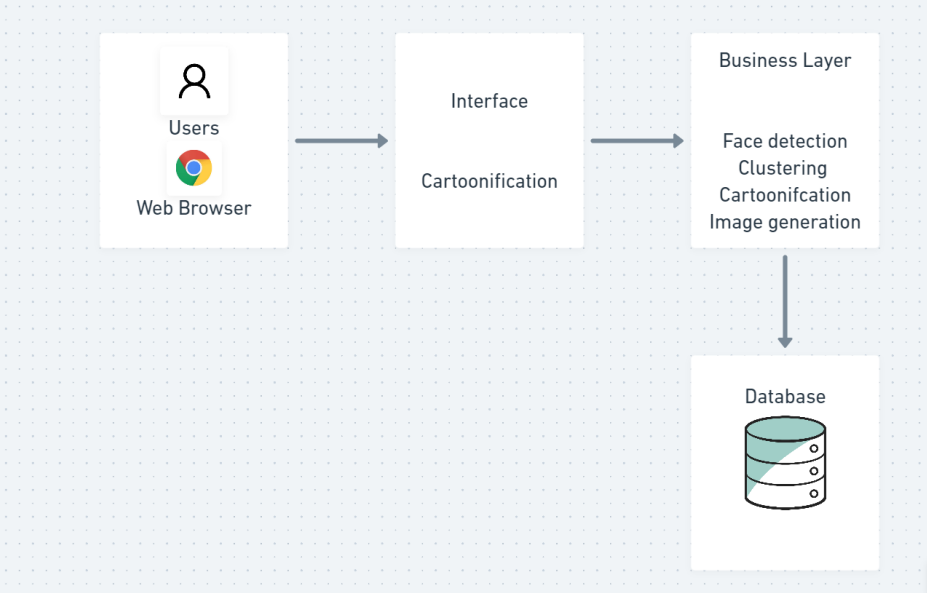
Groot - Cartoonification App

Register Numbers : 2148008 and 2148027

System Design

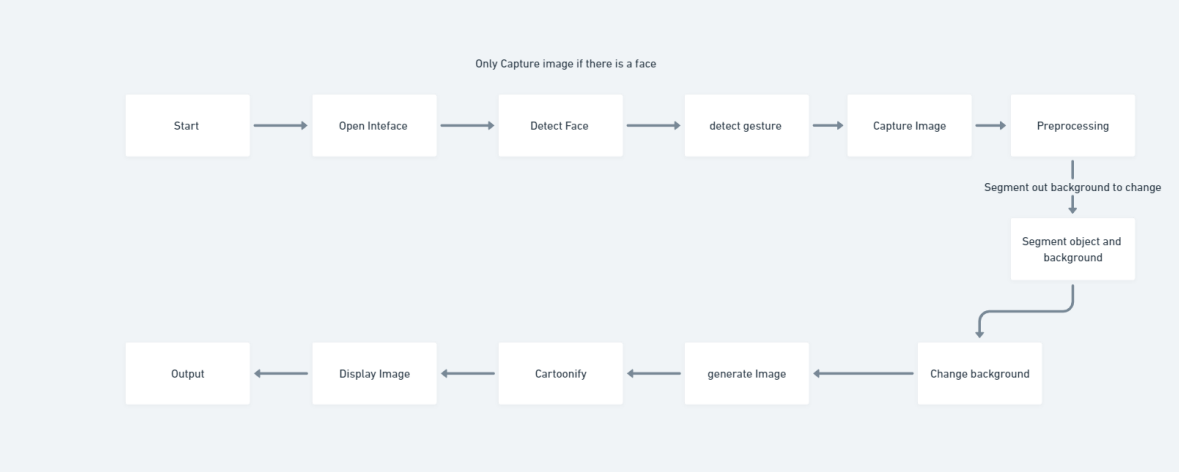
System Architecture

The system architecture is of 3 tiered architecture which consists of Interface, Business Layer and Storage. The first layer is an interface which will help users interact with the system. The second layer will carry out the processes like face detection, clustering, cartoonification and so on. The last layer is associated with our database storage where the images (background templates) are stored.



Flowchart

The flowchart consists of the flow of processes that will occur in our Groot system.



Data Flow Diagram

DFD's provide the basic overview of the whole system or process being analyzed or modeled.

<u>0 Level DFD</u>

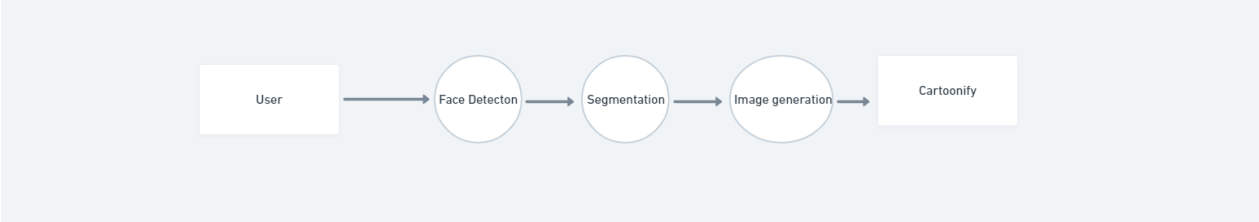
The 0 level DFD is the basic abstraction of the process. It represents the process as a single entity and its interaction with outside entities.

<u>1 Level DFD</u>

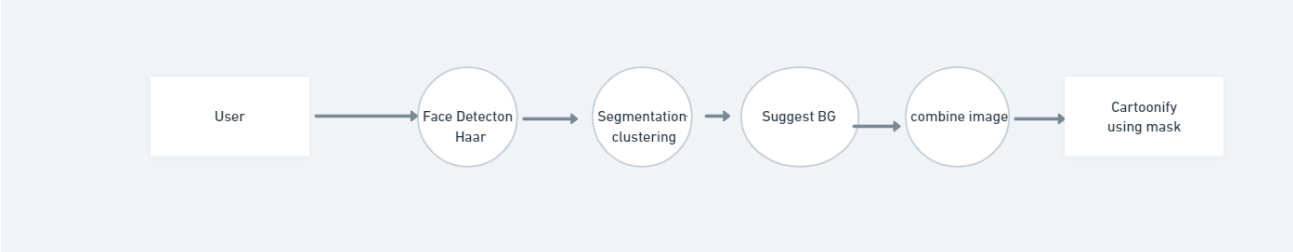
The 1 level DFD we have highlighted the main processes in our system.

2 Level DFD

The 2 level DFD is further detailing processes. First the user will click the image, HAR will detect faces and upon various conditions we'll proceed further. Using clustering techniques predominantly, we'll segment the background and the person thus detected. Next, depending upon the user's attire and background objects which when treated as features, a background will be suggested along with the person's image when then will be cartoonified for added effects.



3 Level DFD



Data Dictionary

Data dictionary is the way we need to store the data.

Data	**Image**	**Authentication**	**Output**
Feature mapping	Link	ID Password	Images

Interface Design

The user interface (UI) is the point of human-computer interaction and communication in a device. Below is the basic interface design for our system that will help user to upload the image and get the resultant image displayed on the screen.