



INTEGRATED DESIGN PROJECT (IDP II)

CSE-460

SYSTEM DEVELOPMENT REPORT

Group: Foxtrot

Sec: A

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Required Platforms:

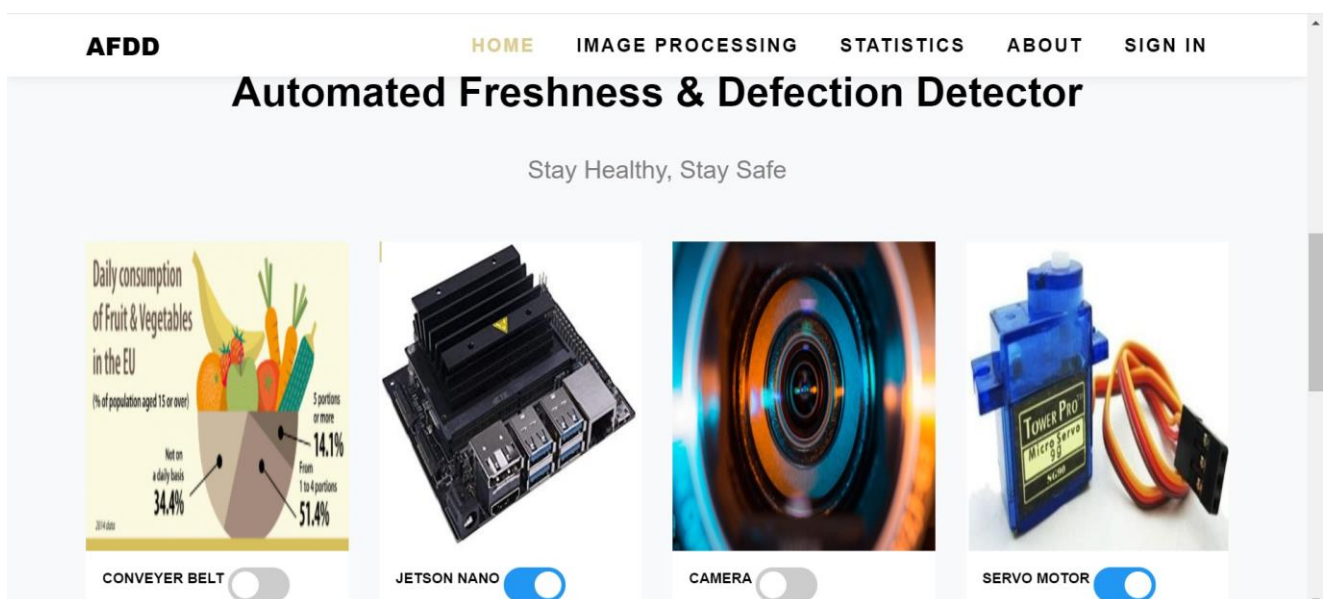
<p>MySQL</p> 	<p>MySQL is an open-source relational database management system. We used it for our database. (Backend)</p>
<p>Bootstrap</p> 	<p>Bootstrap is a free and open-source CSS framework. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. We used it for UI design. (Frontend)</p>
<p>Anaconda</p> 	<p>Anaconda is a distribution of the Python and R programming languages for scientific computing, that aims to simplify package management and deployment. We used it for our implementing image processing.</p>
<p>GitHub</p> 	<p>GitHub and GitHub are used for collaborating the whole project so the team can work remotely then merge it centrally.</p>
<p>Arduino</p> 	<p>It's an IDE for microcontrollers. We used Arduino mega to control various hardware component like motors etc.</p>
<p>Ubuntu</p> 	<p>Ubuntu is a Linux distribution based on Debian and composed mostly of free and open-source software. Our main controlling system Jetson Nano runs on Ubuntu.</p>

UI Snapshots:

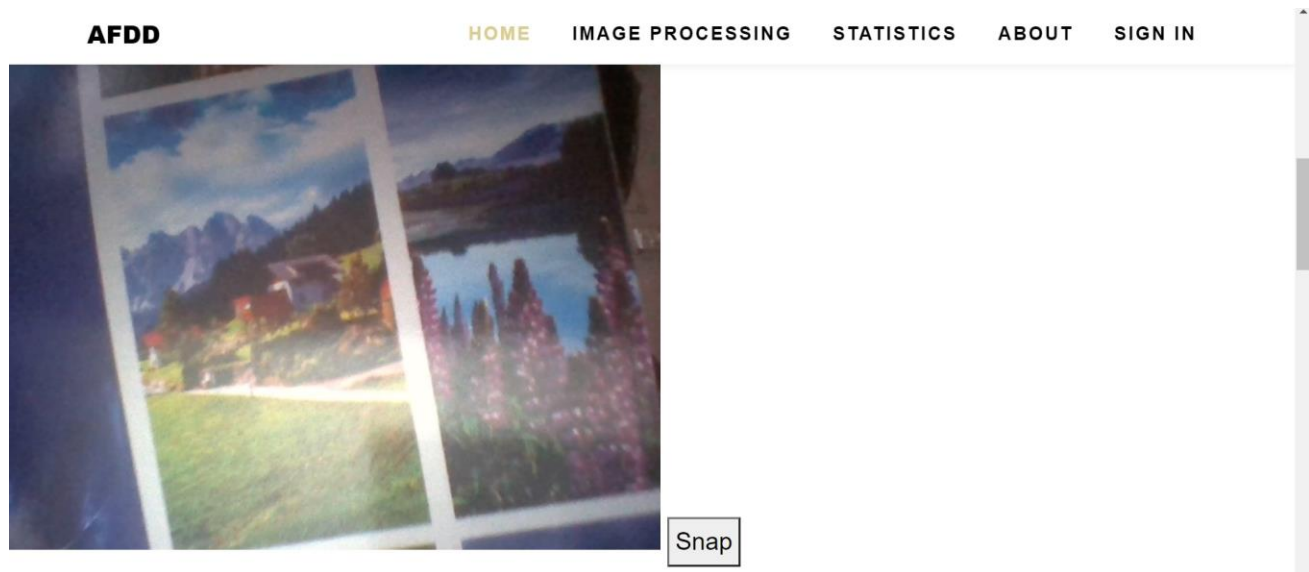
Homepage



Hardware control section



Live feed page, this will continuously show what the camera is observing



Login page

AFDD[HOME](#)[IMAGE PROCESSING](#)[STATISTICS](#)[ABOUT](#)

OWNER LOGIN

[SIGN IN](#)

Search bar to show statistics in a given date

AFDD**HOME**IMAGE PROCESSINGSTATISTICSABOUTSIGN IN

View the amount of fresh food & defected food in one day!

Search!

Statistics table after searching by date

AFDD**HOME**IMAGE PROCESSING**STATISTICS**ABOUTLOG OUT

Batch NO	Fruit Name	Total Kgs	Usable Kgs	Unusable Kgs	Date of Processing
B9	Apple	5	2	3	2021-04-19
B10	Banana	5	2	3	2021-04-19
B11	Orange	5	2	3	2021-04-19

Scenario 1:

Owner/Authorized worker accesses the website. Navigate to hardware control section. Enables conveyor belt, camera, and servo motor. Then workers started to place fruit in the belt for separation process.

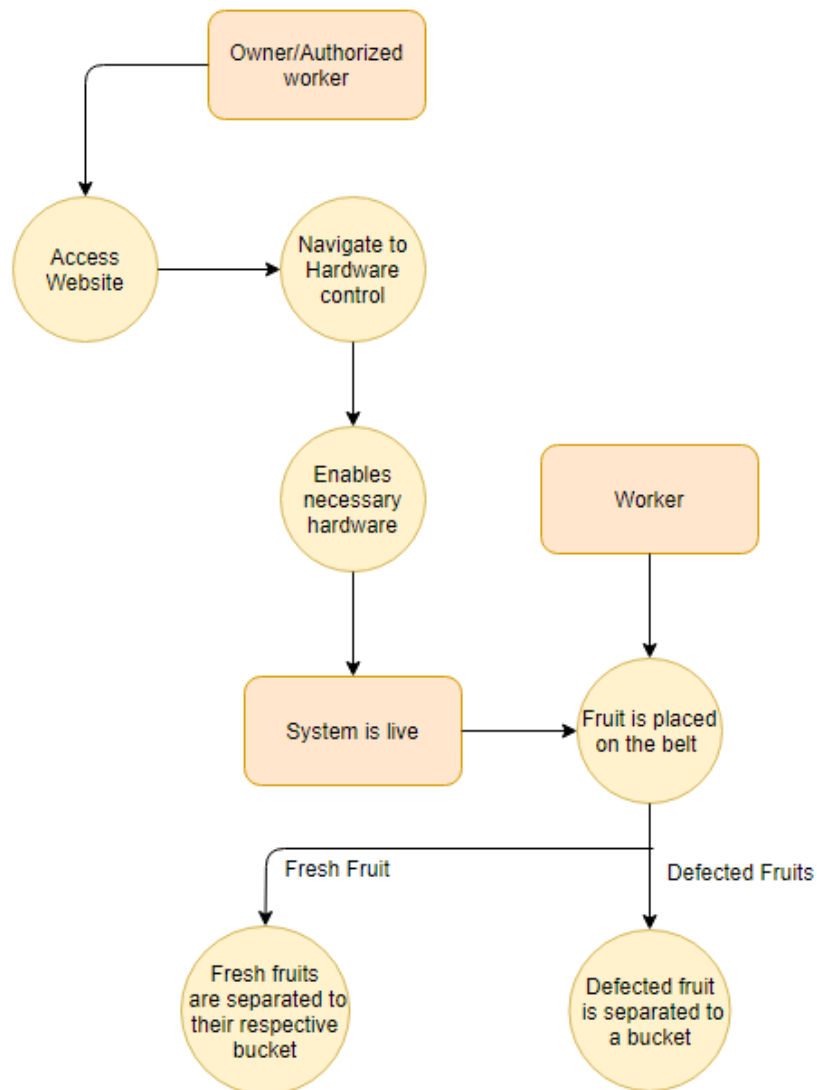


Figure: DFD of Scenario 1

Scenario 2:

Owner logs in to the website. Go to the statistic page. Enter the date of which he wants to view the total amount of fresh/defected food. The query shows the result of all the fresh/defected food of that day.

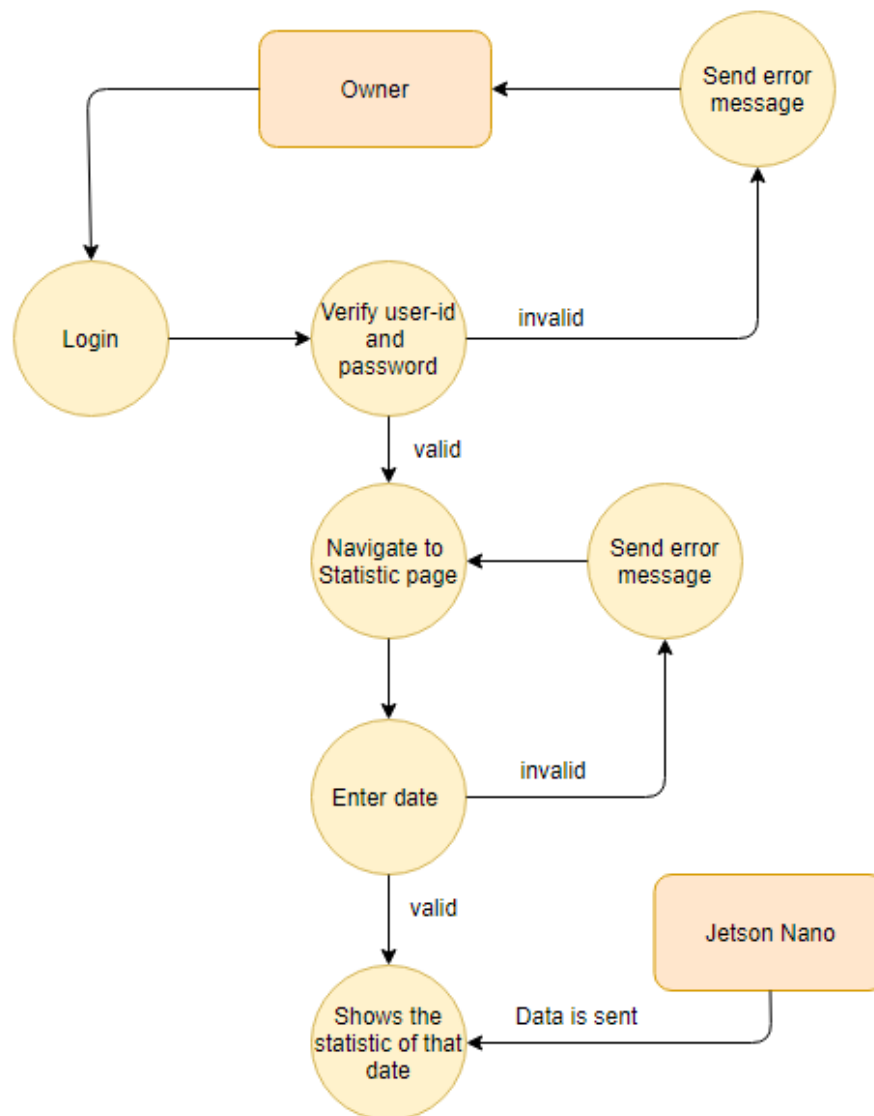


Figure: DFD of Scenario 2