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# **Team Project**

for

# **Submission 2**

By Team 23-22  
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## Agile Estimation of Cards

- **To-do List(interface) : 6 hours**

It will involve creating an intuitive and visually appealing layout to effectively display the Todo items, Done items, and Details components.

- **To-do List(Todo items) : 8 hours**

It will include the implementation of the connection between Todo items and Done items, as well as the addition and removal of items. Effective data transfer with the database will also be a key consideration.

- **To-do List(Done items) : 8 hours**

It will include the implementation of the connection between Todo items and Done items, as well as the addition and removal of items. Effective data transfer with the database will also be a key consideration.

- **To-do List(Details) : 8 hours**

The details of the chosen items, it also need to be linked to the database.

- **To-do List(Total) : 36 hours(with extra 6 hours for checking)**

It includes all of the components listed above, as well as other functions related to the home page and checking.

<b>To-do List</b>	0
#1 · created 2 weeks ago by Zijun Li · 4d 4h · feature · in progress	updated 1 minute ago
<b>To-do List: Details</b>	0
#29 · created 4 minutes ago by Zijun Li · 1d	updated 2 minutes ago
<b>To-do List: Done items</b>	0
#9 · created 1 week ago by Zijun Li · 1d	updated 2 minutes ago
<b>To-do List: Interface</b>	0
#8 · created 1 week ago by Zijun Li · 6h	updated 3 minutes ago
<b>To-do List: Todo items</b>	0
#10 · created 1 week ago by Zijun Li · 1d	updated 2 minutes ago

It looks like gitlab treats 8 hours as 1 working day, so 7 hr becomes 7 hr, 8hr becomes 1 day, 9 hr becomes 1 day 1 hr etc.

# Tech stack/CI

Team Projects 2022-23 > team23-22 > Repository > Branches

Overview Active Stale All Filter by branch name Delete merged branches New branch

Active branches

- MVP\_ToDo\_List** 72ab4910 • Update the entity named TodolistItem - 2 minutes ago 2 files Merge request Compare Download Delete
- main** 09342320 • Merge branch 'zxl183-main-patch-58703' into 'main' - 1 day ago Download Delete

Team Projects 2022-23 > team23-22 > Commits

MVP\_ToDo\_List team23-22 Author Create merge request Search by message

06 Mar, 2023 2 commits

- Update the entity named TodolistItem** zxl183 authored 5 minutes ago 72ab4910 Download Delete
- Update switches between todos and dones** zxl183 authored 4 hours ago ae2d33b3 Download Delete

05 Mar, 2023 2 commits

- Update app.yml** zxl183 authored 1 day ago 87889b4b Download Delete
- Add To-do List html** zxl183 authored 1 day ago 0a5f927b Download Delete

03 Mar, 2023 1 commit

- Update src/main/docker/app.yml** Zijun Li authored 3 days ago 592e7131 Download Delete

28 Feb, 2023 2 commits

- Update src/main/docker/app.yml** Zijun Li authored 6 days ago e7225c39 Download Delete
- Update src/main/docker/app.yml** Zijun Li authored 6 days ago 85caae0e Download Delete



# A Technical Report on Library/API Integration in Time Management Application.

## I. INTRODUCTION

In a Time Management Application, there are multiple layers that interact with each other, including the front-end, back-end, and database. These layers are composed of various features that require communication with one another to operate seamlessly. API integration plays a crucial role in facilitating this communication by providing a set of rules and protocols for data transfer and interaction.

## II. BACKGROUND

An API integration is the connection between two or more applications/features/layers, via their APIs, that lets those systems exchange data. The API acts as a mediator between the different layers and features, enabling them to exchange information and work together efficiently. The API generally does two things:

- For one, it sets rules for interacting with it.
- The API also handles data transfer between the server and the code making the request.

## III. API ANALYSIS

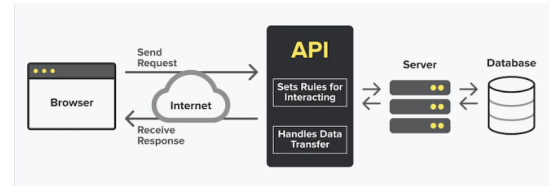
Given the multiple layers and features of a Time Management Application, there are several potential API integrations that may be necessary to facilitate seamless communication between these components.

### A. The API integration between the front-end and the back-end

The front-end of the Time Management Application may require APIs to handle user input and display output. For instance, when the user switches between different interfaces of features, the front-end needs to detect the corresponding operation and send the request to the back-end. The back-end executes the specific display program and sends the response to the front-end. During this process, data communication between different languages such as JavaScript and HTML is facilitated by APIs.

### B. The API integration in saving data

When a user wants to save data online or in the cloud in a Time Management Application, they can do so using the 'Save' button. The front-end of the application will send a request to the API, which will integrate the information and access the server to store the data in the database. The API will then provide feedback to the front-end about the status of the data saving process. Once the API receives the response from the database, it will send it back to the browser for the user to see.



### C. The API integration in email notification feature

When a user wants to use the email notification feature, the back-end of the Time Management Application will request the user's scheduler data from the database using the API. Once the data is retrieved, the back-end will then send the data to an external email application to generate a notification email, which will be sent to the user's specified email address. This process of data retrieval and communication between the back-end and external application is facilitated by the API integration.

## IV. BENEFITS AND DRAWBACKS

### Benefits:

- The API integration enables seamless interaction between different components/features of the application.
- The API also handles data transfer of different language.
- API management enables users to track and monitor important metrics such as API usage, load, transaction logs, and historical data.

### Drawbacks

- APIs can be a primary target for hackers. Once compromised, other systems become vulnerable.

## V. CONCLUSION

In conclusion, API integration is critical for the efficient operation of a Time Management Application, allowing for seamless communication between different layers and features. The front-end and back-end API integration handles user input and display output, while the API integration in saving data enables users to save their data online or in the cloud. Finally, the API integration in the email notification feature facilitates the communication between the back-end and external email application. While there are benefits to API integration, such as improving application performance and tracking important metrics, there are also drawbacks to consider, such as the risk of being targeted by hackers.

## REFERENCES

- [1] Lydia Pert, [advantages and Disadvantages of API for Business](#). [Accessed on: March.2, 2023]
- [2] Alex Trost, [A Beginner's Guide to APIs: How to Integrate and Use Them](#). [Accessed on: March.2, 2023]
- [3] [What is API management?](#). [Accessed on: March.2, 2023]