

Fitness Achievement For Kids

High Level Design

October 30, 2021

Team Achieve:

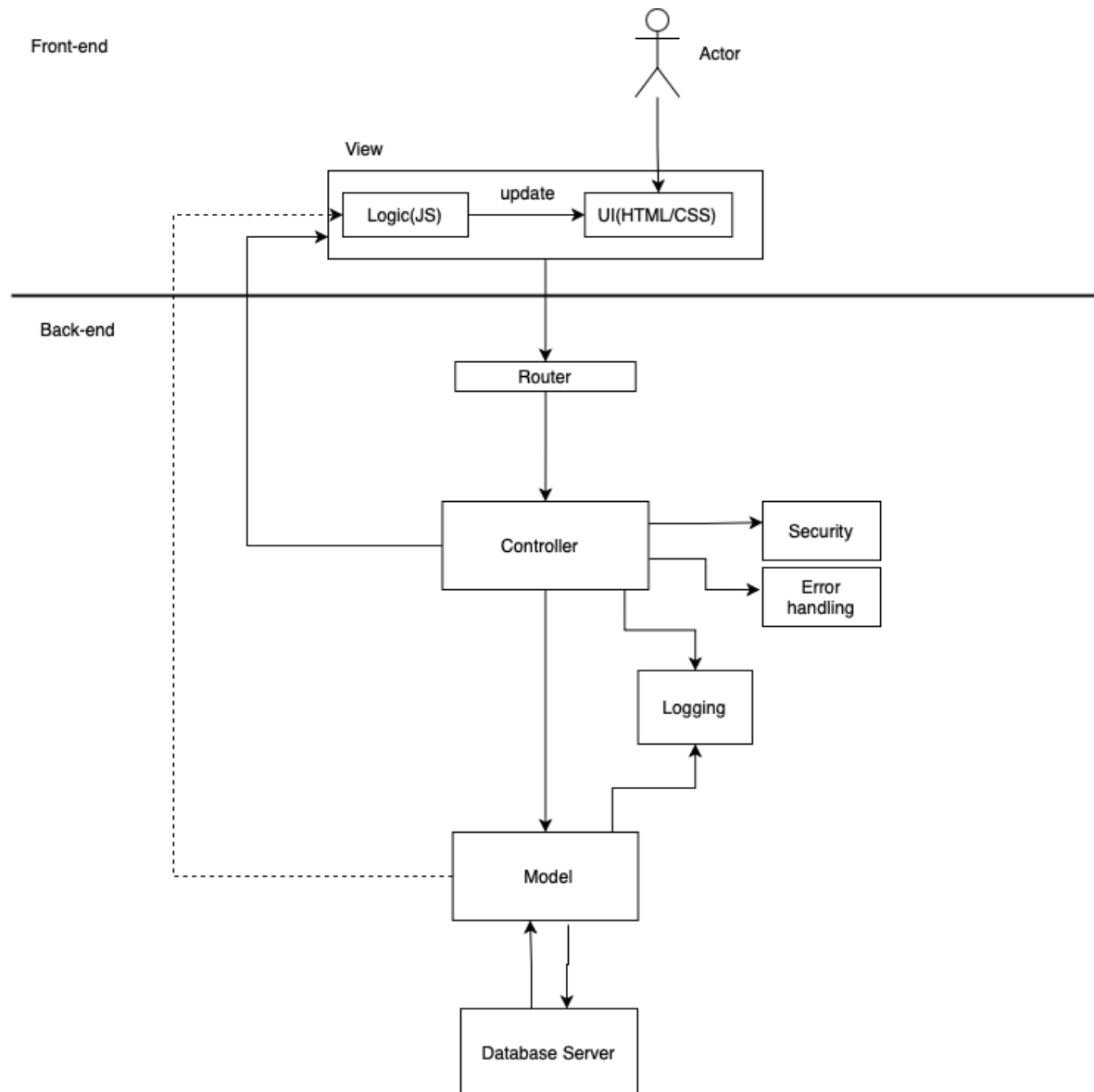
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Software Architecture (SPA-MVC)



With Model-view-controller (MVC), the user's requests will be routed to a Controller, which is responsible for working with the Model, to perform user actions and retrieve results of queries.

Front-end

View

View is responsible for presenting content through the user interface. It has UI (HTML/CSS) and Logic (Javascript).

- UI receives user input and shows results to the user.
- There is logic for each feature that validates user input. (input validation)

- Logic processes user input to request data to the Back-end side.
 - Logic also updates the UI based on the response from Back-end.

Back-end

Router

Router will receive the requests from the front-end and deliver those requests to the appropriate controller.

Controller

Controller does the request processing. It is responsible for selecting which model types to work with and which view to render.

Controller executes business logic. While executing business logic, data that is needed for business logic will be processed (read/write) through the model.

Controller requests data that is needed for the user request to Model and let the user know the data that is reflected to view.

Input validation will be done separately at each controller for each feature.

Model

Model directly communicates with the Database.

Model abstract Data that the controller is needed. Each model will convert client request data into objects that the controller can handle.

Model can notify View for the data-changes indirectly. This will happen when data can be reflected immediately.

Database Server

It manages all data that the model uses.

Logging

Logging is helpful for developers to know the status and improve the service. It helps developers to visualize what the code is actually doing. To improve our service.

We will choose between console and file. This will be specified while we are coding.

Security

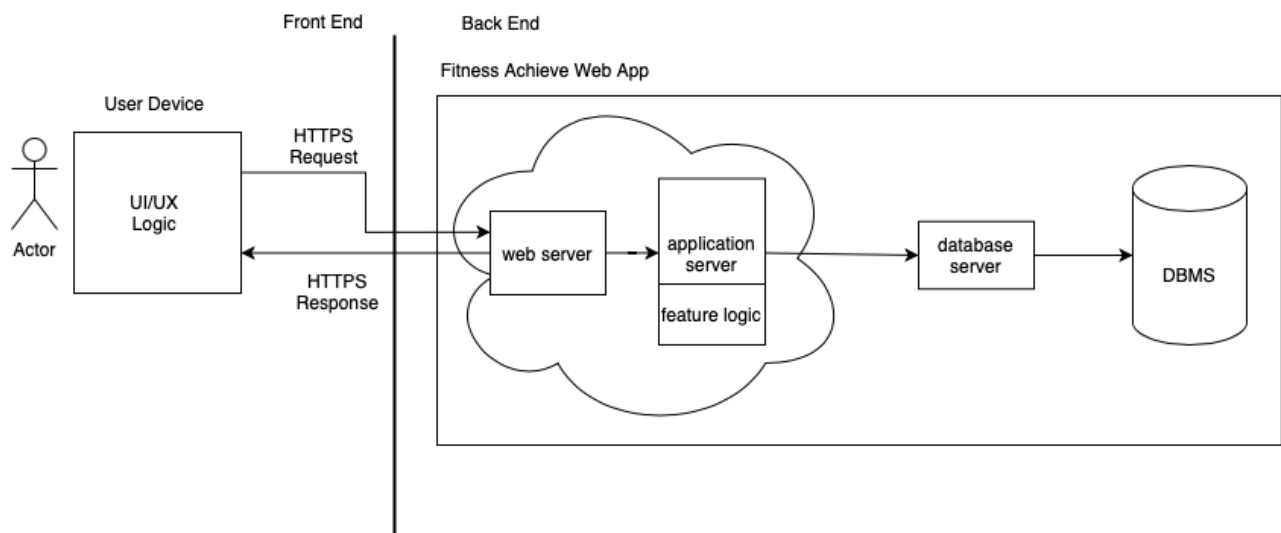
Prevents or recovers from any attack, such as SQL Injection or man-in-the-middle attack.

This utility will handle common security issues that happen within our system.

Error handling

This will handle common errors such as login errors. For example, if the user input is wrong for ID and password, the view will show an error message that the user's id/password is incorrect. It also handles the error that the controller cannot handle.

Hardware Architecture



Front-end

User device should be able to run Google Chrome browser and be able to find out the user's location.

Back-end

Our server will be a cloud server and there will be a web server and application server to handle the requests more efficiently.

- Web server does network communication by HTTPS Protocol(receive/response).
- Application server processes requests that the web server receives. This will happen at feature logic.
- Application server will create, retrieve, update and delete the data.
- Database server works as an interface to reach out DBMS. It operates data back up, CRUD, data security, load balancing etc.

Team Directory

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