

## Use Cases

Use Case:	Set up system accounts
Primary Actor:	Administrator
Goal in context:	To set the system to authenticate users – Professors and TA's to login
Preconditions:	<ul style="list-style-type: none"> <li>• System has been programmed for a username and password login for the administrator and he/she logs in using those credentials</li> <li>• System has been programmed to add details for instructors and assign unique credentials to them</li> </ul>
Trigger:	The administrator decides to set up system by adding the Professors and TA's who must be able to access the system for the course
Scenario:	Administrator: Observes state of system Administrator: Enters own username and password Administrator: Selects "Add Professor" or "Teaching Assistant" Administrator: Adds Professors and TA's with required details Administrator: Observes feedback from system through newly created credentials for instructors and notification – "Instructors added"
Exception:	<ol style="list-style-type: none"> <li>1. System is not ready: Administrator makes sure the system is initiated with login screen</li> <li>2. Username/Password is incorrect (System notifies through error message): Administrator reenters correct username and password</li> <li>3. Name of Professor/TA not entered (System notifies through error message): Administrator enters correct name for appropriate instructor</li> <li>4. Email of Professor/TA not entered or incorrect email mentioned (System notifies through error message): Administrator enters correct email id for the instructor</li> <li>5. Username/password of Professor/TA not entered or incorrect email mentioned (System notifies through error message):</li> </ol>
Priority:	Essential, must be implemented
When available:	First increment
Frequency of use:	Once/twice per semester – as per need to add instructors
Channel to actor:	Via system interface
Secondary actors:	None

Open issues:	<ol style="list-style-type: none"> <li>1. Should there be a way to deactivate login if admin enters incorrect credentials above a certain threshold number of times?</li> <li>2. Should the system display additional or more detailed instructions/error messages?</li> <li>3. Should the system time out on inactivity of administrator while using system – adding instructors</li> </ol>
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Use Case:	Login to system
Primary Actor:	Professor, TA
Goal in context:	To enter/login to system by entering correct credentials
Preconditions:	<ul style="list-style-type: none"> <li>• Administrator has added instructors to system by entering correct details, received unique credentials and forwarded the same to the professors and TAs for access</li> <li>• System has been programmed for a username and password login for Professors and TAs</li> </ul>
Trigger:	The Professor/TA decide to enter system and begin plagiarism check for an assignment
Scenario:	<p>Professor/TA: Observes state of system</p> <p>Professor/TA: Enters own username and password and select “Log in”</p> <p>Professor/TA: Observes feedback from system through logging into account and viewing homepage</p> <p>Professor/TA: If instructor cannot remember password he/she clicks ‘Forgot Password?’ and the system provides contact of the admin to user</p>
Exception:	<ol style="list-style-type: none"> <li>1. System is not ready: Professor/TA makes sure the system is initiated with login screen or contacts Administrator</li> <li>2. Username/Password is incorrect (System notifies through error message): Professor/TA reenters correct username and password</li> <li>3. Username/Password not entered(System notifies through error message): Professor/TA enters correct username and password</li> </ol>
Priority:	Essential, must be implemented
When available:	First increment
Frequency of use:	Many times per day
Channel to actor:	Via system interface

Secondary actors:	Administrator
Open issues:	<ol style="list-style-type: none"> <li>1. Should the system have any additional authentication other than username and password? Is the “I am not a Robot” captcha required?</li> <li>2. Should there be a way to deactivate login if Professor/TA enters incorrect credentials above a certain threshold number of times?</li> <li>3. Should the system display additional instructions/error messages?</li> </ol>

Use Case:	View System and User statistics
Primary Actor:	Admin
Goal in context:	To get an understanding of the system, user status and statistics
Preconditions:	<ul style="list-style-type: none"> <li>• Admin is logged in his/her account</li> </ul>
Trigger:	The Admin decides/wishes to get an idea and keep a track of current statistics relevant to system like running time of tests/results from run
Scenario:	Admin: Observes state of system Admin: Clicks ‘Get Statistics!’ button Professor/TA: Observes feedback from system through visibility of metrics and statistics displayed
Exception:	<ol style="list-style-type: none"> <li>1. No statistics displayed: Admin must check whether test runs are being registered within system record</li> <li>2. Long wait time for response from system – Admin must confirm system status and database connection</li> </ol>
Priority:	Essential, must be implemented
When available:	Second increment
Frequency of use:	Many times per day
Channel to actor:	Via system interface
Secondary actors:	None
Open issues:	<ol style="list-style-type: none"> <li>1. Should there also be an additional mention of number of users currently accessing the system within the display of statistics?</li> <li>2. Can there be a way of notifying user of warnings through the interface?</li> </ol>

	3. Can statistics be represented in a report or as graphs for better visibility and understanding?
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Use Case:	Calculate plagiarism
Primary Actor:	Professor/TA
Goal in context:	To calculate plagiarism for a set of files or directories
Preconditions:	<ul style="list-style-type: none"> <li>• Instructor is logged in his/her account</li> </ul>
Trigger:	The Professor/TA decides to calculate plagiarism for the class for a particular assignment
Scenario:	<ul style="list-style-type: none"> <li>• Professor/TA: Enter Homework/Assignment number</li> <li>• Professor/TA: Enter Github username and password</li> <li>• Professor/TA: Enter name of folder that would house all the repositories of students within course</li> <li>• Professor/TA: Select Comparison Strategy from options</li> <li>• Professor/TA: Press 'Submit' button to confirm entering of all information required</li> <li>• Professor/TA: The Professor/TA observes system and waits for the results to be generated</li> </ul>
Exception:	<ol style="list-style-type: none"> <li>1. Entered Github username/password is not correct: Professor/TA will re-enter correct username and password</li> <li>2. Incorrect homework number: Professor/TA will check whether the entered homework number is correct and it is the assignment he wishes to check plagiarism against, and enter the correct homework number thereafter</li> <li>3. The Professor/TA selects "Calculate Plagiarism" multiple times thereby causing the system to function inefficiently: User must wait for the first run to view results and avoid clicking the submit button repeatedly</li> <li>4. The plagiarism calculation process stalls, page becomes unresponsive: go back and restart test or contact administrator</li> </ol>
Priority:	Essential, must be implemented
When available:	First increment
Frequency of use:	Up to the Professor/TA

Channel to actor:	Interface
Secondary actors:	Administrator
Open issues:	<ol style="list-style-type: none"> <li>1. Is there any pop up or alert message to alert professor/TA about the system time out?</li> <li>2. Should system show an error message if there are incorrect number of files in repository/files not submitted by student?</li> <li>3. Can user stop data import before calculation(Do you want to continue(OK/Cancel))?</li> <li>4. Should the system display additional instructions/error messages?</li> </ol>

Use Case:	View Plagiarism Case
Primary Actor:	Professor, TA
Goal in context:	To view a side by side comparison of a plagiarism case highlighted similar/plagiarized code between two files of two students
Preconditions:	<ul style="list-style-type: none"> <li>• System has run the plagiarism check over all the files in the submissions for the required homework and has generated a list of plagiarism results(cases) with their similarity percentages (sorting them by severity)</li> </ul>
Trigger:	The Prof/TA decides to view a plagiarism case and see the common parts of the code files between file submissions made by two students
Scenario:	<p>Prof/TA: Observes system to check whether plagiarism check is in process/complete (can see the list of results from the test run and plagiarism percentages)</p> <p>Prof/TA: Once plagiarism check is complete, instructor selects 'See Comparison Results' to view the highlighted sections of common code between the files</p>
Exception:	<ol style="list-style-type: none"> <li>1. Error in generation of results: rerun plagiarism test /contact administrator</li> <li>2. Results not visualized appropriately(percentages cannot be seen): rerun plagiarism test/contact administrator</li> <li>3. Unable to click on link to view particular Plagiarism Case – rerun plagiarism test/contact administrator</li> <li>4. No visibility of comparison results on clicking link - rerun plagiarism test/contact administrator</li> </ol>

Priority:	Essential, must be implemented
When available:	First increment
Frequency of use:	Up-to Professor, TA
Channel to actor:	Via system interface
Secondary actors:	Administrator
Open issues:	<ol style="list-style-type: none"> <li>1. Should there be any additional information provided in the case other than highlighted code, student names, file names and plagiarism percentages?</li> <li>2. Can the instructor be given the option of waiving a particular section of highlighted code as not plagiarized – for example: comments</li> </ol>

Use Case:	Download Plagiarism Case
Primary Actor:	Professor, TA
Goal in context:	To download a particular case of plagiarism as a pdf file
Preconditions:	<ul style="list-style-type: none"> <li>• System should have already calculated and generated the report for plagiarism and instructor is currently viewing a particular case of plagiarism (set of student files)</li> </ul>
Trigger:	The Prof / TA decides to download a plagiarism case generated from the system to keep a record of it
Scenario:	<p>Professor/ TA: observes the plagiarism case</p> <p>Professor/TA: Clicks the 'Download' button</p> <p>Professor/ TA: Views case downloaded as a pdf file on system</p>
Exception:	<ul style="list-style-type: none"> <li>• Case cannot be downloaded: Contact administrator</li> <li>• Case downloaded has no content: Download case again/contact administrator</li> <li>• Case downloaded is unorganized/data is misrepresented: Download case again/contact administrator</li> </ul>
Priority:	Essential, must be implemented
When available:	First increment
Frequency of use:	Up to Professor, TA
Channel to actor:	Via system interface
Secondary actors:	Administrator

Open issues:	<ol style="list-style-type: none"><li>1. Should the system give the user an option for the format of file to be downloaded as?</li><li>2. Should the system display instructions/error messages if the case is not downloaded?</li></ol>
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