

CliffBuddy

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Table of Contents

I. Communication Tools	2
II. Development Tools	4
III. Hardware Specs	8

I. Communication Tools

Sprint Backlog

- Recommended Choice: **Trello**
- Reasoning: We recommend using Trello because we found Trello to be more flexible and easier to use and manage the Kanban boards than the competition. Not to mention, that all of the team members had experience using Trello previously, so it will have an easier learning curve and integration to our project.

Meeting Software

- Recommended Choice: **Discord**
- Reasoning: We chose Discord as our primary source of collaborative meeting software because it checked all the boxes for our team to work in a comfortable and unrestricting environment. It includes functionalities to perform successful meetings, like voice call and screen share. It also includes a messaging system so team members can message each other outside of meetings.

II. Development Tools

IDE (Integrated Development Environment)

- Recommended Choice: **Visual Studio Code Community Edition (1.59+)**
- Reasoning: We recommend using Visual Studio Code because it's well known and widely used in web application development. And it provides a suitable development environment for C# and .NET. In addition, it is our recommended choice as most developers have experience in developing in Visual Studio Code.

Backend Framework

- Recommended Choice: **.NET (5~6)**
- Reasoning: We recommend using .NET because it's a software development tool that can be used to build and run Windows applications, which includes web applications. This will allow us to host our web application on the internet.

Backend Language

- Recommended Choice: **C# (9.0)**
- Reasoning: We recommend using C# as the primary choice for backend language because it is a proven language that can be used in web application development. In addition, we chose it for its synergy with our choice for other technologies to be integrated in the development process. C# is a language that was created for the use of Microsoft and their company. And it can work well with other Microsoft developed products, such as .NET and other Microsoft technologies that we are planning to incorporate.

Frontend Language

- Recommended Choice: **TypeScript (4+)**
- Reasoning: We recommend using TypeScript as our frontend language as it will provide a better development tool that suits our needs. TypeScript will integrate well with our IDE, VS Code, as it provides support for TypeScript. In addition, debugging and error handling will be easier with TypeScript as it's a static typing language and provides error catching at compile time.

Database Engine

- Recommended Choice: **Microsoft SQL Server Developer/Express Edition (2019)**
- Reasoning: We recommend using Microsoft SQL Server as the choice for our database server. We recommend using Microsoft SQL Server because it will communicate and integrate well with our web server which is also a Microsoft product.

Database Client

- Recommended Choice: **Microsoft SQL Server Management Studio (18.9.2+)**
- Reasoning: We recommend using SSMS (SQL Server Management Studio) for database management as it is the recommended tool for managing Microsoft SQL Server, which is our recommended choice for database server.

Web Server

- Recommended Choice: **Internet Information Services (10+)**
- Reasoning: We recommend IIS (Internet Information Services) as our choice for web server, which will enable users to visit the website. We also recommend IIS because it has support for .NET, our backend framework. It also includes a GUI, which will allow an easier learning curve and usability.

Frontend Framework

Metrics / Options	React	Angular	Vue
Ease of Use (3)	2	1	3
Past Experience (3)	2	1	0
Library Resubaility (2)	2	2	2
Suitable for Smaller Team (3)	3	1	2
Corporate Backing (2)	2	2	0
Total	11	7	7

- Recommended Choice: **React (17+)**
- Reasoning: We recommend React as our frontend framework as it provides libraries that allow us to create a user-friendly frontend. In addition, it has a beginner-friendly learning curve and it's suitable for a project that's worked on by a smaller team. Whereas, its major competitor, Angular, is used in corporate settings.

Browser

Metrics / Options	Microsoft Edge	Chrome	FireFox
User Popularity (5)	2	5	2
Memory Usage (3)	3	2	2
Browser Response (3)	3	2	1
Graphical Performance (3)	2	3	1
DOM Usage (3)	3	2	2
Browser Console (2)	1	1	2
Screen Size Adjustment (3)	1	3	0
Total	15	18	10

- Recommended Choice: **Chrome (94.0.4606.71+)**
- Reasoning: We recommend using Chrome to develop our product because it has the most user base out of all the competition, having around 60% of the market share. Developing on the platform with the most users will allow us to present the best version of the product to the largest audience initially. In addition, Chrome provides more than adequate browsing and graphical performance, which will contribute to a smooth and capable environment for development. And overall is the better browser for development.

Diagram Drawing Tool

Metrics / Options	Draw.io	Lucidchart	DIA
Collaboration (3)	3	3	0
Ease of Use (2)	2	2	1
Pricing Limitation (3)	3	1	2
File Export (2)	2	2	2
Web Based (2)	2	2	0
DB/Network Diagramming (3)	3	3	3
Total	15	13	8

- Recommended Choice: **Draw.io**
- Reasoning: We recommend using Draw.io as our diagram drawing tool because it's free and allows collaboration between multiple users at the same time. It's competitor, Lucidchart, offers a very good platform, but the free version of the software is limited to 3 diagrams, DIA does not provide a collaborative environment.

III. Hardware Specs

Minimum PC Requirements

- CPU: Intel +2.0 GHz, +4 Cores, 64 bit
- Memory / RAM: 4 GB
- Storage: 128 GB
- OS: Windows 10

Recommended PC Requirements

- CPU: Intel +3.0 GHz, +4 Cores, 64 bit
- Memory / RAM: 8 GB
- Storage: 256 GB
- OS: Windows 10