Rockstone Interactive Dashboard

Project Plan – Version 1.0

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COM617 – Industrial Consulting Project
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Administration page

Customer Information	
Project title	Rockstone Interactive Dashboard
Customer Organisation	Rockstone Data
Customer contact	Nick Thorne
Date due	17/05/2024

Principal authors		
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Record of changes			
Issue	Date	Detail of Changes	Changes Made By
1.0	19/02/2024	Document created	Iona Pitt

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1 Introduction

1.1 Purpose of the Plan

The project plan highlights the overall scope and timeline of the project, alongside the roles and responsibilities of the team and an overview of the project stakeholders. The plan also includes the flow of the project from start to end, to make sure our work is as realistic as possible in terms of time and quality assurance.

1.2 Scope and Timeline of the Project

The system will be a Dashboard web application hosted on Docker containers, featuring a line plot depicting comparison data from ClickHouseDB. Our group will design, develop, test and deploy the software according to the requested requirements supplied by the project sponsor, Rockstone Data.

The work will be divided into three sprints, between 22nd January and 17th May 2024, with the first sprint over three weeks, the second over four, and the third over eight. The requirements and project plan will be drafted in the first sprint, including role and task allocation.

In the second sprint, the team shall provide a working Proof of Concept, application design documentation, a test plan, and a supporting presentation to the project sponsor and course tutor. Lastly, in the third sprint, the team will conclude development and deploy the software. They will have a stand-up meeting once a week where the team will discuss project progress and any blockers.

Our group must produce a Project Initiation Document defining the project stages and the work that needs to be done.

1.3 Project Standards

All project standards are highlighted in the Project Standards document. The document includes best practices for software development, including coding and naming conventions, formatting documentation, and the steps to perform project quality checks through the Joel Test.

1.4 Project Directory Structure

All documentation must be uploaded to the `docs` directory in the GitHub repository, and each file must have its own dedicated page on the `db_bench` wiki.

The unit test file shall be placed in its own separate directory named `workflows`.

Lastly, if there is more than one file used for the Streamlit GUI, they will be placed into their own separate directory also.

2 Roles and Responsibilities

2.1 Stakeholders

Below is a list of stakeholders in the project and their relevant details:

Role	Stakeholder Name	Details
Project Sponsor	Nick Thorne	• Director and Consultant Software Engineer at Rockstone Data • Primary contact for the project
Support Tutor	Martin Reid	• Lecturer and Apprenticeship Advisor at Solent University • Must be provided with project progress update after each Sprint

2.2 Team Members

Below is a list of team members in the project and their roles and responsibilities:

Role	Assigned Team Member	Responsibilities
Product Owner	Iona Pitt	• Defining user stories • Creating/maintaining project backlog • Leading sprint review, retrospective and planning sessions • Monitoring the project's performance and provide

		feedback ● Managing the project vision and strategy
Scrum Master	Josh Clarke	● Ensuring the agile process is followed correctly and conducts Scrum meetings ● Leading the Weekly Standup ● Removes any impediments that impacts the developers
Head of Stakeholder Communications	Luke Wood	● Primary contact for communication with the stakeholder - sends all queries and updates to the stakeholder ● Organising meetings with the stakeholder when required
Software Developer	Iona Pitt, Josh Clarke, Luke Wood, Danny Agha, Kyle Roberts	● Writing software code that satisfies the requirements and adheres to best practices ● Creating and maintaining project documentation ● Testing software components ● Training application users ● Providing updates to the system or software when required

2.3 Timescales

The project began on Monday 22nd January 2024, and will end on Friday 17th May 2024.

Sprint 1 was a 3-week Sprint and took place between 22nd January and 9th February 2024, with a Sprint Review, Retrospective and Planning session on the afternoon of Thursday 15th February at 3pm.

Sprint 2 shall be a 4-week Sprint and shall take place between 12th February and 8th March 2024, with a Sprint Review, Retrospective and Planning session on the afternoon of 14th March at 3pm.

Lastly, Sprint 3 shall be an 8-week Sprint and shall take place between 11th March and 17th May 2024, with a Sprint Review, Retrospective and Planning session on the afternoon of Thursday 16th May at 3pm. The Scrum ceremonies will be led by the Product Owner Iona Pitt.

The team shall meet for a weekly stand-up meeting every Monday at 5pm for the duration of the project, where the team – lead by the Scrum Master Josh Clarke – shall discuss the progress of the project and deliverables, and any hinderances/impediments the team may have encountered.

2.4 Deliverables

The following deliverables will be produced throughout the project:

Deliverable	**Estimated Date of Completion**
Project Initiation Document	Friday 10th May 2024
Software product – Fully meets requirements	Friday 17th May 2024
User guide on GitHub wiki	Friday 17th May 2024
Video of demonstration of the project (approx. 6 min 40 sec)	Friday 17th May 2024
20 slide deck for presentation (max. 5 min)	Friday 17th May 2024

2.5 Documentation

The following documentation will be produced throughout the project:

Document	Estimated Date of Completion
Requirements Document	Friday 9th February 2024
Standards Document	Friday 9th February 2024
Project Plan	Friday 1st March 2024
Design Document	Friday 8th March 2024
Test Document	Friday 8th March 2024
Acceptance Test Document	Friday 8th March 2024

3 Project Planning

3.1 Project Board

Tasks and their assigned team members shall be organised through the GitHub repository's Issues page and Project Board, available respectively at:

https://github.com/NickThorne123/db_bench/issues

https://github.com/users/NickThorne123/projects/8

3.2 Project Monitoring, Control and Problem Reporting

As mentioned in section 2.3, at the end of each Sprint there shall be a Sprint Review, Retrospective and Planning session. This shall be where the team will discuss the work completed, any changes to the requirements, and what the successful aspects of the sprint were, alongside any potential for improvement.

The team will plan the tasks for the next Sprint during the Planning session, moving the relevant and upcoming tasks from the 'No Status' column to the 'To Do' column within the Project Board.

All problems will be listed on the Issues page, with an appropriate tag (e.g. Bugs for software problems) for the ticket.

4 Technical Plan

4.1 Lifecycle

The project will use an Agile lifecycle, and the team will work in iterative Sprints. The Sprints will be of different lengths:

- Sprint 1 – 3 weeks
- Sprint 2 – 4 weeks
- Sprint 3 – 8 weeks

It will adopt some elements from Scrum, including the roles of Product Owner and Scrum Master, and the existence of Scrum ceremonies such as Sprint Planning, Sprint Review and Sprint Retrospective.

4.2 Languages

Language	Use	Coding Standard
Python 3.11	Application back-end and front-end code	PEP 8 coding practices

4.3 Tools

Process Area	Tool
Software Project Management	• GitHub Project Board • GitHub Issues board • Microsoft Word

Version Control	• GitHub code repository
Requirements	• Microsoft Word • Microsoft Excel
Analysis and Design	• Microsoft Word • Wireframe.cc
Implementation	• Microsoft Visual Studio Code • Streamlit OR Plotly Dash • Python pip • Python virtual environments (venv) • ClickHouseDB • TimescaleDB • PostgreSQL • MongoDB • Snowflake • Data Dog
Testing	• Microsoft Visual Studio Code
Deployment	• Docker Desktop • Docker Compose
Support & Maintenance	• GitHub Wiki pages

4.5.1 Development and Target Environments

The application will be produced on both Windows and Apple Mac iOS operating systems with varying hardware and networks, as the individual specifications of each team member's device is different.

The final product shall be able to run according to the advised minimum specifications for running Python 3.11, therefore, the product will not be able to run on Windows 7 or earlier. It will run better on computers with larger RAM and processing power due to the Machine Learning techniques used.

Once deployed, the application will run on all devices which can run Streamlit.

5 Quality Plan

5.1 Reviews and Inspections

All code must be placed into a pull request on GitHub before being merged into the master branch. The pull request must be reviewed and approved by at least one other team member. Commit messages that summarise the code changes must be added to branch commits and to the resulting pull request.

5.2 Testing

The software development team will perform unit testing using `pytest`, system testing and acceptance testing. All software components must undergo unit testing, and the test results, harnesses and input data must be documented in the test document. The test document will also include the system and acceptance test strategies and test scripts.

5.3 Lessons Learned

Lessons learned will be discussed throughout the project, and documented as part of the Sprint Retrospective.