

## Sprint 1 Plan

### **CSCE 120 Autograder Frontend Team**

**Scrum Master:** Md Hasan Al Banna

**Product Owner:** Max Smith

### **Customer Meeting**

Meeting: Every Friday from 11:00am-12:00pm, Peterson 322/Zoom

### **Summary**

The main customer need is a usable, accessible frontend for the CSCE 120 autograding system that allows for an easier creation and maintenance of assignments and their constituent tests. This application will streamline the process of creating auto graded assignments by providing a GUI to generate new assignment GitHub repositories and interactively create new tests. The admin(s) of CSCE 120's github organization will have the ability to add new users and manage permissions, controlling who can view and edit tests within each assignment.

Stakeholders include CSCE 120 course instructors and teaching assistants, who need a simpler and more automated way to create, modify, and view auto graded assignments, as well as students, who benefit from having high-quality tests for their assignments. The ability to run test cases independently within the interface will ensure that tests are behaving as expected and allow for rapid assignment development.

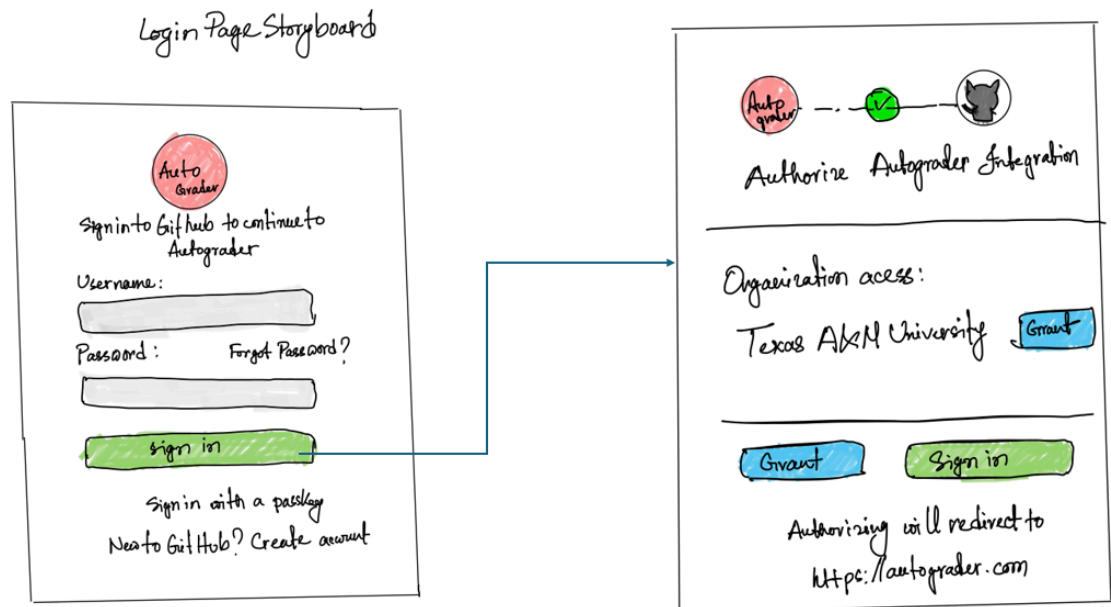
### **User Stories**

| Story Number | Feature name<br>As a [ kind of stakeholder ]<br>So that [ I can achieve some goal ]<br>I want to [ do some task ]   | Points |
|--------------|---|--------|
| 1            | Feature: Login system<br>As an instructor or TA<br>So that I can create a new assignment or modify a previous one<br>I want to authenticate with a third-party service and login to the system.   | 4      |
| 2            | Feature: Access control<br>As an administrator of the CSCE 120 GitHub organization<br>So that I can manage who can interact with the application and how<br>I want to be able to do so through modifying users' roles within the GitHub organization through the application. | 3      |
| 3            | Feature: Create a new assignment<br>As an instructor<br>So that I can generate tests for a new autograded assignment<br>I want to create a new Git repository under the CSCE 120 GitHub organization from the autograded-assignment-template repository.                      | 3      |
| 4            | Feature: Add new test<br>As an instructor (or TA)<br>So that I can test some aspect of student code<br>I want to add a new test case to an assignment.  | 1      |
| 5            | Feature: Review existing test cases<br>As an instructor or TA<br>So that I can review details of the existing test cases of an assignment   | 1      |

|   |  |   |
|---|--|---|
|   | I want to fetch and display the existing test cases  |   |
| 6 | Feature: Update existing test<br>As an instructor (or TA)<br>So that I can modify the requirements of an existing test<br>I want to update the attributes of that test.  | 1 |
| 7 | Feature: Regenerate <code>.tests</code> file on test creation/update/deletion<br>As an instructor or TA<br>So that the <code>.tests</code> remains up to date with any changes<br>I want to update the <code>.tests</code> file to reflect every test creation/update/deletion | 2 |
| 8 | Feature: Update remote assignment repository<br>As an instructor (or TA)<br>So that I can update the assignment<br>I want to push assignment changes to the remote GitHub repository   | 2 |
| 9 | Feature: Export assignment as <code>.zip</code><br>As an instructor<br>So that I can upload an autograder assignment to Gradescope<br>I want to download the autograder assignment as a <code>.zip</code> file.  | 2 |

## User Interface Mockups and StoryBoards

- Login Page Storyboard:



- Index-View -> Assignment View Storyboard:

### Assignment View Storyboard

Auto grade

Add New Assignment

CSC E 120 Program Design and Concepts  
List of Assignments

- 1. Calculator [View](#)
- 2. Series [View](#)
- 3. Matrix [View](#)

Clicking "Add New Assignment" will take the user to the "create new assignment" page.

- Create New Assignment View Storyboard:

### Create and update Test Storyboard

Tests

- 1. Test 1
- 2. Test 2
- 3. Test 3

File Tree

- Folders
- Files

Test Metadata

- Point
- Actual Test
- Type
- Ordering

Input:

3  
7  
"Hello"

Output:

Yes  
Yes  
No

Create New Test

Update Output

"Create New Test" will clear the meta data field, the input field, and the output field.  
Update Output will submit the changes to the database.

- Update a Test (within an assignment) View Storyboard:

Create New Assignment View Storyboard

The storyboard shows a mobile app screen titled 'Create Assignment Repository'. In the top left corner, there is a red circular icon with the text 'Auto grader'. The main content area is enclosed in a dashed border and contains the following elements:
 

- 'Username:' followed by a text input field.
- 'Repository Name:' followed by a text input field.
- 'Description:' followed by a text input field.
- 'Add readme:' followed by a text input field.
- 'Add git ignore:' followed by a checked checkbox.
- A blue button at the bottom labeled 'Create Repository'.

Clicking "Add New Assignment" will create a new GitHub repository.

## Sprint Backlog

- **Sprint Goal:** As evident from the listed user stories in this sprint plan, all of which we aim to complete in the first sprint, our current objective is to develop the foundational aspects of the autograder application.

Broadly speaking, our tasks can be proliferated as follows:

- Creating the Login System for our App.
- Creating the Access Control Management System that allows the admin(s) of the organization to add new users and manage their level of access.
- Creating the home page of the App, that includes the link to the form for creating new assignments.
- Developing the CRUD operations for tests within individual assignments, and updating the "code.tests" specification file accordingly, depending on the operation performed.
- Enabling the functionality that allows the assignment to be exported for upload to the autograder in Gradescope.

The above tasks have been accrued on the basis of our initial interactions with the client, and we feel that the completion of the above tasks, along with continual guidance and feedback from the client will pave the way for us to dive deep and refine the app's features even further, thereby leading to the final product meeting the expectations of the stakeholders.

- Table of Tasks and Assigned Developers for Sprint-1:

| Story Index | Task  | Developers                   | Time Estimates | Points |
|-------------|---|------------------------------|----------------|--------|
| 1           | Create a Login System for the App                       | Mainak Sarkar, Riddhi Ghate  | 3 days         | 4      |
| 2           | Create an Access Control Management System              | Saksham Mehta, Riddhi Ghate  | 2 days         | 3      |
| 3           | Create a New Assignment                                 | Max Smith, Mainak Sarkar     | 2 days         | 3      |
| 4           | Add a Test to an Assignment                             | Md Hasan, Qinyao Hou         | 1 day          | 1      |
| 5           | Review Tests in an Assignment                           | Md Hasan, Qinyao Hou         | 1 day          | 1      |
| 6           | Update test for an assignment                           | Md Hasan, Qinyao Hou         | 1 day          | 1      |
| 7           | Regenerate .tests file on test creation/update/deletion | Ryan Gonzalez, Max Smith     | 2 days         | 2      |
| 8           | Update remote assignment repository                     | Ryan Gonzalez, Saksham Mehta | 2 days         | 2      |
| 9           | Export assignment as .zip                               | Md Hasan, Qinyao Hou         | 2 days         | 2      |

### **Links**

- [GitHub](#)
- [Slack Invite](#)
- [GitHub Projects](#)
- [Heroku Deployment](#)