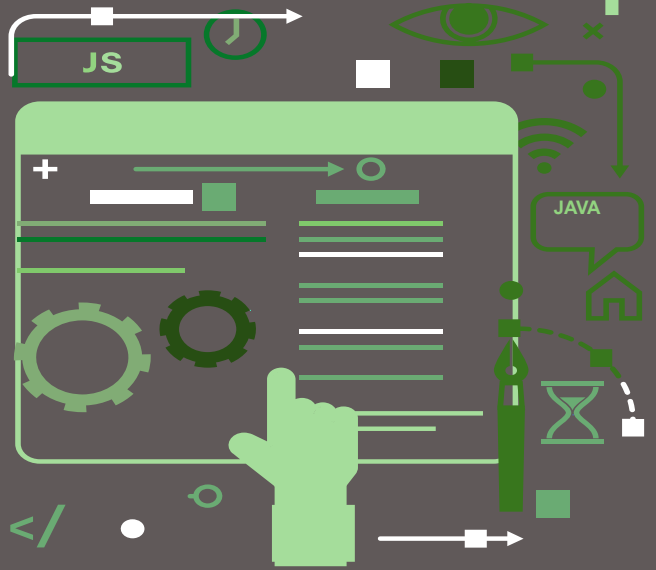
DIPARTIMENTO
DI INGEGNERIA
DELL'INFORMAZIONE

WEB APPLICATION

Fitness Tracker



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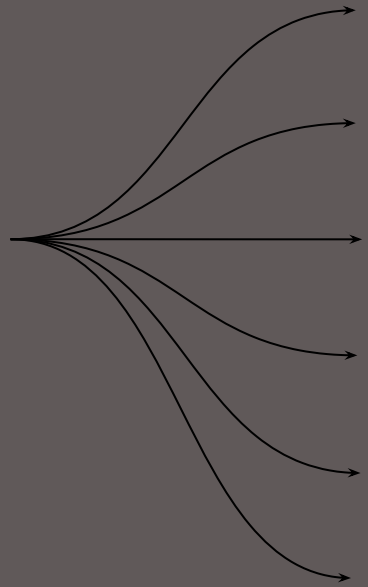
1 ABOUT THE PROJECT

Our web application defines a Fitness Tracker, capable of managing different gym related aspects:

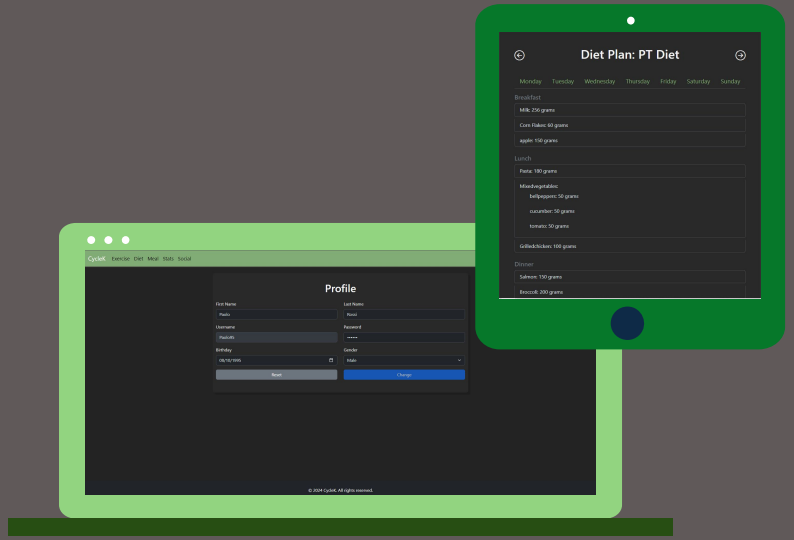


In particular, our Web Application is divided in six main parts:

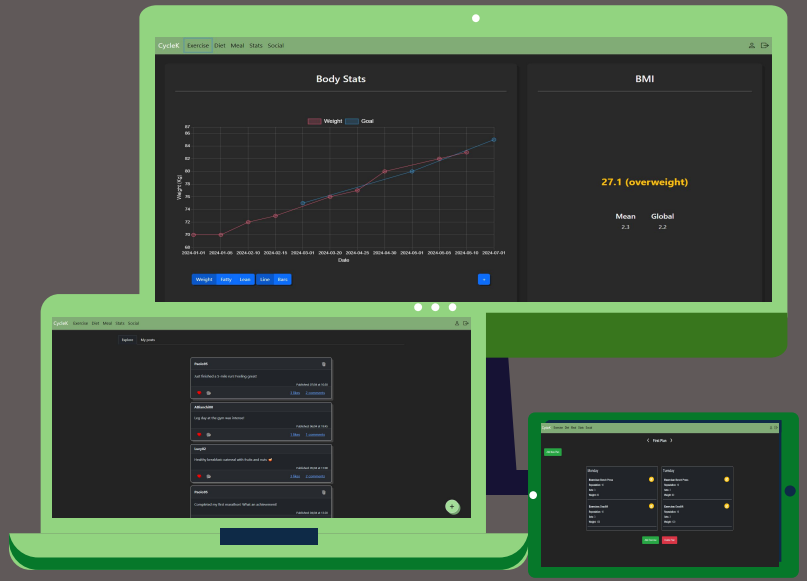
- User Management
- Statistics Management
- Social Network Management
- Diets Management
- Meals Management
- Exercise Management

2 PROJECT GOALS

- Manage his profile
- Visualize his progress
- Visualize/create his own diet

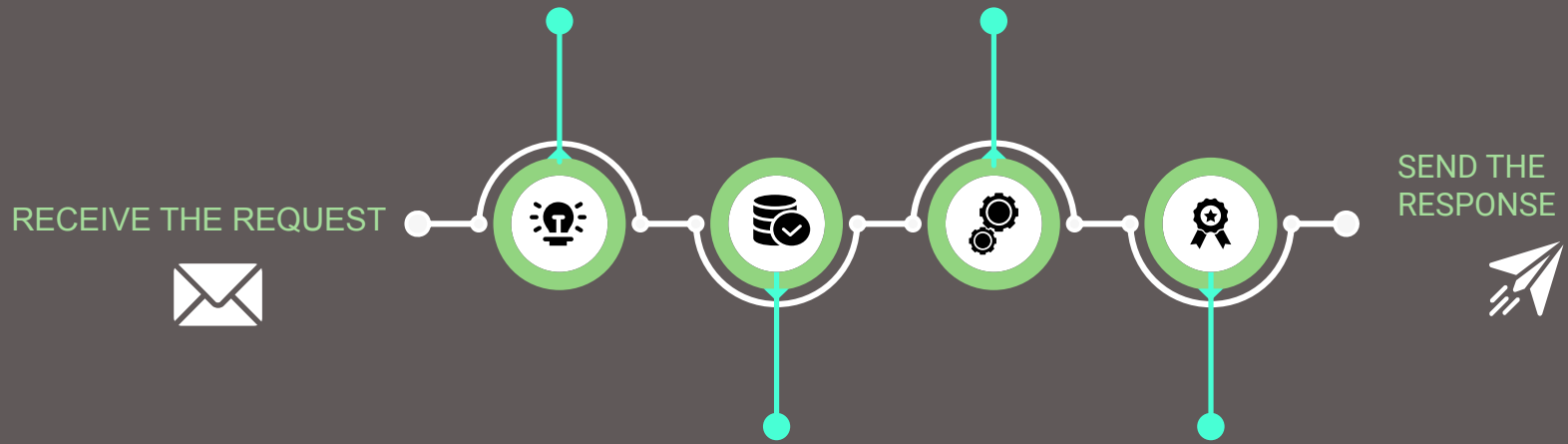


2 PROJECT GOALS



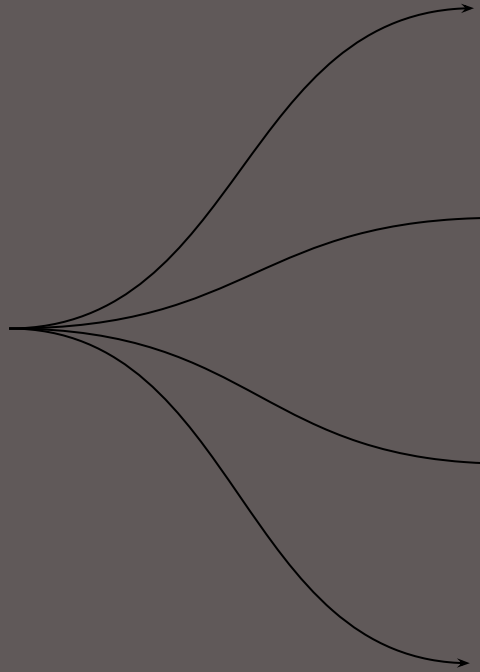
- Visualize/create his own exercise schedule
- Compute nutritional values of his meal of the day
- Keep in touch with the fitness-tracker community

3 BACKEND


The Rest Dispatcher identify a request and forwards it to the appropriate Rest Resource
The Rest Resource receives the DAO's Response and write it in JSON format
RECEIVE THE REQUEST
SEND THE RESPONSE
The Rest Resource forwards the Request to the appropriate DAO
The Dispatcher processes the JSON received by the Rest Resource

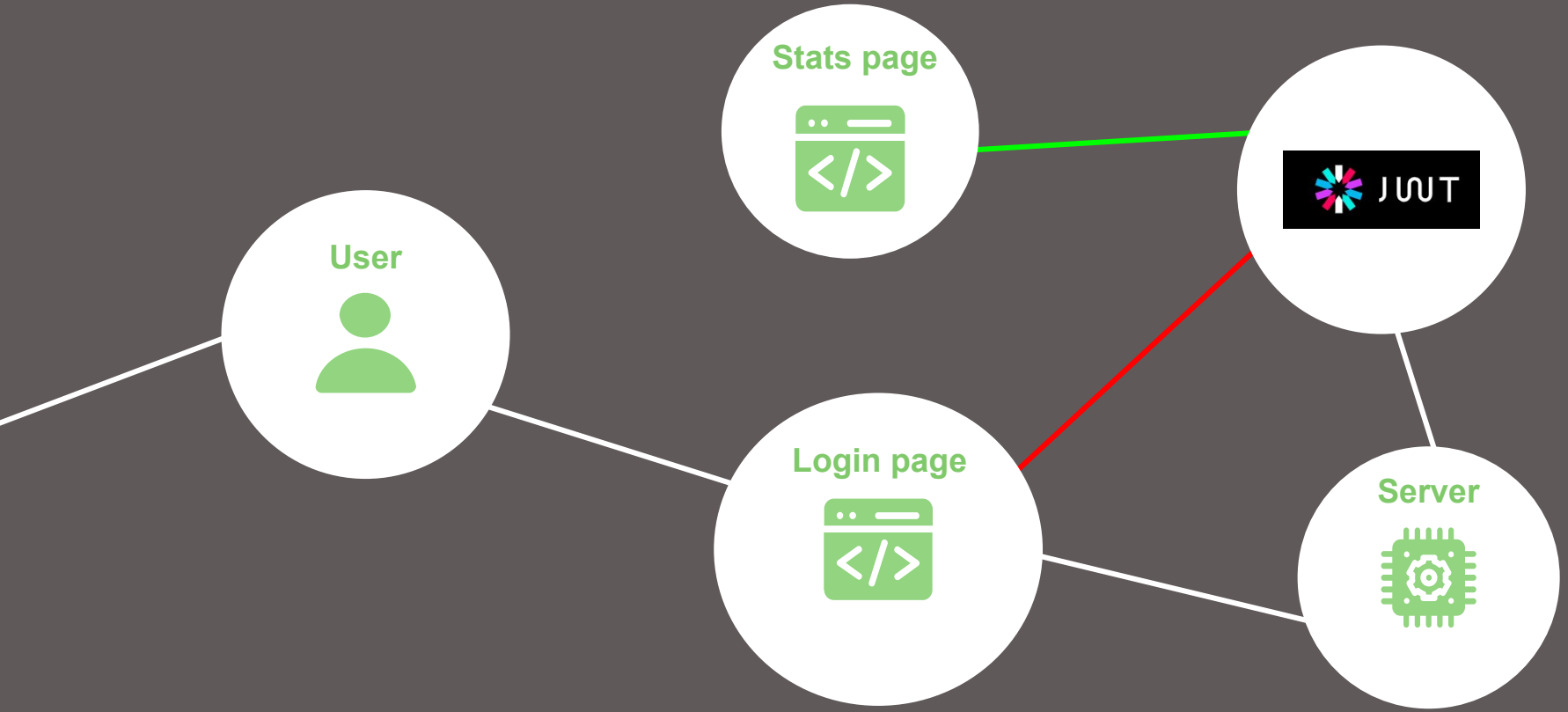
3 DATABASE

We decided to assign the JSON type to our complex data:

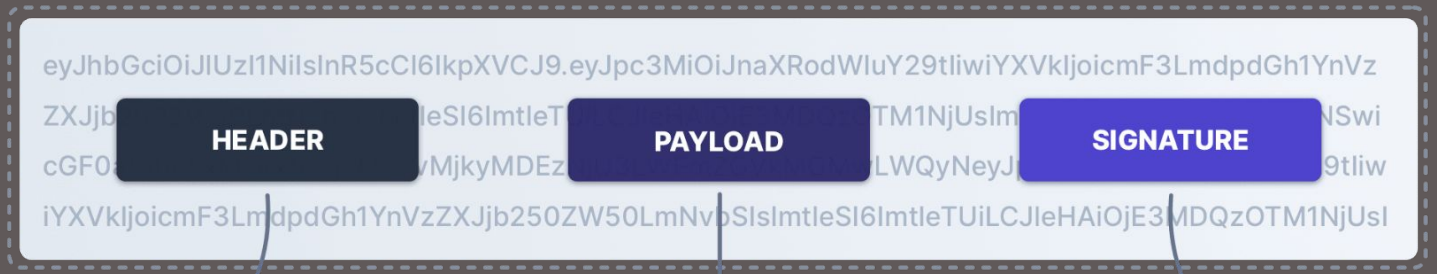


- Easy to handle complex data
- Useful libraries to handle JSON conversion i.e. JACKSON
- JSON databases are faster and have more storage flexibility
- Both diets and exercises have lots of data to be stored

4 AUTHENTICATION



4 JSON WEB TOKEN (JWT)




```
{
  "alg": "HS256"
}
```

```
{
  "sub": "1",          → idUser
  "exp": 1717755037    → time
}
```

```
HMACSHA256(
  base64UrlEncode(header) + "." +
  base64UrlEncode(payload),
  SECRET_KEY
) ☑ secret base64 encoded
```

5 FRONTEND

Developed using:

- HTML for providing the structure and content of the page;
- CSS for styling the HTML elements;
- JavaScript for adding client-side interactivity and dynamic behavior to the HTML elements.

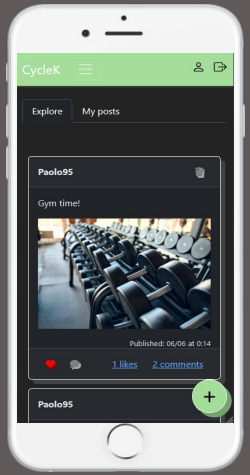
HTML, CSS, and JavaScript are integrated and managed within JSP pages to create dynamic and interactive web content.

5 FRONTEND

We chose a dark theme with light green tones, which are featured in the navbar and on some buttons.

There is a common style.css file, to be shared among all the pages

Our WebApp is mobile-friendly, utilizing the viewport meta tag and CSS media queries to ensure optimal display and functionality across various device sizes



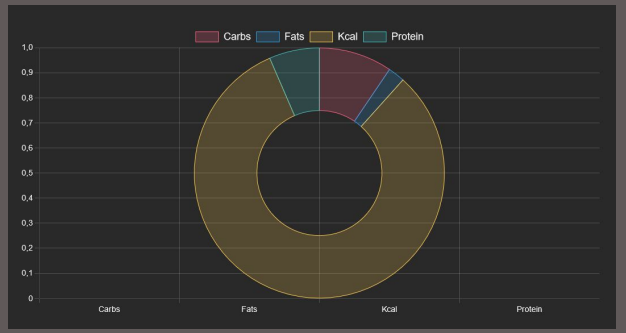
6 EXTERNAL LIBRARIES

Bootstrap is a front-end framework for responsive and mobile-first web development using HTML, CSS, and JavaScript.

- pre-designed components
- consistent styling

6 EXTERNAL LIBRARIES

Chart.js is a JavaScript library for creating interactive and responsive charts in web applications



Font Awesome is an icon toolkit to enhance the design and functionality of websites and applications.

And now we will show our demo!