To.: Michael Erdmann, Middleware Director

Amber McLedon, Applications Director

Cynthia Carmom, PMO Director/ Acting Student Systems Director

From: Guysell Dixson, Middleware App Developer

DATE: May 16, 2021

Subject: Risk Analysis and Mitigation Memo

Project Scope and Role assessment

Regatta University is looking to create a web portal to access university-related information and resources. These resources must include a way to track current student’s progress in their degree program(s). The purpose of the degree progress program is to create an area within the website to display a user- specific academic progress within appropriate roles, leveraging data through a back-end system. The objectives of this project are as follow; create a graphical element in a web-friendly format, create the necessary web view to accommodate the graphical elements, create necessary changes to the back end to prepare data supporting the student’s information and create the necessary web service to securely expose the student’s information to the graphical elements and web view. This project will provide functionality, be delivered without incurring additional expenses, be free from any significant defects or without causing down time and be completed no later than two weeks from target time frame. All full details of the scope and project objectives can be found within the IT Project Charter for Student Degree Progress under Executive Summary 4, Project Description 4, Preliminary Scope Statement 4 and Project Objective and Success Criteria 4.

The following are the project team, their roles and responsibilities, and why they are critical to the team and the expertise they bring.

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| Name | Role | Role Description/ Responsibilities |
| Jane Smith | Project Sponsor  Duties: Initiate, ensures, approve and establish key aspects in relation to the project. | * Creator of project charter * Will be consulted with on the formal budget and budget plan * informed when step is completed. * Will fill in a Gantt chart with the project schedule and milestones * Perform integration testing to ensure that the front-end component and back end component communicate seamlessly with the web app. * Transition web app into production environment * Develop the final project report. |
| John Doe | Project Manager  Responsible for planning, organizing, and directing the completion of the project according to the scope and constraints. | Accountable for and needs to be consulted with on the following:   * Creating project charter * Developing the project management plan * Define the project scope * Creating a formal budget and budget plan * Fill in a Gantt chart with project schedule and milestones * Monitoring project progress throughout life cycle * Manage project deliverables for records and hand-off * Access and manage risk throughout the project life cycle * Develop the final project report * Perform project reflections |
| Arthur Bowman | Core Stakeholder  Control project schedule and budget issues. | Consult with before the steps and inform when steps are completed for the following:   * Define the project scope * When formal budget and budget plans are created * When the Gantt chart with the project schedule and milestones are filled in * Inform on project progress * Inform when project deliverables are recorded and handed-off * When final project report is developed |
| Shila Cole | System Analyst  Duties: ensures software, hardware and IT system fits the business needs. Write requirement for new systems and help implement and monitor effectiveness. | Needs to consulted and informed when the following occurs:   * Project Scope is defined * Gantt Chart is filled with project schedule and milestones   Accountable and does the following steps   * Create a defined test plan for all system components * Test scenarios defined in the test plan for proper app behavior * Perform integration testing to ensure that the front-end and back-end components speak to each other as well integrate seamlessly with the rest of the web app. * Access and manage risks throughout project life cycle.   Consult with before performing project reflections. |
| Ana Fischer | Middleware App Developer  Duties: help developers build applications more efficiently. Bridge the gap between applications, data, and end user. Will make sure application is cost effective and runs to scale. | Inform when following steps are completed:   * Define Project Scope * When Gantt chart is filled   Accountable and responsible for the following:   * Develop user interface mockup for review * Creates the architectural design for front end (user-facing) and back end (for data processing) of the app. * Develops the graphic user interface (GUI) for degree tracker * Develop web code to receive data from back end and place data within the GUI * Transition web app into production environment (go-live)   Responsible for:   * Accessing and managing risks throughout the project life cycle * Perform integration testing to ensure that the front-end and back-end components speak to each other as well integrate seamlessly with the rest of the web app. * Test scenarios defined in the test plan for proper app behavior   Consult with before performing project reflections. |
| John Jones | Backend System Analyst  Duties: database development, enhancement, maintenance and testing. Monitor programmers including quality assurance with code review, compliance checks | Inform when the following steps are completed:   * Define Project Scope * When Gantt chart is filled   Accountable and responsible for the following:   * Creates the architectural design for back end (for data processing) of the app. * Develops the back-end code to process data and send it to the web app. * Transition web app into production environment (go-live)   Responsible for the following:   * Test scenarios defined in the test plan for proper app behavior * Perform integration testing to ensure that the front-end and back-end components speak to each other as well integrate seamlessly with the rest of the web app. * Accessing and managing risks throughout the project life cycle   Consult with before performing project reflections. |

**Role and the Triple Constraints**

Guysell Dixson will be replacing Ana Fischer as our new Application Developer. Ana Fischer time has elapsed because she was being overallocated. Due to the amount of task placed on her, we have to reassign these tasks to Guy as our new developer. His technical roles are to help developers build applications more efficiently, bridge the gap between applications, data, and end user and he will make sure application is cost effective and runs to scale. Role as it applies to the Student Degree Process Project can be found within the Gantt Chart under task 6,7,9,10,11,14,15,16 and 17. They read as follows:

6. Develop user interface mock up

7.Create the architectural design for the front end of the application.

(This task can only be done after the chart is filled and milestones set. This process depends on where it falls in the order of developing this new application.)

9. Develop the GUI for degree tracker after the completion of task 6. In order to understand the direction, we want to go we must see what we have and develop code to design the new look, feel and functionality.

10.Develop the web code to receive the data from the back end and place data within the GUI

11.Create new element to enhance student degree process widget. This new enhancement will be a progression bar in the design of a race track, that will offer encouragement along checkpoints. This task depends on task 7,9 and 10 being complete. It relies on the code and the design of the GUI to be able to blend within the aesthetics of the web application.

14. Test the scenario defined with the test plans for proper application behaviors. This depends on task 9,10,11,12 being complete. Without these the testing is pointless and falls out of logical order.

15. Perform integration testing to ensure that the front end and back end components speaks to each other as well as integrate seamlessly with the rest of the web application. This can only be done after task 14 is completed because the testing will hopefully show that the behavior of the applications flows together and that there is not any miscommunication between components.

16. Transition web app into production environment. This task is dependent upon task 15 working properly and that all GUI are acceptable and little to no malfunction are present.

19. Assess and manage risks throughout the project life cycle. This is an ongoing process.

**Triple Constraints**

Within this project there are three constraints; scope, budget and schedule. Within the Charter the given scope does not express the addition of a new task. By adding this new task, it changes the scope of this project. We must now add this to the Gantt Chart and allocate this to our application developer. Due to the new task it adds to the already lengthy task of the developer because of this we were forced to hire a new application developer. This person will pick up where Ana Fischer left off. Within this project we used an allocated resource and now cannot complete the project with the original developer. The risk within this move is that the level of knowledge, professionalism and skills might not match and we would be forced to start tasks 6,7,9,10,11,14,15 and 16 all over.

If the skills and knowledge doesn’t match up, this will affect the time line. This would result in an additional week on top of what was already allocated to complete the new task. With the extension needed, this delays the completion of the project, also pushing back the rollout date and further risk of going over budget. At the beginning of this project we were told that there will not be a budget. The additional 10,000 given to complete the new enhancement will help give incentive to the team to complete this project on time. This new budget will also allow for us to use other resources to ensure testing, looks, functionality and overall deliverability. The budget will also be used to create a progression bar in the form of a race track. On this race track there will be checkpoints and along with the checkpoints will be scripts of encouragement that will hopefully inspire or motivate students to keep moving forward. Overall, the team and I is up for the challenge and believe that we can deliver on time within the given budget.

**Project Risk and Mitigation**

Based on the risk matrix that the team and I have composed. We are facing the risk that the ambiguity of the project scope will lead to requirement changes by the stakeholder during development, affecting both the budget and schedule. This is all geared towards the graphical elements but not specifically what type. This is a high risk because this part of the scope should have been addressed within the development of the Project Charter. This risk indicates that there was not a clear and detailed outline on what the graphical elements should have entailed exactly what it should have looked like, what its function was and the end results or purpose for it was. Without all these factors, now we face a scope creep. This will affect the time and budget within our constraints along with the scope. We as a team, must now go back into the development phase of this project and allocate resources both time and money to have code written to adjust look, GUI and functionality. As stated in the previous email, we lost Ana Fischer because she was overallocated on this project and was replaced by Guy Dixson. Now, I must back into her coding for the architectural design for the back end, the GUI and the web code that receives the data and places it into the GUI and hope that she followed protocol and documented all the needed areas of focus within her coding so we do not have to completely start over. This risk is a huge oversight and will probably set the deadline back a week on top of the concurrent project that has be placed on the table. All of this will surely hold up the implementation process by going back into the design phase. This will also have to be processed through the change request log, evaluated, then taken to the CCB, which could take a while for approval then validated and updates to the project management plans and brought back to the stakeholders for approval. This change request, I highly advise against due to the ramifications to the budget, time constraints and the scope creep that is inevitable.

If the stakeholders wish to move forward with their decision, we should look into ways to mitigate this risk. We know that the budget, scope and project timeline is at stake. If this request comes within the later phases of the project. There are several steps that I feel we should take in order to prevent this from occurring. Step one, there should be a clear and detailed idea of what graphical elements is wanted. We should draft the element to have visual representation and have that design, functionality and purpose, signed off on and put into a strict nonnegotiable contract. This will ensure that scope creep is at a minimum. This will also help save on the bottom-line. Next, we need to make sure that the required and need coding gets put onto the Gantt Chart and placed into the early development phase. This again will lower scope creep and lower an increase of budget. Lastly with all of this outlined we can deliver, hopefully within the time constraints. If this risk occurs during the latter part of this project, we will have to hire on another app developer and have them work congruently together with myself (Guy) to fast track the progress of the backend and frontend of the coding and tie it all together with the GUI. The tradeoff is the budget. We will have to increase the budget in order to stay on track with the time constraints and to stay within scope. At that point, we have no other choice then to accept the risk and adjust the change request log and move forward with the project. I feel that the suggestions are in the best interest of the stakeholder because if we constantly make changes and add new requests, the Student Degree Progress Tracker project will become an ongoing project, burning through resources, with a ballooning debt and ultimately, it will get abandoned and or sidelined in the end.

In conclusion, this project is set to be a great feature for the student body. Making it a priority to make sure that we put hard exception in the beginning and agreeing on the scoop, design, functionality and ultimately what we want this new app to look and feel will help, if not eliminate scoop creep when reaching milestones within the project. Keeping a clear line of open communication is the team’s goal, as well as making sure that every step is entered within the Gantt chart and any reasonable changes are entered within the change log. This will help keep stakeholders and our sponsor aware of any changes and where we are at within the project. As challenges arise the team will mitigate the risk and prioritize them to ensure that all constraints are met in a timely manner. If the board needs further verifications and proof of the risks, constraints, work layout, work responsibilities and milestones please refer to attached documents. I thank you for your time and look forward to working with you all.

Sincerely,

Guy Dixson

Middleware Application Developer

Regatta University, IT Department

References

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Student Degree Progress RACI Chart

Student Degree Progress Project Charter

Student Degree Progress Project Gantt Chart.

Student Degree Progress Project Management Documents