2.1 Project Management/Tracking Procedures

We are following the agile model for our project for a few reasons. The first one is that the scope of our project is not large enough to justify needing to use the waterfall model. Our lifetime of the project that we are working on, and the open-endedness of the project that Buildtrend has given us means that we can use the agile project management style. Another reason that the agile cycle will work for this project is that it will allow us to quickly adapt to any changes that Buildertrend would like us to make. For instance, if we are given access to Buildertrend's code, the project's technologies might need to change to accommodate that.

This project will be using GitLab's task management to keep track of the progress that team members are making. GitLab will also allow the tasks to be assigned to working code branches, commit history of those branches, and long term comments that shouldn't be stored in any communication apps. We may also use Trello so that we stay organized using boards and track overall project statuses.

2.2 Task Decomposition

Task 1 - Discovery and Documentation - Research and analyze how Docusign's API can best be utilized to implement Buildertrend's specific use cases. Compile relevant information on how to implement the API with Buildertrend's technologies. This task is concurrent in execution with task 2 and 3.

- Learn about Docusign's API
- Legality of use with Docusign
- Compiling information learned into implementation documentation
- Study implementation demos from Docusign
- Learn Docusign basics and terminology
- Document and address shortfalls in Docusign API

Task 2 - Demonstration - Interact with API to produce better documentation, as well as pinpoint and develop solutions for any avoidable pitfalls in the implementation

- Make demo with the API to demonstrate basic use cases
- Document and address shortfalls in Docusign API

Task 3 - Minimum Viable Product - Utilize previous research, documentation, and experience to present a minimum viable product that addresses Buildertrend's specified requirements

- Confirm all requirements with Buildertrend
- Demo app with Buildertrend all use cases

Task 4: Stretch Goals - These include the possibility of Docusign implementation with Buildertrend codebase, mobile signature app, or local document storage management with template documents.

- Further subtasks for this have yet to be defined as these are stretch goals.

2.3 PROJECT PROPOSED MILESTONES, METRICS, AND EVALUATION CRITERIA

Milestones

M1: Complete all initial class course work, including the project/testing/design/professionalism plans, and any other in-class work.

M2: Complete research into Docusign and it's documentation in order to determine its capabilities.

M3: We integrate the DocuSign API into a test application for an initial proof of concept. This will include a few basic use cases.

M4: Integrate all use cases from Buildertrend and any additional ones that we believe are critical to software functionality.

M5: We pick a stretch goal option, and complete it.

Evaluation

Our Team will evaluate the success of these milestones with the completion of the subtasks identified underneath each task.

2.4 PROJECT TIMELINE/SCHEDULE

Buildertrend Docusign Integration (Team 28) Project Schedule

2.5 RISKS AND RISK MANAGEMENT/MITIGATION

Risks: These are the risks that we have identified so far. These are ranked low to high. Anything with a high risk we will develop a risk management plan for it.

Task 1 - Discovery and Documentation -

- Can't use Docusign API because of the legality of our use. - Medium risk

Task 2 - Demonstration -

- Our basic demo reveals serious problems with the way that Docusign works. - Low risk
-

Task 3 - Minimum Viable Product -

- Advanced demo and minimum viable product show that Docusign won't work with Buildertrends use cases. - Medium risk
- Our proof of concept application cannot demonstrate complex use cases. - Low risk
- Buildertrend changes the scope of the project and we have to spend more time back on task 1. - Low risk

Task 4: Stretch Goals -

- There are no risks associated with this right now as we are currently not looking in the scope of this.

Non-task related Risks:

- Data retention doesn't match what Buildtrend wants. - Low risk
- Contract data is compromised through DocuSign's platform. - Low risk
- Attackers spoof our application to expose user credentials and view confidential information - Medium risk

2.6 PERSONNEL EFFORT REQUIREMENTS

Include a detailed estimate in the form of a table accompanied by a textual reference and explanation. This estimate shall be done on a task-by-task basis and should be the projected effort in total number of person-hours required to perform the task.

Task #	Hrs Estimate	Current Hrs Spent
Task 1 - Discovery and Documentation	75 hrs	180 hrs
Task 2 - Demonstration	135 hrs	15 hrs
Task 3 - Minimum Viable Product	375 hrs	0 hrs
Task 4: Stretch Goals	To be determined	N/A

A lot of our time estimations came from prior working experience on software projects. All of our team members have completed COMS 309 which provided us with experience planning and executing a semester long project. Many of us have also completed software engineering internships which were very helpful in providing experience regarding timeline estimations. Additionally, we consulted a few different websites, listed below this paragraph, to try and make these estimations as accurate as possible. As we progress through the semester, we can easily refine these guidelines. These times can be mapped to the corresponding dates in the Gantt chart/schedule above.

Sources:

https://medium.com/globalluxsoft/time-estimation-in-software-development-a4a495c8eb6c, https://winatalent.com/blog/2020/02/time-estimation-in-software-development/

2.7 OTHER RESOURCE REQUIREMENTS

Because of the portability of the Docusign API, and the frameworks and languages we are using right now our project will not need any extensive materials. There might be a possibility in the future that we need a web server for our application, but the development should be able to take place on our laptops.