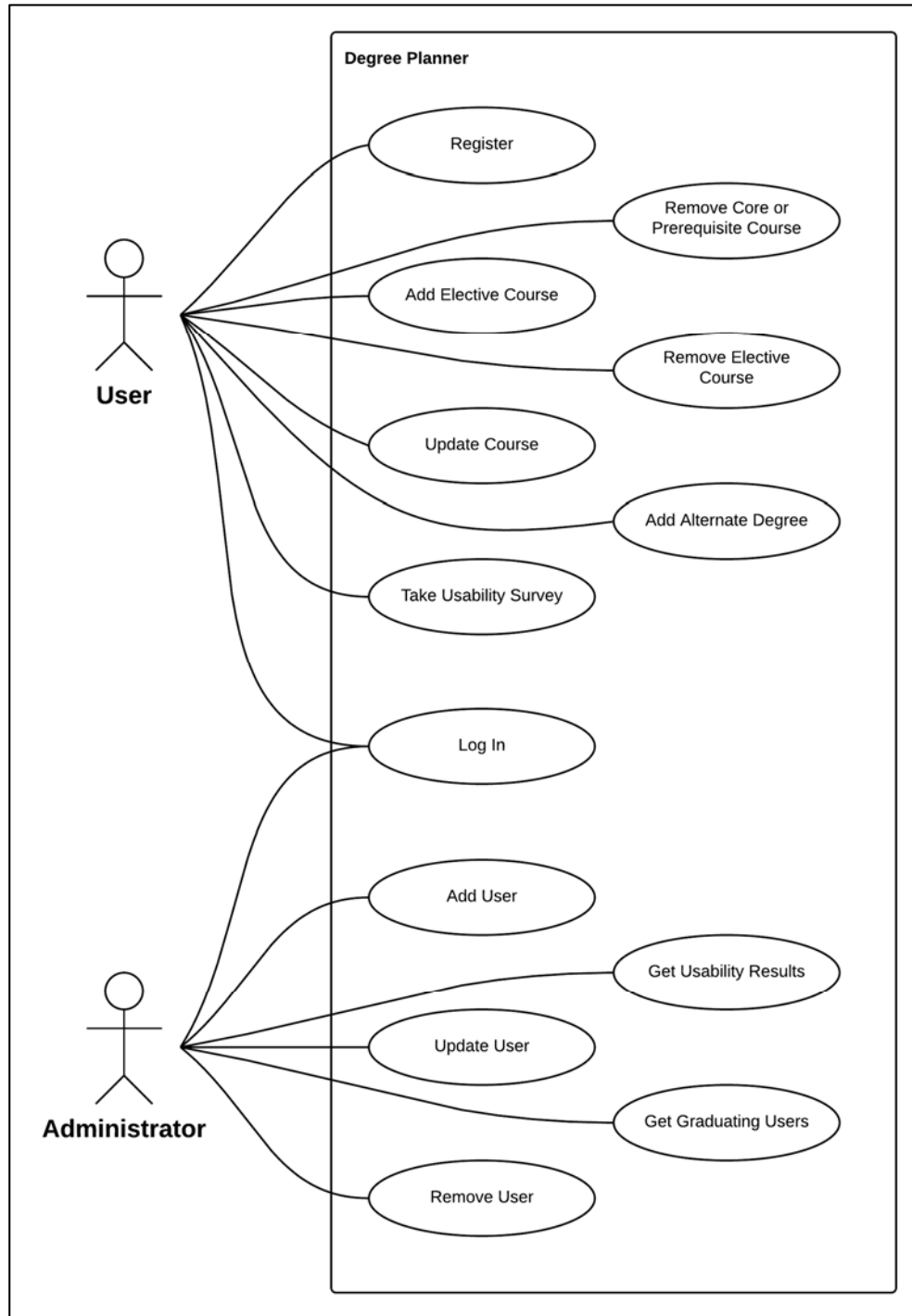


Figure 1 Degree Planner Context Diagram

## UTD Degree Planner Actor Descriptions

1. **Student** – a person who is registered to take courses at The University of Texas at Dallas.
2. **Administrator** – an employee of The University of Texas at Dallas who manages users in the system.

## UTD Degree Planner Use Case Descriptions

1. **Register** – a user creates an account in the application.
2. **Log In** – an existing user wishes to view or edit their degree plan.
3. **Add Elective Course** – an existing user adds a new course to their degree plan.
4. **Update Course** – an existing user changes the semester and/or grade for a course in their degree plan.
5. **Remove Core or Prerequisite Course** – an existing user removes a core or prerequisite course from their degree plan.
6. **Remove Elective Course** – an existing user removes an elective course from their degree plan.
7. **Add Alternate Degree** – an existing user adds an alternate degree track to their degree plan.
8. **Take Usability Survey** – an existing user fills out a usability survey about the application.
9. **Add User** – an administrator user adds a new user account to the application.
10. **Update User** – an administrator user updates the profile settings for an existing user.
11. **Remove User** – an administrator user deletes a user from the application.
12. **Get Usability Results** – an administrator user views usability survey results.
13. **Get Graduating Users** – an administrator user views a list of users eligible for graduation.

## Use Case 1: Register

### Actor(s)

User

### Description

This use case begins when a user wishes to register for this application. This use case ends when the user has successfully registered.

### Preconditions

None.

### Post conditions

The user is registered in the application and logged into the system.

### Normal Course of Events

1. **The use case begins** when the user starts the application.
2. The application prompts the user to enter a username and password.
3. The user clicks 'Register' link.
4. The application prompts the user to enter the following information:
  - a. A username.
  - b. A password.
  - c. Confirm password.
  - d. A starting semester.
  - e. An expected ending semester.
  - f. A degree track.
  - g. All admission prerequisite courses.
5. The user enters the information above.
6. The application verifies that the username is unique and that the information entered is valid.
7. **The use case ends.**

### Alternative Courses

- Missing information
- Username already registered
- User cancels registration
- User leaves application

## Use Case 2: Log In

### Actor(s)

User  
Administrator

### Description

This use case begins when a user wishes to log into the application. Every action, save the register use case, requires the user to log in. The use case ends once the user has successfully authenticated in the system.

### Preconditions

The user has registered an account with the application.

### Post conditions

If the use case was successful, the user is now logged into the application.

### Normal Course of Events

1. **The use case begins** when the user starts the application.
2. The application prompts the user to enter a username and password.
3. The user enters a username and password.
4. The application verifies that this is a valid user.
5. **The use case ends.**

### Alternative Courses

- Bad username
- Bad password
- User is not registered
- User leaves application

## Use Case 3: Add Elective Course

### Actor(s)

User

### Description

This use case begins when a user wishes to add a new elective to their degree plan. The use case ends when the course has been successfully added.

### Preconditions

A valid user has logged into the application.

### Post conditions

If the use case was successful, a new elective course has been added to the users degree plan.

### Normal Course of Events

1. **The use case begins** when the user wishes to add an elective course to their degree plan.
2. The application presents the current degree plan to the user.
3. The user clicks the 'Add Elective' button.
4. The application replaces the button with three dropdowns, one each for: the course to add, the semester the course will be taken, and the grade received.
5. The user selects the desired course and optionally enters a semester and grade.
6. The user clicks the 'Save' button.
7. The application adds the course to the degree plan and updates the screen to reflect the change.
8. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

### Alternate Course: User Clicks Delete Button

1. **The use case begins** when the user clicks the 'Delete' button.
2. The application removes the course options
3. **The use case ends.**

## Use Case 4: Update Course

### Actor(s)

User

### Description

This use case begins when a user wishes to update the semester and/or grade for a course in their degree plan. The use case ends once the information has been successfully saved to the course.

### Preconditions

A valid user has logged into the application.

### Post conditions

If the use case was successful, the selected course semester and/or grade have been updated.

### Normal Course of Events

1. **The use case begins** when the user wishes to update a course in their degree plan.
2. The application presents the current degree plan to the user.
3. The user clicks the 'Edit' button on the course they wish to update.
4. The application replaces the semester and grade values with dropdowns.
5. The user selects the new values for one or both the semester and grade.
6. The user clicks the 'Save' button.
7. The application updates the course information in the degree plan and updates the screen to reflect the changes.
8. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.



## Use Case 5: Remove Core or Prerequisite Course

### Actor(s)

User

### Description

This use case begins when a user wishes to remove a core or prerequisite course from the degree plan. The use case ends when the course's semester and grade have been removed from the course.

### Preconditions

A valid user has logged into the application.

### Post conditions

If the use case was successful, the selected core or prerequisite course's semester and grade have been removed.

### Normal Course of Events

1. **The use case begins** when the user wishes to remove a core or prerequisite course from their degree plan.
2. The application presents the current degree plan to the user.
3. The user clicks the 'Edit' button on the course they wish to update.
4. The application replaces the semester and grade values with dropdowns.
5. The user clicks the 'Delete' button.
6. The application removes the semester and grade information from the selected course and updates the screen to reflect the changes.
7. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

## Use Case 6: Remove Elective Course

### Actor(s)

User

### Description

This use case begins when a user wishes to remove an elective course from their degree plan. The use case ends when the selected course has been removed.

### Preconditions

A valid user has logged into the application.

### Post conditions

If the use case was successful, the selected elective has been removed from the users degree plan.

### Normal Course of Events

1. **The use case begins** when the user wishes to remove an elective course from their degree plan.
2. The application presents the current degree plan to the user.
3. The user clicks the 'Edit' button on the course they wish to update.
4. The application replaces the semester and grade values with dropdowns.
5. The user clicks the 'Delete' button.
6. The application removes the course from the degree plan and updates the screen to reflect the changes.
7. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

## Use Case 7: Add Alternate Degree

### Actor(s)

User

### Description

This use case begins when a user wishes to add an alternate degree track to their degree plan. The use case ends once the new degree track has been added.

### Preconditions

A valid user has logged into the application.

### Post conditions

If the use case was successful, the selected degree track has been added as an alternate degree plan.

### Normal Course of Events

1. **The use case begins** when the user wishes to add an alternate degree plan.
2. The application presents the current degree plan to the user.
3. The user clicks the 'Add Alternate Degree Plan' button.
4. The application presents a popup with a dropdown of available degree tracks.
5. The user selects the desired degree track from the dropdown.
6. The user clicks the 'Add Degree' button.
7. The application adds the selected degree plan to the user and switches to the new degree plan view.
8. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.
- User clicks 'Add Alternate Degree Plan' again.

## Use Case 8: Take Usability Survey

### Actor(s)

User

### Description

This use case begins when a user wishes to take the usability survey. The use case ends once the user has saved their answers.

### Preconditions

A valid user has logged into the application.

### Post conditions

If the use case was successful, the user's answers for the survey have been saved to the database.

### Normal Course of Events

1. **The use case begins** when the user wishes to take the Usability Survey.
2. The application presents the current degree plan to the user.
3. The user clicks the 'Take Questionnaire' link.
4. The application presents the usability questionnaire.
5. The user answers the questions.
6. The user clicks 'Save & Go Back'.
7. The application saves the survey results and returns the user to their degree plan.
8. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

### Alternate Course: User Clicks Save & Logout

1. **The use case begins** when the user clicks the 'Save & Logout' button.
2. The application saves the survey results and logs the user out.
3. The application presents the log in screen.
4. **The use case ends.**

## Use Case 9: Add User

### Actor(s)

Administrator

### Description

This use case begins once an administrator user wishes to add a new user to the application. The use case ends once the user has been successfully added.

### Preconditions

A valid administrator has logged into the application.

### Post conditions

If the use case was successful, a new user has been created in the application and is able to log in.

### Normal Course of Events

1. **The use case begins** when the administrator wishes to add a new user to the application.
2. The application presents the Administrator Dashboard.
3. The user clicks the 'Add User' button.
4. The application prompts the user to enter the following information:
  - a. A username.
  - b. A password.
  - c. Confirm password.
  - d. A starting semester.
  - e. An expected ending semester.
  - f. A degree track.
  - g. All admission prerequisite courses.
5. The user enters the required information above.
6. The user clicks the 'Add' button.
7. The application adds the user to the application.
8. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

## Use Case 10: Update User

### Actor(s)

Administrator

### Description

This use case begins when an administrator user wishes to update the information for a selected user. The use case ends once the administrator saves the users information.

### Preconditions

A valid administrator has logged into the application.

### Post conditions

If the use case was successful, the selected user's information is updated in the application.

### Normal Course of Events

1. **The use case begins** when the administrator wishes to update an existing user in the application.
2. The application presents the Administrator Dashboard.
3. The user clicks the 'Edit' button on the user they wish to edit.
4. The application prompts the user to enter the following information:
  - a. A username.
  - b. A password.
  - c. Confirm password.
  - d. A starting semester.
  - e. An expected ending semester.
  - f. A degree track.
  - g. All admission prerequisite courses.
5. The user enters the information they wish to update.
6. The user clicks the 'Save button.
7. The application saves the new user information to the application.
8. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

## Use Case 11: Remove User

### Actor(s)

Administrator

### Description

This use case begins when an administrator user wishes to remove an existing user from the application. The use case ends once the user has been removed.

### Preconditions

A valid administrator has logged into the application.

### Post conditions

If the use case was successful, the selected user has been removed from the application.

### Normal Course of Events

1. **The use case begins** when the administrator wishes to update an existing user in the application.
2. The application presents the Administrator Dashboard.
3. The user clicks the 'Edit' button on the user they wish to edit.
4. The application presents the selected users information in a popup.
5. The user clicks the 'Delete' button.
6. The application removes the user from the application and updates the user list to reflect the deletion.
7. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

## Use Case 12: Get Usability Results

### Actor(s)

Administrator

### Description

This use case begins when an administrator user wishes to view the summary results for the usability survey. The use case ends once the summary results are shown.

### Preconditions

A valid administrator has logged into the application.

### Post conditions

If the use case was successful, the summary results of the usability survey are shown.

### Normal Course of Events

1. **The use case begins** when the administrator wishes to update an existing user in the application.
2. The application presents the Administrator Dashboard.
3. The user clicks the 'Usability Test Results' link.
4. The application presents a summary of all usability surveys.
5. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.



## Use Case 13: Get Graduating Users

### Actor(s)

Administrator

### Description

This use case begins when an administrator user wishes to view a list of users who are eligible for graduation in a specific semester. The use case ends once the list of users is shown.

### Preconditions

A valid administrator has logged into the application.

### Post conditions

If the use case was successful, a list of users graduating in the selected semester is shown.

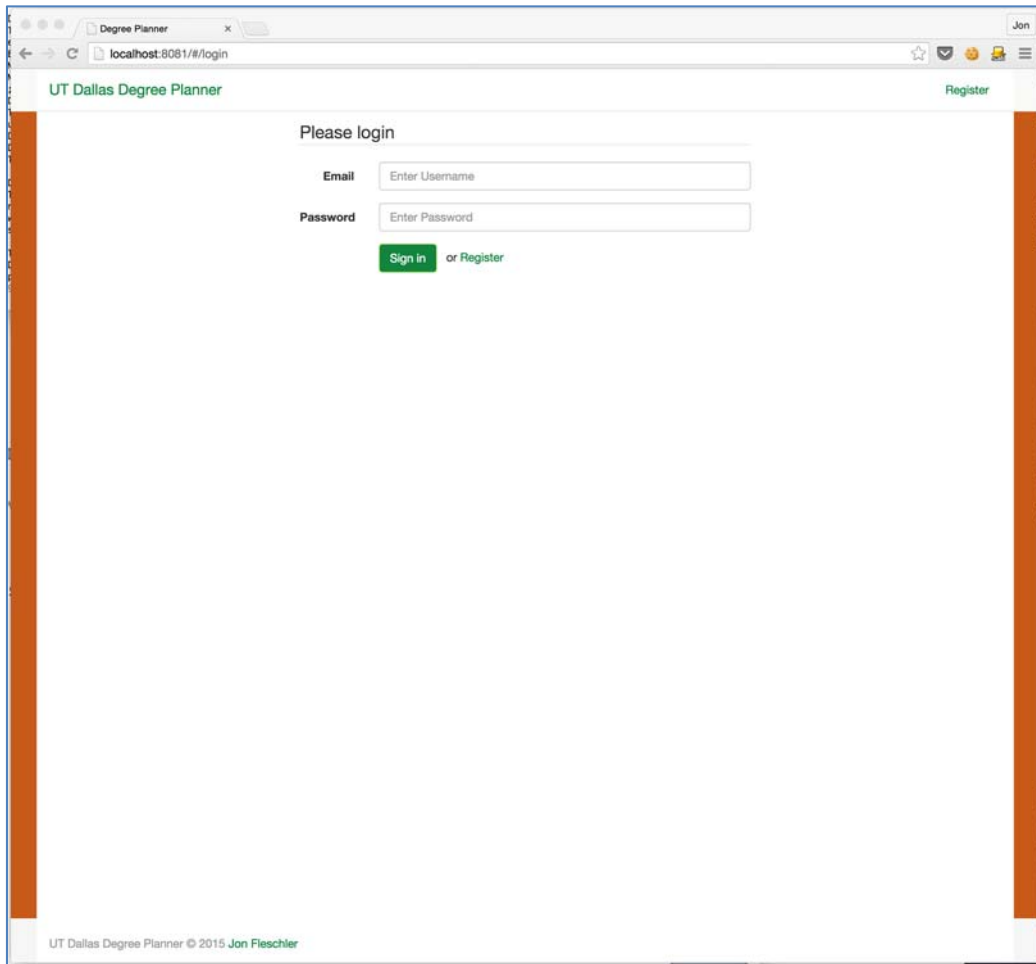
### Normal Course of Events

1. **The use case begins** when the administrator wishes to update an existing user in the application.
2. The application presents the Administrator Dashboard.
3. The user clicks the 'Graduating Users' link.
4. The application presents an empty list of users eligible for graduation.
5. The user selects the Graduation Semester from a dropdown list.
6. The application populates the list with users eligible to graduate in the selected semester or the next.
7. **The use case ends.**

### Alternative Courses

- User logs out of the application.
- User leaves application.

## User Interface



The screenshot shows a web browser window titled "Degree Planner" with the address bar displaying "localhost:8081/#/login". The page header includes "UT Dallas Degree Planner" on the left and a "Register" link on the right. The main content area is titled "Please login" and contains two input fields: "Email" with the placeholder "Enter Username" and "Password" with the placeholder "Enter Password". Below these fields is a green "Sign in" button followed by the text "or Register". The footer of the page reads "UT Dallas Degree Planner © 2015 Jon Fleschler".

Figure 2. Login Page

UT Dallas Degree Planner

Register your email

Email\*

Password\*

Confirm Password\*

Complete your profile

First Name\*

Last Name\*

First Semester in Program\*

Expected Graduation\*

Degree Plan\*

Assigned Prerequisites

- ☐ CS 5303 Computer Science I
- ☐ CS 5330 Computer Science II
- ☐ CS 5333 Discrete Structures
- ☐ CS 5343 Data Structures
- ☐ CS 5348 Operating Systems
- ☐ CS 5349 Automata Theory
- ☐ CS 5354 Software Engineering
- ☐ CS 5390 Computer Networks
- ☐ CS 3341 Probability & Statistics

[Register](#) or [Go Back](#)

UT Dallas Degree Planner © 2015 Jon Fleschler

Figure 3. Register Page

Register your email

Email\*  Please enter a valid email address

Password\*  Password must be at least 5 characters

Confirm Password\*  Passwords do not match

Figure 4. Registration Errors

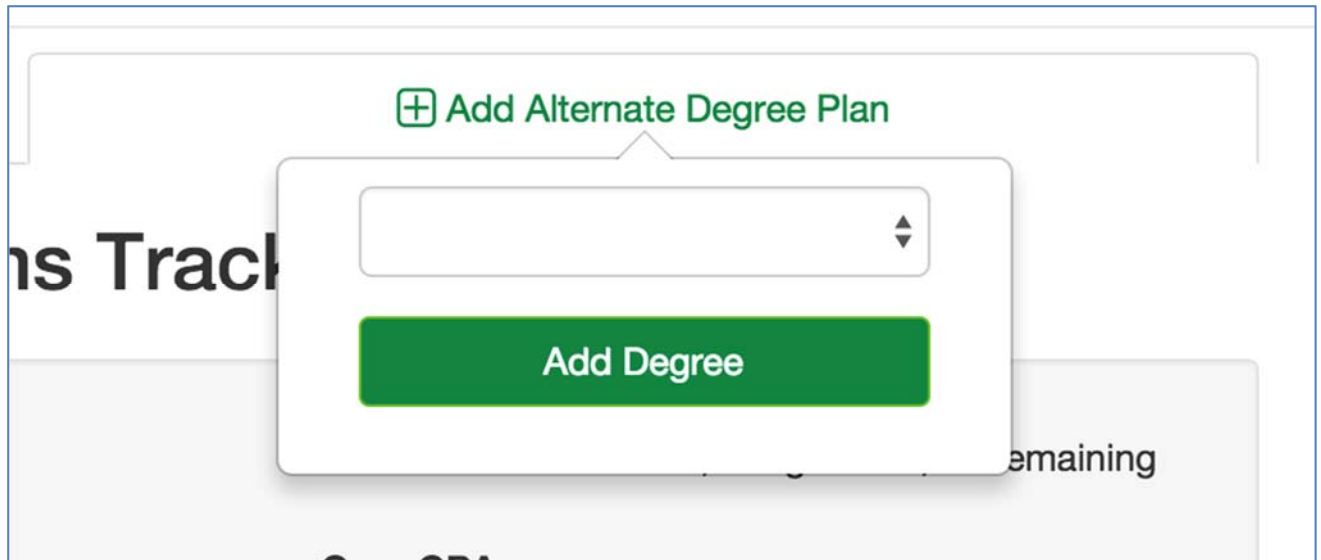


Figure 5. Add Alternate Degree Plan

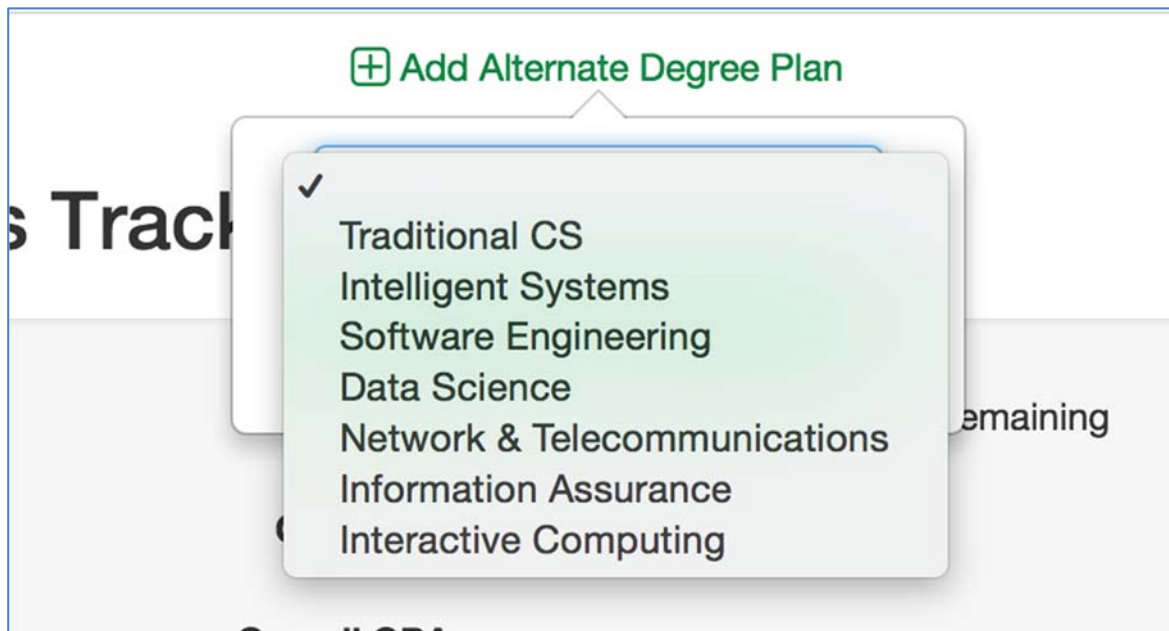


Figure 6. Alternate Degree Plan Options

**UT Dallas Degree Planner** Welcome Jon!

### USE Questionnaire: Usefulness, Satisfaction, and Ease of use

Usefulness	1	2	3	4	5	6	7	NA
1 It helps me be more effective.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
2 It helps me be more productive.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
3 It is useful.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
4 It gives me more control over the activities in my life.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
5 It makes the things I want to accomplish easier to get done.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
6 It saves me time when I use it.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
7 It meets my needs.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
8 It does everything I would expect it to do.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
Ease of Use	1	2	3	4	5	6	7	NA
9 It is easy to use.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
10 It is simple to use.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
11 It is user friendly.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
12 It requires the fewest steps possible to accomplish what I want to do with it.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
13 It is flexible.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
14 Using it is effortless.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
15 I can use it without written instructions.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
16 I don't notice any inconsistencies as I use it.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
17 Both occasional and regular users would like it.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
18 I can recover from mistakes quickly and easily.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
19 I can use it successfully every time.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
Ease of Learning	1	2	3	4	5	6	7	NA
20 I learned to use it quickly.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
21 I easily remember how to use it.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>
22 It is easy to learn to use it.	strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree <input type="radio"/>

Figure 7. Take Usability Questionnaire

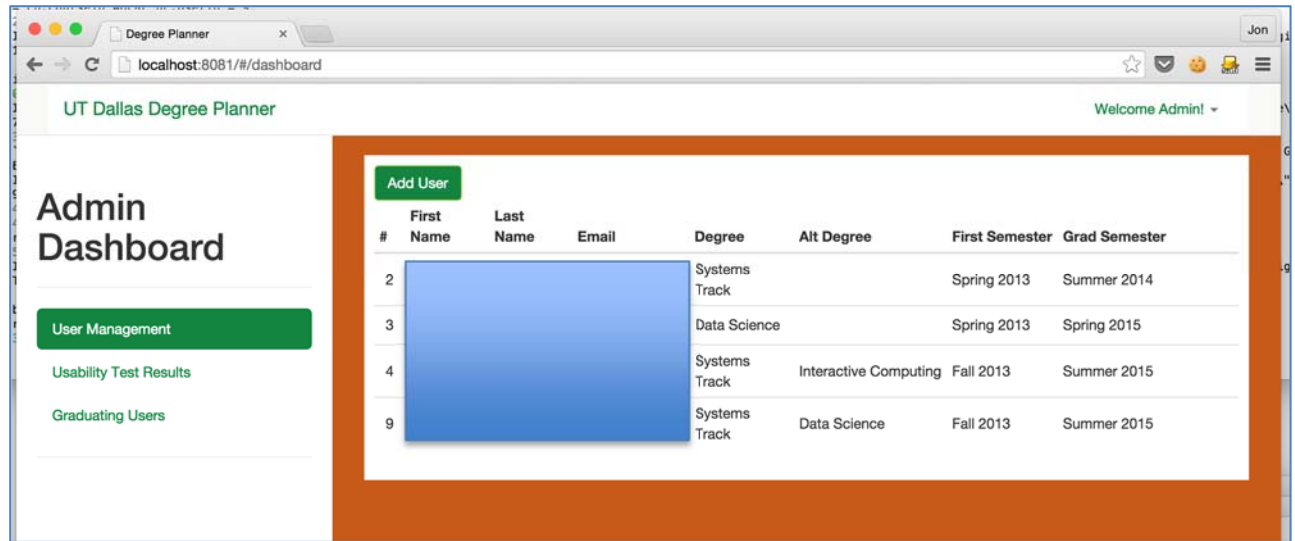


Figure 8. Admin - User Management

**Update User Profile**

Email\*

First Name\*

Last Name\*

First Semester in Program\*

Expected Graduation\*

Degree Plan\*

Alt Degree Plan

**Assigned Prerequisites**

<input type="checkbox"/> CS 5303 Computer Science I	<input type="checkbox"/> CS 5349 Automata Theory
<input type="checkbox"/> CS 5330 Computer Science II	<input type="checkbox"/> CS 5354 Software Engineering
<input checked="" type="checkbox"/> CS 5333 Discrete Structures	<input type="checkbox"/> CS 5390 Computer Networks
<input checked="" type="checkbox"/> CS 5343 Data Structures	<input type="checkbox"/> CS 3341 Probability & Statistics
<input checked="" type="checkbox"/> CS 5348 Operating Systems	

**User Options**

**New Password**

**Account Status**

Figure 9. Admin - Update User Profile

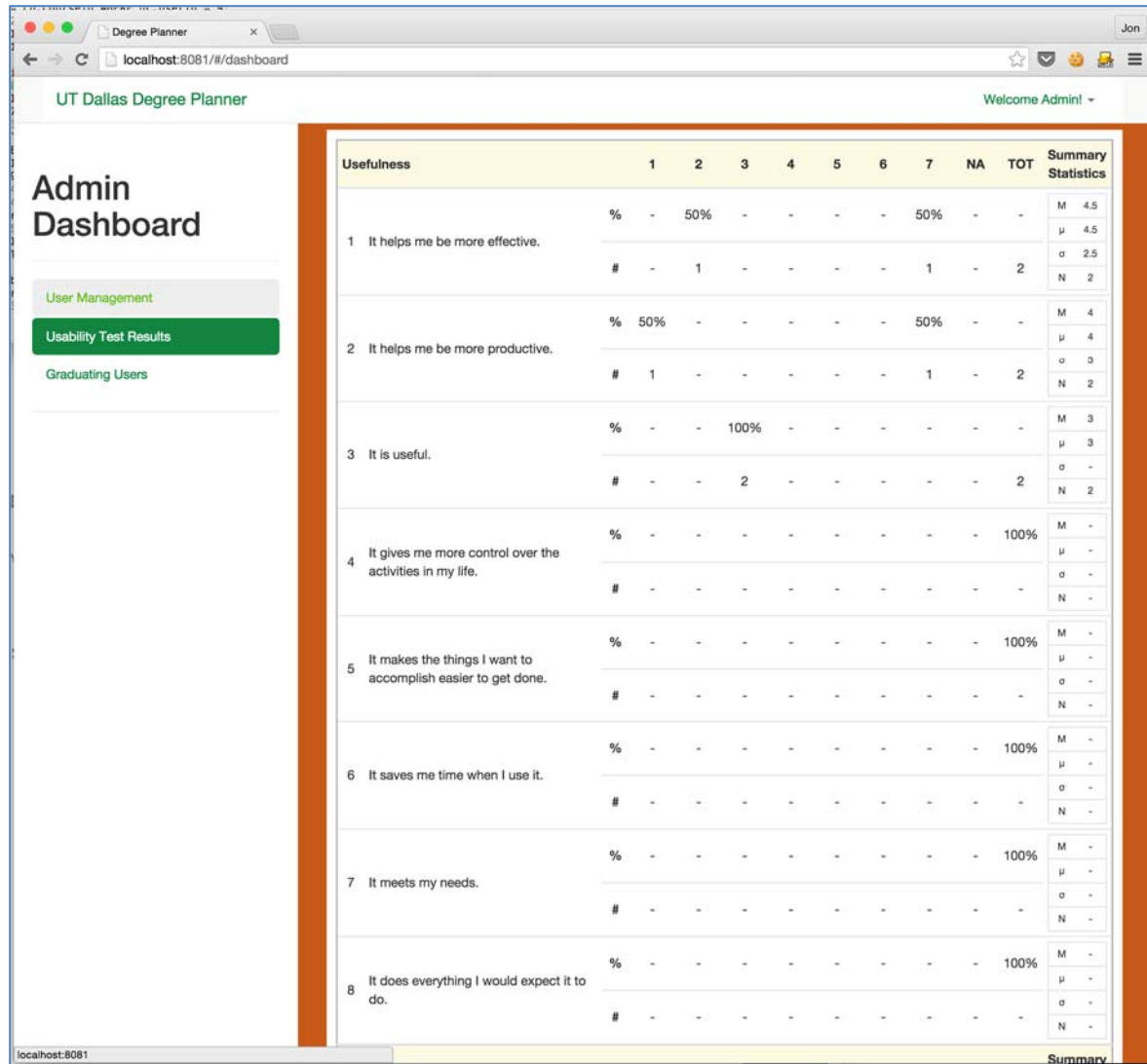


Figure 10. Admin - Usability Results

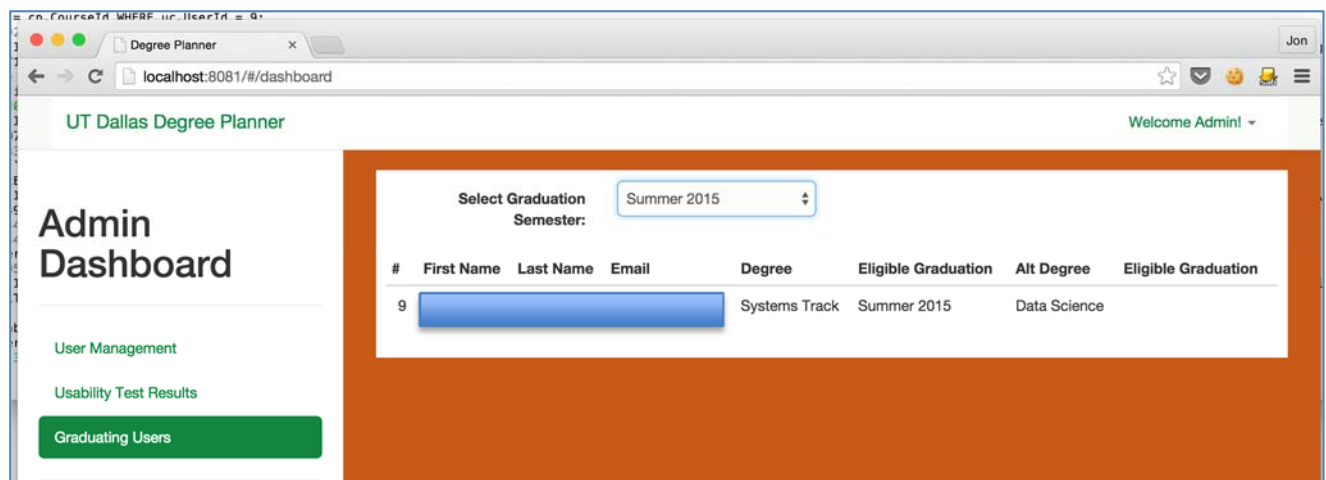


Figure 11. Admin - Graduating Users