# **Project 1** (Due 10 August)

# Overview

Agile is an approach to project management that aims to achieve a goal in small increments. Scrum is one of several different methods used to implement Agile and is one of the most popular Agile frameworks. **Scrum in Agile** allows software development teams to focus on delivering business values in shortest time by rapidly and repeatedly inspecting actual working software. It is important for software developers because a framework is provided that promotes flexibility, collaboration, and customer satisfaction. These methodologies allow developers to adapt to changing requirements, deliver incremental value to customers, and foster effective teamwork. By following these principles, developers can enhance communication, improve software quality, and continuously learn and improve their processes. This results in increased productivity, reduced risks, and the ability to deliver software that aligns with customer needs and expectations.

Kanban offers several benefits for Agile development teams. Firstly, it provides visual transparency, giving team members a clear overview of work in progress and bottlenecks. The visual Kanban board helps to prioritize and manage tasks effectively, enhancing productivity and reducing idle time. Secondly, Kanban promotes a pull-based workflow, where work is pulled as capacity allows, preventing overburdening of team members and promoting a balanced workload. Thirdly, Kanban facilitates continuous improvement through regular feedback loops and data-driven decision-making. By analyzing metrics such as cycle time and lead time, teams can identify areas for optimization and make informed process changes. Overall, Kanban enables teams to streamline their workflows, increase efficiency, and deliver value in a more predictable and responsive manner.

Throughout the progression of the CMPG 323 module you will grow and enhance skills across different concepts, tools and technology stacks. Due to the nature of CMPG 323, planning will form a crucial part of the module as it will help you to allocate sufficient time to the tasks to be completed throughout the semester. It would help if you learned to accurately include all work and scope it to succeed in the module using well established practises and tools.

In this module, you will acquire skills in the following areas as you complete five projects:

* Agile (Scrum)
* Source Control
* Cloud (Azure)
* Application Programming Interfaces (APIs)
* Design & Architecture Patterns
* Testing
* Robotic Process Automation (RPA)
* Data Visualisation & Reporting

You will not only spend time on these projects and their tasks, but you will also spend time on classes and training, therefore all such activities should be added to your module semester plan. These skills aim to prepare you for workplace readiness.

You will be given the details for five projects (including this project). Your task is to create a GitHub Repository for each project where you will store your code and other work. Additionally, you need to set up a GitHub Kanban project to plan and track your work throughout the semester effectively. Thoroughly review all the submission dates and tasks associated with each project, and how you will spend your time on training etc. Remember that this plan will continuously be updated as you progress from one project to the next. You must clearly show that you understand what is required of each project and task for each submission, understand what is expected of you, and accurately plan how long each requirement should take to complete.

# Requirements

You need to identify and list all the requirements for your projects. These requirements should outline the desired features, functionalities, and user expectations. Each requirement should be clear, specific, and actionable. Functional requirements refer to a system's functionality and how the functions should be performed. Non-functional requirements refer to the aspects of a solution that have an impact on the quality attributes of a system (or platform). These non-functional requirements are deemed supportive to ensure that the functional requirements are implemented appropriately and according to good software practices.

The table below gives two features to be implemented, their stories and tasks, as well as priorities. When you have completed this project, you should have a clear view of time spent per task and per project so that you can plan each week productively. If you take the time and effort to create your plan correctly, refer to it weekly, and update it continuously, you will find that you will be more successful. You will have acquired a skill that will set you above your peers when you walk into your first job.

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| --- | --- | --- | --- |
| **Feature** | **Stories** | **Tasks (to be broken down further)** | **Priority** |
| GitHub Repository | Create and Configure GitHub Repository | Create a repository named ‘CMPG 323 Overview - <add your student number>’ | 1 |
|  |  | Create the following Milestones:   * Project 1 Submission: Deadline – 10 August * Project 2 Submission: Deadline – 31 August * Project 3 Submission: Deadline – 21 September * Project 4 Submission: Deadline – 19 October * Project 5 Submission: Deadline – 2 November * Exam (POE) Submission: No deadline | 2 |
|  |  | Create the following Labels:   * Class * Project * Training * <any other labels you might find relevant> | 2 |
|  | Add a ReadME.md file to the repository | In the ReadME.md, address which repositories will be created and used for each project | 1 |
|  |  | In the ReadME.md, provide a diagram explaining project and repository context and how they are integrated | 3 |
|  |  | In the ReadME.md, explain the branching strategy to be used within each project | 3 |
|  |  | In the ReadME.md, explain the use of a .gitignore file within each project | 3 |
|  |  | In the ReadME.md, explain the storage of credentials and sensitive information | 3 |
| GitHub Project | Create and configure GitHub project | Create a GitHub Kanban project | 1 |
|  |  | Link the GitHub repository to the project | 2 |
|  |  | Ensure that the project is named appropriately | 3 |
|  |  | Ensure that the project has a description adequately describing the project | 3 |
|  |  | Add the following columns:   * Linked Assessment (field type = text) * Due Date (field type = date) * Sprint (field type = single select; add all 8 of the sprints as options with sprint start and end date) * Effort (in Hours) (field type = number) | 2 |
|  | Create and populate project views | Create a table view within the project named ‘Tabular View’   * Add Milestone, Label, Linked Pull Request and Repository as fields to the view * Hide the Assignees field | 2 |
|  |  | Create a board view within the project, named ‘Status View’   * Group by Status | 2 |
|  |  | Create a board view within the project, named ‘Sprint View’   * Group by Sprint | 2 |
|  |  | Create a table view within the project, named ‘Linked Assessment View’   * Group by Linked Assessment | 3 |
|  |  | Create an additional customised view that provides you with additional insight into your semester progress | 4 |
|  |  | Populate the ‘Tabular View board’ with the following as tasks:   * All CMPG 323 classes * All CMPG 323 training time required to upskill and complete projects * All estimated tasks required to complete all CMPG 323 projects * All CMPG 323 project submissions (with deadlines attached to milestones) * All tasks associated to completing the CMPG 323 Portfolio of Evidence (POE) | 1 |
|  | Create and configure project charts | Add the following charts to the project:   * Number of Items by Label * Number of Items by Status * Number of Items by Sprint * Burndown Chart | 2 |

***Please note:*** *it will be important for you to keep the ReadME file updated throughout the semester as you will be evaluated on the content of the ReadME file as part of your Portfolio of Evidence (POE).*

Reading Materials

There are multiple aspects of the abovementioned scope that may be covered by

* An example of the board can be found here: <https://github.com/users/JacquiM/projects/16>
* GitHub Repository Documentation: <https://docs.github.com/en/repositories/creating-and-managing-repositories/about-repositories>
* GitHub Project Documentation: <https://docs.github.com/en/issues/trying-out-the-new-projects-experience/about-projects>
* Manage the lifecycle of your projects on GitHub: <https://docs.microsoft.com/en-us/learn/paths/manage-project-lifecycle-github/>
* What is a burndown chart: <https://www.visual-paradigm.com/scrum/scrum-burndown-chart/>
* Introduction to Git: <https://docs.microsoft.com/en-us/learn/modules/intro-to-git/>

# Submission Details

The scope of this project has been issued as an **individual** assignment. Please note that you will need to use GitHub for this project.

**Please Note:** Your repository must be set as *private* and must only be shared with the users **autoruby, JacquiM** and **marijkec** to mark your project**.**

**Submission**: Submit your CMPG 323 Project 1 by providing the relevant information through the form to be provided: <https://forms.office.com/r/1Yz3hZtq1h>

**Deadline**: 17h00 on 10 August 2023 (please note there are no alternative or late submission dates – if you miss this deadline you will forfeit the opportunity)

**What to submit**:

1. Provide the URL to your GitHub Profile
2. Provide the URL to your Overview GitHub Repository
3. Provide the URL to your GitHub Project
4. Do not forget to complete your **sprint retrospective** through the form to be provided.

**Warning:**

You should never ever make your GitHib repository or Kanban project *public*. Any student caught doing this will get 0%. The student sharing his code and work is as guilty and the one doing the copying.

# Marking Considerations

Please take note of the following considerations that will form part of the marking and moderation process:

* A rubric will be provided separately
* Failure to upload any of the requirements for submission will result in 0
* Failure to complete this as an individual assignment will result in 0
* Failure to use GitHub will result in 0.