CSC3003S Capstone Project — Stage One

Goals (Scope) [21 Marks]

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| Project Abbreviation and Name | CS2ADMIN: CS2 Course Administration System |
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| Tutor + email | Calvin Nyoni, NYNCAL001@myuct.ac.za |
| Date | 4 August 2022 |
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| Overall purpose and stakeholders [5] | **Overall Goals:**  To create a system to help with identifying students in need of support in order to pass and dealing with very many emails regarding student medical certificates and extensions. This system will take as input the class list for CS2, the list of tutors, the students' CS1 marks and the current CS2 gradebook, and provide analysis as to which students need support due to low marks. It will also provide an online interface that replaces emails normally sent to the convenor/TA/tutor and will store these and send summary emails to the appropriate people. Overall, it should semi-automate convenor tasks e.g., managing medical certificates, keeping records of students' assignment waivers and extensions, supporting DP and tutor management  **Project Goals:**  The goal of this project is to create an interface that will assist in the administration of the second year Computer Science course, particularly to help the course convener in assisting students with issues they might face. Furthermore, to assist the course convener in keeping track of the many emails received from students pertaining to assignment extensions, sick notes and to help identify students that might be at risk of failing the course. The outcome of this project to create an online interface that will assist in the duties stated above and overall to automate certain tasks and relieve pressure from the second-year course convener.  **How:**  To achieve the goals stated above is to build web interface or application using Python and JavaScript to direct all the queries that students might have to one central location. The web application will be built using software engineering principles and following all the specific requirements from our project client.  **Stakeholders:**  **Students** - The users of the web application in submitting medical certificates and extension requests  **Teaching Assistants** – Dedicated individuals who have been appointed by the university to assist in teaching the course.  **Course Convener** – Appointed individual who is dedicated in assisting in the administration of the course, teaching the course and providing guidance and assistance to students.  **Supervisor** – Sonia Berman, UCT Computer Science Department  **Secondary Stakeholders:**  -Computer Science Department  -University of Cape Town |
| SMART Goals [5] | Students will be able to submit medical certificates and ask for extensions through the system. Teaching assistants and the course convenor will be able to view theses medical certificates and extension requests, as well as the marks of all the students and those students who are struggling (i.e: getting lower marks) will be highlighted for them to see so that they can help the struggling student.  SMART Goals:   * Implement the ability of students to submit medical certificates for missed deliverables/tests and request extensions. * Implement the upload of student’s results to the application. * Implement the highlighting of students who are struggling to pass. * Accurately record project requirements before the beginning of the project. We will do this by ensuring that we have interviews with all the relevant parties about their expectations for this project. If ever we are unsure, we will ask about certain requirements, we will confirm with the client in order to validate the progress thus far. * Our goal is to complete the project by the deadline, which is six weeks from now. This means that we need to work a total of 10 hour per week. The aim is to have the project set up by the first three (3) weeks. * Our goal is to ensure optimal communication between team members to help coordinate our work throughout the project. We will have two meetings per week. One on Monday and the other on Friday. * Our goal is to learn a new programming language, JavaScript, to help in the setting up of the frontend of our application. We need to have mastered it in the first two weeks. We will take online classes and use materials online. * Our goal is to efficiently manage conflict as it arises. We will do that by having ad hoc meetings when conflict has been identified and we hope to resolve it by the end of the meeting. |
| Inputs, outputs, and performance [5] | **Inputs:**   * Excel Spreadsheet with CS 1 results * Excel spreadsheet with CS 2 course grade, assignment grade, quiz grade and submission notices * Sick note/Medical Certificate * Assignment waivers * Other file attachments and comment section   **Outputs:**   * Students grade risk analysis * Overview Dashboard of all logs recorded * Summary of new extension requests and medical certificates * Email notifications to course convener   **Performance:**   * The performance of the web application will be measured by overall functionality, how it accurately records and stores students’ grades, how it accurately logs calls that students have and to provide all this information neatly in a central location to the course convener and teaching Assistant respectively. * The performance of the web application will also be based on responsiveness to the user, i.e: Students, Course Convener and Teaching Assistant. * The performance will be based on the risk analysis that the application will produce in identifying students that are at risk of failing the course. |
| Resources and Constraints [3] | **Resources:**   * Excel Spreadsheets with student grades * Integrated collaborative platforms (Source code). E.g., Gitlab. * Tutor Support * Programming Software * Project planner and schedular   **Constraints:**   * The application will only be limited to Second year Computer Science Students. * The software used must be Python and JavaScript. |
| Feasibility [3] | The defined scope of this project is realistic, the key points and structure of requirements are documented well.  The main concerns that may arise from this project is sticking to the projected timeline as there might be unintended power cuts during meetings or development sessions. Furthermore, the other main concern is workload, other group members might have other heavy load courses and might lead to burnouts and not delivering on time. In addition, a major concern is a team member falling ill in the middle of the project and might potentially hinder the delivery of the project and ultimately performing poorly on this project.  Overall, the project is very feasible and can be managed properly and by sticking to the projected schedule and reporting any major concerns that may arise during the project. |