1.

- Product Owner: internal stakeholder, helping to ensure that resources are aloocated effectively and the product development process runs smoothly. Product Owner identifies the customer needs and works with a lot of stakeholders such as customers, development departments, etc. to ensure that the product meets the needs and bring significant value to company.

- Srum Master: internal stakeholder, A Scrum Master chiefly acts as a coach and facilitator to the Scrum Team.

- Project Sponsor: primary shareholder that keep company finacially workable and provide funds, other resources and support to project.

- Developer team member: internal stakeholders, building,designing, creating, testing the software application.

- Client: external stakeholder, experiencing the system and they give fair reviews.

2.

- As a team member, I want to view assigned tasks so that I can track time and update progress.

- As a team member, I want to view project scope, project requirements so that I can update them.

- As a team member, I want to view project budget and financial reports so that I can report expenses.

- As a team member, I want to test and report issues so that I can contribute to project quality.

3.

Project Management System – level 1

1. Project Initiation – level 2

1.1 Define project scope and objectives – level 3

1.2 Identify stakeholders and their requirements – level 3

1.3 Create project charter – level 3

1.4 Define project team roles and responsibilies – level 3

1.5 Conduct project kickoff meeting – level 3

2. Sprint 0: Planning and Setup – level 2

2.1 Create product backlog and prioritise features – level 3

2.2 Define sprint cycles and timelines – level 3

2.3 Set up development environment and tools – level 3

2.4 Define Definition of Done – level 3

2.5 Develop release plan – level 3

3. Sprint 1 – level 2

3.1 Sprint planning meeting– level 3

3.2 Develop user stories for sprint– level 3

- Develop user story for viewing assigned tasks – level 4

3.3 Define sprint backlog and tasks– level 3

- Define view assigned tasks backlog and tasks – level 4

3.4 Develop software architecture and design– level 3

3.5 Implement core functionalities of system– level 3

- Release viewing assigned tasks function – level 4

3.6 Conduct daily scrum meetings – level 3

3.7 Test and Validate sprint deliverables – level 3

- Release deliverables of system’s function – level 4

3.8 Conduct sprint review and retrospectice – level 3

4. Sprint 2 – level 2

4.1 Sprint planning meeting– level 3

4.2 Develop user stories for sprint– level 3

- Develop user story for viewing project scope, project requirements – level 4

4.3 Define sprint backlog and tasks– level 3

- Define viewing project scope, project requirements backlog and tasks – level 4

4.4 Implement core functionalities of viewing project scope, project requirements – level 3

- Release viewing project scope, project requirements function – level 4

4.5 Conduct daily scrum meetings – level 3

4.6 Test and Validate sprint deliverables – level 3

- Release deliverables of viewing project scope, project requirements function – level 4

4.7 Conduct sprint review and retrospectice – level 3

5. Sprint 3 – level 2

5.1 Sprint planning meeting– level 3

5.2 Develop user stories for sprint– level 3

- Develop user story for viewing project budget and financial reports -level 4

5.3 Define sprint backlog and tasks– level 3

- Define viewing project budget and financial reports backlog and tasks – level 4

5.4 Implement core functionalities of viewing project scope, project requirements – level 3

- Release viewing project budget and financial reports function – level 4

5.5 Conduct daily scrum meetings – level 3

5.6 Test and Validate sprint deliverables – level 3

- Release deliverables of viewing project budget and financial reports function – level 4

5.7 Conduct sprint review and retrospectice – level 3

6. Sprint 4 – level 2

6.1 Sprint planning meeting– level 3

6.2 Develop user stories for sprint– level 3

- Develop user story for contributing to project -level 4

6.3 Define sprint backlog and tasks– level 3

- Define contributing to project – level 4

6.4 Implement core functionalities of contributing to project – level 3

- Release viewing contributing to project – level 4

6.5 Conduct daily scrum meetings – level 3

6.6 Test and Validate sprint deliverables – level 3

- Release deliverables of contributing to project function – level 4

6.7 Conduct sprint review and retrospectice – level 3

7. Sprint 5 – Release and Delopyment level 2

7.1 Conduct final sprint planning meeting– level 3

7.2 Test and validate final release – level 3

7.3 Conduct final sprint review and retrospective – level 3

7.4 Deploy Project manager system to environment – level 3

7.5 Conduct post-release testing and monitoring – level 3

7.6 Close out project– level 3

4.

Path 1: Start -> A -> B -> C -> G -> End duration 15 weeks

Path 2: Start -> D -> B -> C -> G -> End duration 16 weeks

Path 3: Start -> D -> E -> F -> G -> End duration 18 weeks

Path 4: Start -> D -> H -> I -> End duration 19 weeks

Solution 1 – Force team to work overtime to complete task D.

Solution 2 - Force team to work overtime to complete task H.

Solution 3 – Recuit more people or force team to work overtime on task I

If shorten this schedule 3 weeks, we have to shorten the time on critical path, so we have to shorten task D, H or I. The appropriate choice is deal with task I of 9 weeks because this task takes significant long time, and it should be proiritised to shorten the time.

5.

PV = BAC = 5000

AC = 6500

RP = 80%

With above elements, we have bellow status:

EV = PV x RP = 4000

CV = EV – AC = -2500 -> project costs more than planned

SV = EV – PV = -1000 -> project takes longer than planned

CPI = EV/AC = 8/13 -> project is over budget

SPI = EV/PV = 4/5 -> project is behind schedule

Estimated cost of completing project based on performance to date = BAC/CPI = 8125

-> Force team to work overtime to complete project as soon as possible

G6

C2

B3

A4

End

Start

F2

E4

D5

I9

H5