

# FocusBot

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A motivational tool for remote users to access Kanban boards, add work schedules, and get motivated for day-to-day responsibilities. This tool will take common motivation ideas like daily quotes, the Pomodoro techniques, and Kanban structures and merge them into a new application. This paper will go over the bot features, design structure, and provide a storyboard look into how the tool will be used.

CCS Concepts: • **Software and its engineering** → **Software design engineering**; **Designing software**; *Programming teams*; Software prototyping; *Software development techniques*.

Additional Key Words and Phrases: Software engineering, motivation bot

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## 1 INTRODUCTION AND MOTIVATION

There were many situations where we had to work from home during the COVID-19 pandemic. Because of this, research has been conducted which shows that working remotely has advantages such as reducing commuting time, fatigue, and reducing the stress of workers through a comfortable working environment so many workplaces are continuing to utilize this methodology[1, 2]. However, if we work remotely, it is easy to lose concentration, so there are cases where work efficiency is rather low [3–5]. Spaces where we work remotely, such as at home, are likely to coexist with spaces for various purposes, such as spaces for relaxation and dining, and these environments make it difficult to focus only on work. In addition, it is difficult to get feedback on work progress and plan daily agendas because there is a high probability that colleagues and bosses are absent in the space, making it difficult to manage the work on your own and easy to cause delays. We identify some major issues with working remotely including being easily influenced by non-work factors, being psychologically inattentive, having difficulty focusing on and making progress with work, and establishing daily plans.

This project aims to increase the efficiency of users by allowing them to focus on daily tasks in an environment that requires remote work. It also tries to prevent delays by helping users easily understand their work progress and use Kanban planning. In addition, by allowing users to share their progress and plans with team members and team leaders, we intend to provide an environment where they can check each other's progress and exchange feedback. Lastly, it will help users get into work mindsets by using Pomodoro techniques and motivational quotes.

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## 2 RELATED WORKS

There are several tools that increase work efficiency and help collaboration in remote environments. A typical example is Jira [6]. Jira is one of the project management tools that help manage projects using Agile and supports functions such as planning, assignment, tracking, and reporting to enable collaboration among team members. However, with Jira, it is difficult to know the priorities between tasks without dependencies. Also, there are so many functions that it takes a lot of time to learn how to use them. It is also difficult to apply to projects that manage tasks through other software engineering methodologies because they are only based on Agile. Jira is also a software device, whereas we are developing a bot system.

Slack [7] is another representative collaboration tool and is often used in environments where you need to work remotely because it helps communication between team members. However, because Slack itself does not have other features related to the project, such as checking the progress of the task, planning and motivating users to focus on their work, other tools such as Trello [8] and Google Calendar [9] are used in conjunction with Slack. However, these tools are not fully integrated with Slack, which means that tools often require access through separate apps or web pages. The use of Slack and various tools in conjunction helps plan and manage work but does not support the function of creating an environment where users can focus on work in a remote environment. FocusBot is an extension that will implement the features of Trello and Google Calendar over Slack so users won't have to switch platforms like with Jira.

In addition, there are several tools to help remote working environments such as SmartSheet [10], OnBoard [11] and Asana [12], but they do not provide integrated functions such as tasks management and creating an environment where users can concentrate on their work, or require the purchase of expensive plans for integrated functions.

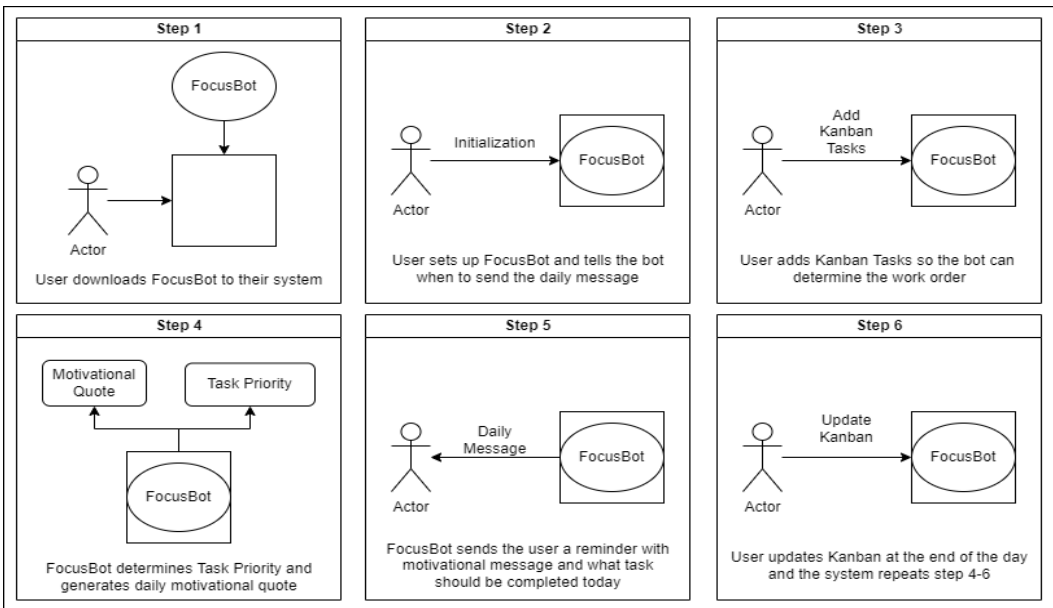


Fig. 1. Storyboard for a potential user of FocusBot

### 3 DESIGN

This project will use a layered architecture pattern to structure the system because it relies on users from different categories (users, managers) which could potentially work with multiple devices, all interacting with a database. The system can be broken down into two major components - a managerial component and a user component.

Both components will have access to the database, where the user component will have access to specific user records, while the management component will have access to all users within a project. The user component will also have their own deadlines and tasks visible to them, while the managerial component will have all the tasks of a particular project along with the users visible to them.

There will, however, be a clear distinction between the access rights of each component. The management component will only see the tasks that are related to a project for a particular user instead of all the users' tasks. Similarly, the user will only be to view individual tasks and/or the tasks that require collaboration between the user and someone else. These features will be implemented using Kanban architecture.

Other key features of our design include the Pomodoro technique and a motivational daily message. The user will give the bot a time of day, and the bot will send out a daily motivational quote along with the key tasks that the user should focus on (based on the above Kanban). It will then use Pomodoro techniques of 30 minutes of work and a 5-minute break to give the user a good work schedule.

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