# UI API

Functionality

This subsystem serves as data communication bridge between front-end user interfaces and back-end system.

Input

API requests from Public Interface

API requests from Call Center Interface

Data from System Controller

Output

API response to Public Interface

Usage Scenarios

1. Map and Live Feed functions in Public Interface will request data from UI API. UI API will then get data from System controller and transfer them back to the public interface.
2. Call Center will make an API request to UI API to save to all the data users have entered. UI API will save the data with the help of system controller.

# Report Generator

Functionality

This subsystem generates a status report about haze, dengue and terrorist attack condition in Singapore every 30 minutes.

Input

Data from System Controller

Output

Status Report

Usage Scenarios

1. Report Generator will generate a report in pdf format based on the data received from System Controller.

# Public UI

Functionality

This subsystem generates a map and live feed for front-end users to view information about haze, dengue and terrorist attack condition in Singapore

Input

Data from UI API

Output

Send API requests to UI API

Usage Scenarios

1. Public UI will request data (i.e. information about haze, dengue and terrorist attack condition in Singapore) from UI API. Public UI will then display the requested data onto the live feed and map of Singapore.

# Call Center UI

Functionality

This subsystem displays an interface for call center operators to enter information about an incident obtained from members of the public.

Output

Make post request to UI API

Usage Scenarios

1. Call center operators receives a call from the public and obtain information about the incident. He/ she will then enter the obtained information into Call Center UI and send information to UI API

# System Controller

Functionality

This subsystem acts as the brain of the whole system, controlling data flow from one subsystem to another

Input

Data from UI API

Requests from UI API

Data from External Communication

Data from Data Analyzer

Data from Database Controller

Data from Report

Output

Send data to UI API

Send data to External Communication

Send data to Database Controller

Send data to Report Generator

Usage Scenarios

1. UI API requests data from System Controller, System Controller calls Database Controller to get the data. After getting the data, System Controller will fulfill UI API requests.
2. System Controller calls External Communication periodically for data update. After getting the data, System Controller pasess the data to Data Analyzer.
3. Data Analyzer requests data to be pushed out via social media or SMS, System Controller calls External Communication and pushes out the data.
4. Every 30 minutes, System Controller calls Data Analyzer to get data. After getting the data, System Controller calls the Report Generator to generate the report. After getting the report, System Controller calls External Communication to send out the report.
5. UI API sends data to System Controller, System Controller calls Data Analyzer to pass the data.

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# Data Analyzer

Functionality

This subsystem analyzes the data received from the System Controller and decides how critical the incident reported or data received from APIs are.

Input

Data from System Controller

Output

Data to Database Controller

Data to System Controller

Usage Scenarios

1. Data from APIs received from the System Controller is sorted into different tiers and the result is sent to the Database Controller for recording. If data is above certain tier, the data is sent back to System Controller to be updated on social media.
2. Incident reported received from the System Controller is analyzed for critical situations and the result is sent back to the System Controller. The incident report is then sent to the Database Controller for recording.

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# Database Controller

Functionality

This subsystem is responsible for adding, updating, deleting, retrieving data from database.

Input

Request from System Controller

Data from Data Analyzer

Output

Send data to System Controller

Store data from Data Analyzer

Usage Scenarios

1. System Controller requests data from Database Controller, and Database Controller will get the data from the database and send it to the System Controller
2. Data Analyzer sends data to Database Controller, Database Controller stores the data into the database

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# External Communicator

Functionality

This subsystem is responsible for sending out requests to different APIs and returning received data to the system controller. Alternatively, it is also responsible for posting data sent by the system controller to different APIs.

Input

Request from System Controller

Data from APIs

Data from System Controller

Output

Send data received from APIs to System Controller

Send data received from System Controller to APIs

Usage Scenarios

1. System Controller sends in a request to this subsystem to fetch data from particular API(s). This subsystem fetches the required data from the API(s), converts it into a format compatible with the System Controller and then sends the data to the System Controller.
2. System Controller sends in data to this subsystem to send to certain API(s) for further processing (like sending emails/SMSes). This subsystem sends the data to the API(s) and then the returns the status of all the post requests made to the System Controller