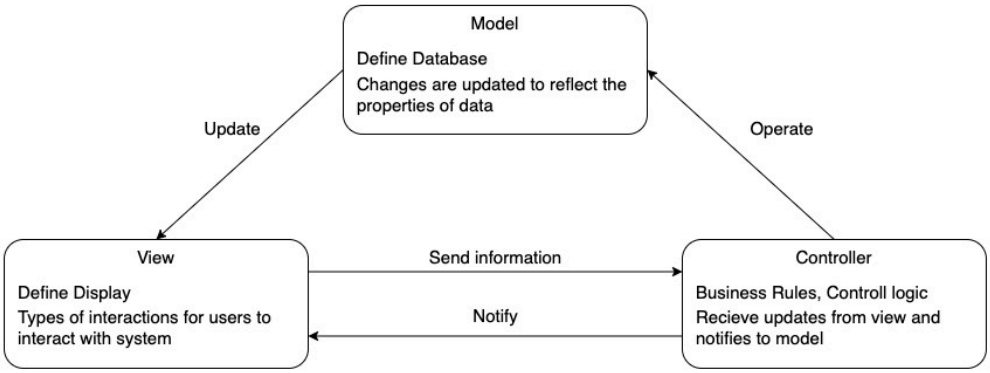
TASK 3.1

a. Architectural approach: MVC Architectural

MVC Model Diagram



Description:

Model: Data Structure which has assignment to cooperate with database base on functions, methods to modify the data through the instructions of controller. Model will update the information for view after process data.

View: Display graphical user interface for user to interact with the system. View can receive the notify from controller and information updates from model.

Controller: Contains behaviors to process the data, verify data. Controller has functions and methods to manipulate the model. Sometime controller can notify to view.

b. Module and module description

Modules	Description
Task assignment module	Input: information of janitors or collectors Output: Task for janitors and collectors Function: Assign tasks to Janitors, Collectors
Route planning module	Input: Locations are assigned, vehicle Output: Optimized route Function: From the necessary information, it is possible to provide an optimal route for the means to improve work efficiency.
Scheduler module	Input: Information of back officers, janitors or collectors Output: Work calendar Function: Manage all the work schedules of the employees. You can view detailed parameters: location of employees, number of tasks, vehicle parameters,…
Communicate module	Input: Senders information, receiver information, messages Output: success or failure Function: Manage all messages of all employees in the system. There are important announcements for the sender and receiver of the message.
Authenticate module	Input: information of staff Output: verified or unverified Function: Responsible for authenticating the identity of the employees in the system to decentralize control and use of the system's resources.