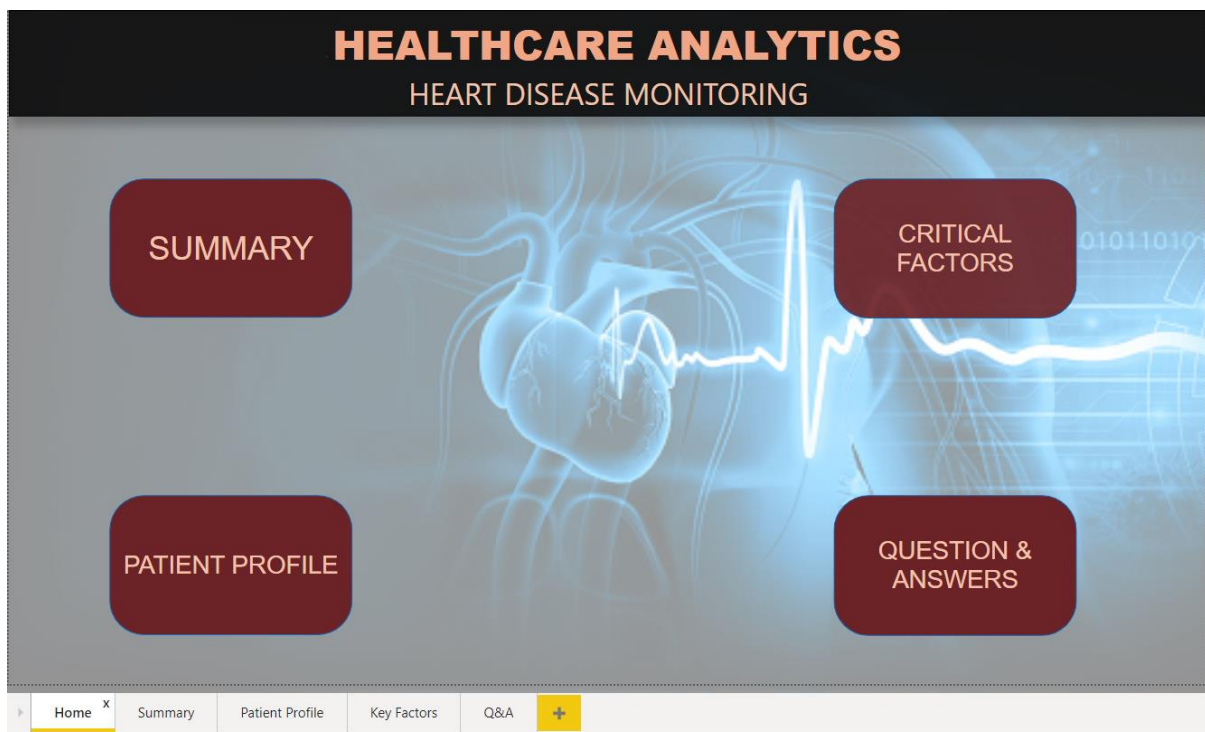# WIREFRAME DOCUMENT
Healthcare Analytics

Heart Disease Prediction

1. **Home Page**

   It's the homepage of our dashboard in which a user will able to select Viewing options for the specific visuals he/she wants to check.

1. **Summary:** The dashboard contains the statistical summary of the dataset and the visual displaying the effect of different feature to heart disease.

2. **Critical Factors:** This dashboard picks out the most important feature resulting in the presence of a heart disease and the magnitude at which it affects the presence.

3. **Patient Profile:** This dashboard shows the profile of a patient that has a disease displaying the average age, BP level e.t.c.

4. **Question & Answers:** This is a NLP enabled visual that allows end user to quickly create visuals based on the required specification

2. Summary Dashboard
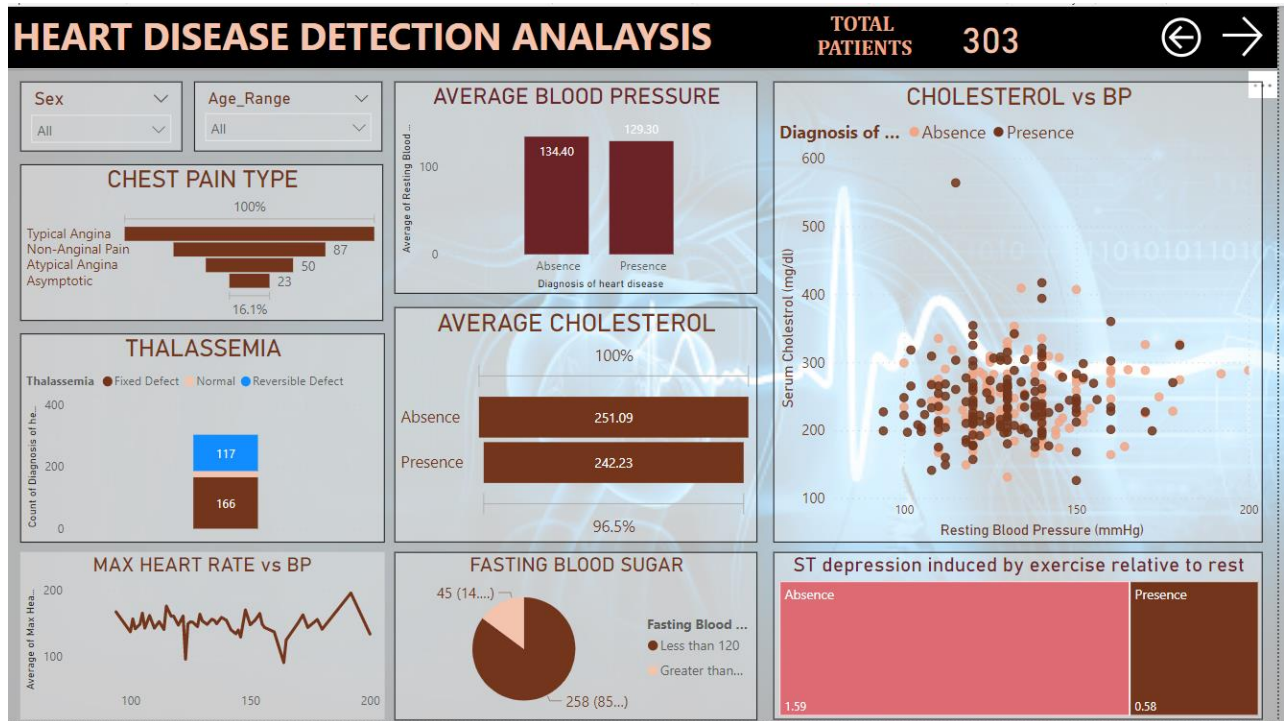
- Patients suffering from TYPICAL CHEST PAIN are more susceptible to have heart disease.
- Fixed Defect and Reversible defect form the bulk of patients.
- As BP increases the fluctuation in Max heart rate achieved becomes more erratic.
- Avg. BP and Avg. Cholesterol is not a significant factor for presence of heart disease.
- Cholesterol increases the likelihood of higher BP.
- ST Depression induced during exercise is 110% lower in presence of heart disease.
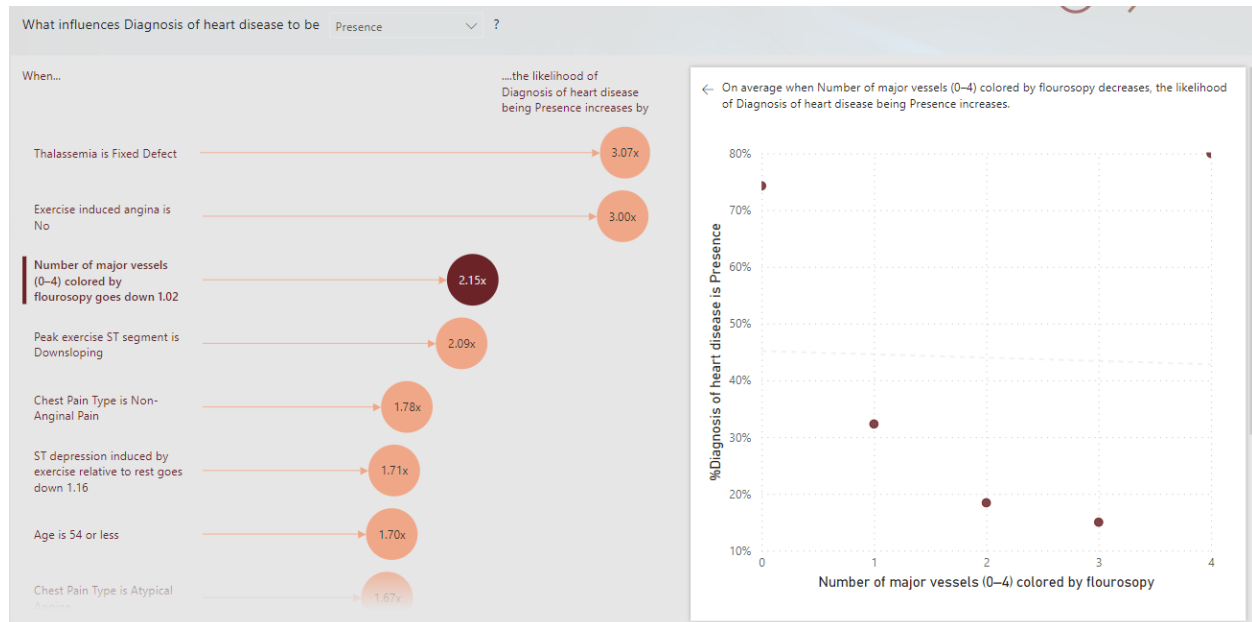
3. Critical Factors
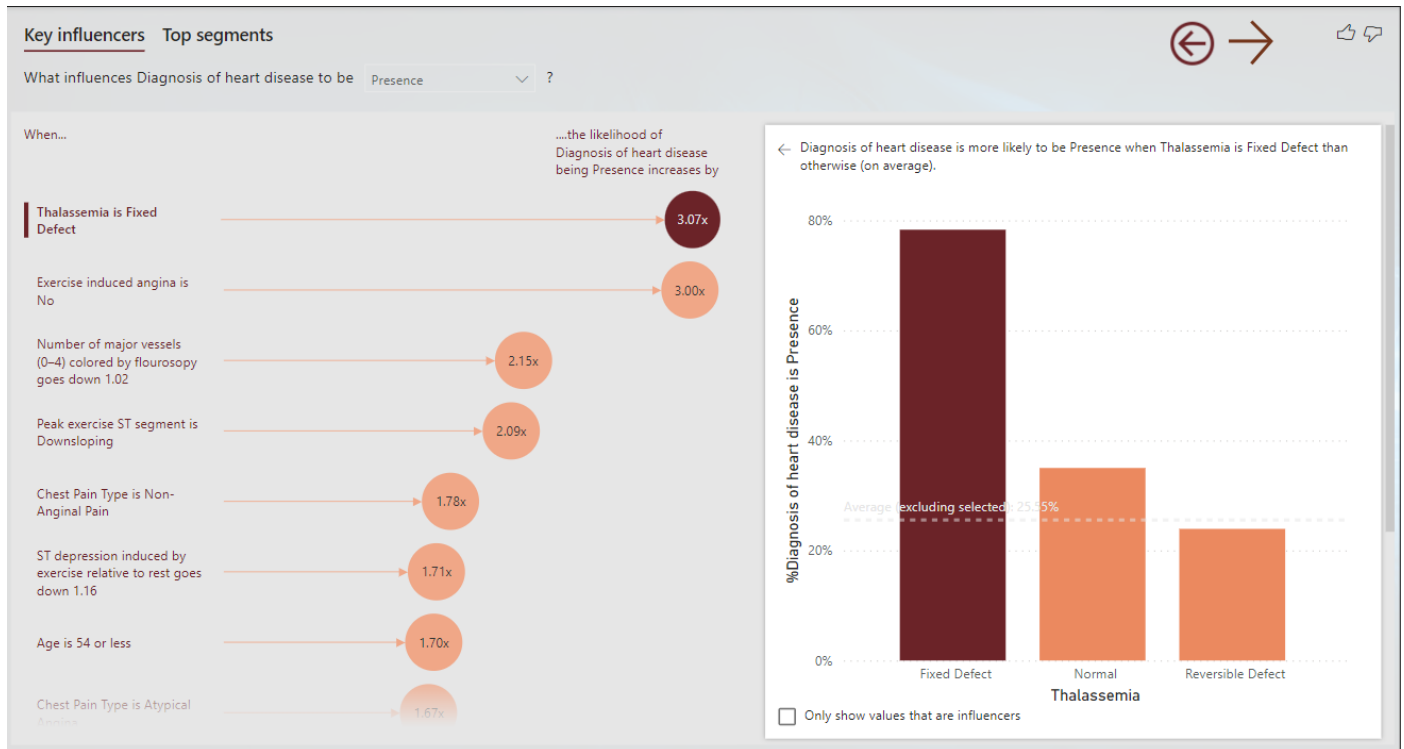
- Fixed Defect Thalassemia increases the risk of getting heart disease by 3.07 times.
- Also Fixed Defect Thalassemia has 40% higher chance of getting a heart disease as compared to other forms of Thalassemia.
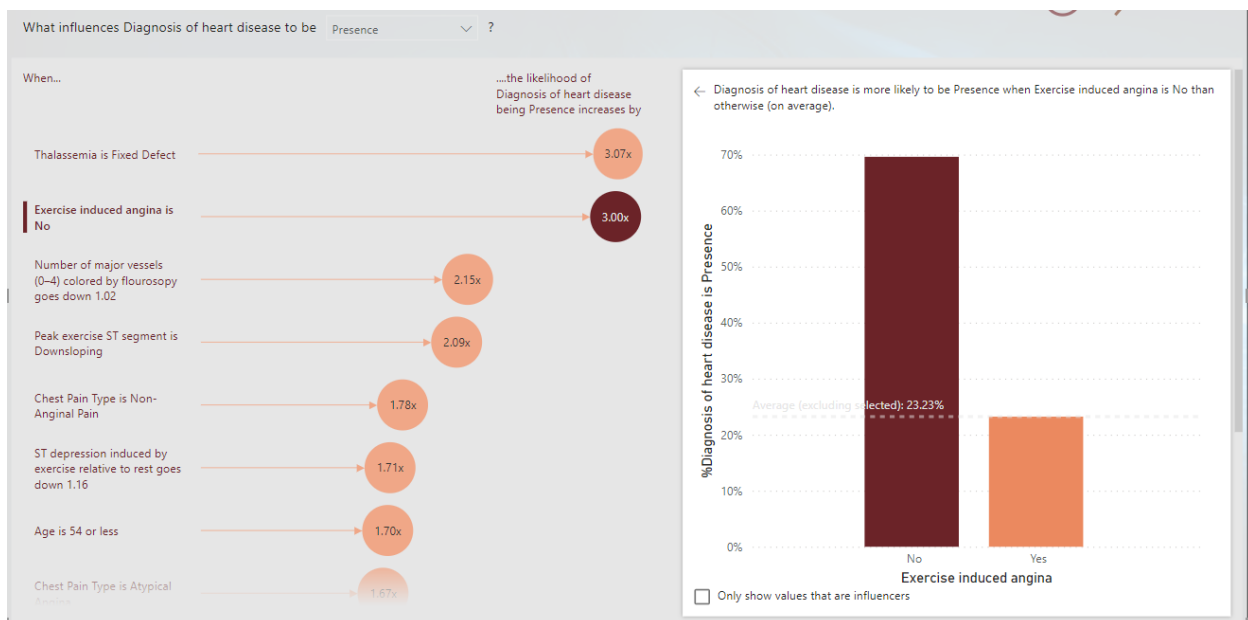
- If the **patient has angina** and it is **not induced due to exercise,** then the risk of getting a heart disease is 3 times higher.

- On average when the number of major vessels(0-4) colored by flourosopy decreases then likelihood of heart disease increases by 2.15 times.
- Downsloping peak exercise ST segment has 2.09 times higher risk of developing a heart disease.
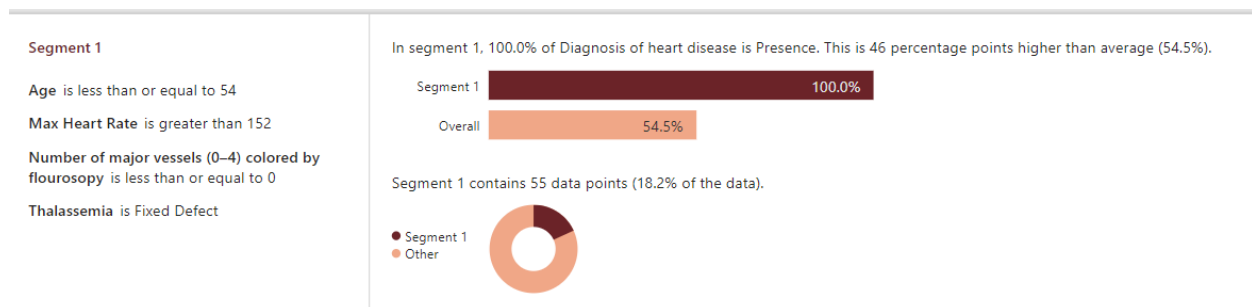
- The patient with the below features have all turned out to have developed heart disease:
  - age<**54**
  - Max heart rate **>152 bpm**
  - No. of vessels colored by flourosopy **=0**
  - Thalassemia is **fixed**

Segment 2

Chest Pain Type is Non-Anginal Pain

Number of major vessels (0–4) colored by flourosopy is greater than 0

Thalassemia is Fixed Defect

In segment 2, 93.8% of Diagnosis of heart disease is Presence. This is 39 percentage points higher than average (54.5%).
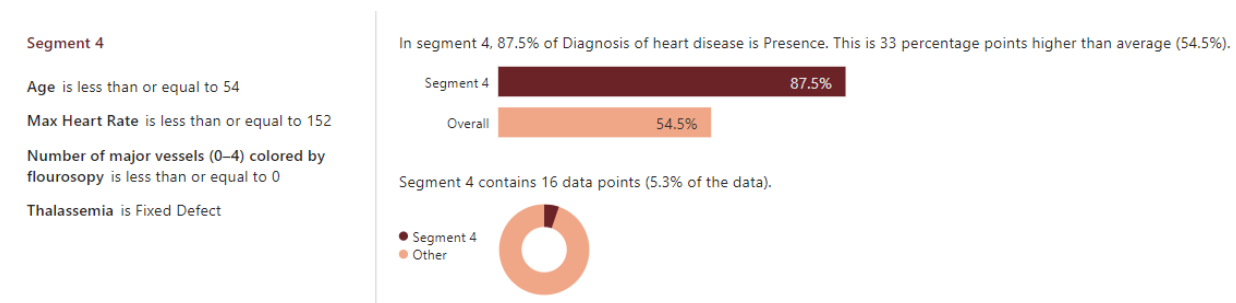
Segment 2	93.8%
Overall	54.5%

Segment 2 contains 16 data points (5.3% of the data).

● Segment 2
● Other

- The patient with the below features have 93.8% turned out to have developed heart disease:
    - o Chest Pain type is **Non-Anginal**
    - o No. of vessels colored by flourosopy **>0**
    - o Thalassemia is **fixed**

Segment 3

Age is greater than 54

Number of major vessels (0–4) colored by flourosopy is less than or equal to 0

Peak exercise ST segment is not Flat

Thalassemia is Fixed Defect

In segment 3, 88.0% of Diagnosis of heart disease is Presence. This is 34 percentage points higher than average (54.5%).

Segment 3	88.0%
Overall	54.5%

Segment 3 contains 25 data points (8.3% of the data).

● Segment 3
● Other

- The patient with the below features have 88% turned out to have developed heart disease:
    - o Age>**54**
    - o Peak exercise ST segment is **NOT FLAT**
    - o No. of vessels colored by flourosopy **=0**
    - o Thalassemia is **fixed**

Segment 4

Age is less than or equal to 54

Max Heart Rate is less than or equal to 152

Number of major vessels (0–4) colored by flourosopy is less than or equal to 0

Thalassemia is Fixed Defect

In segment 4, 87.5% of Diagnosis of heart disease is Presence. This is 33 percentage points higher than average (54.5%).

Segment 4	87.5%
Overall	54.5%

Segment 4 contains 16 data points (5.3% of the data).

● Segment 4
● Other

- The patient with the below features have 87.5% turned out to have developed heart disease:
    - o age<**54**
    - o Max heart rate **<152 bpm**
    - o No. of vessels colored by flourosopy **=0**
    - o Thalassemia is **fixed.**

4. Patient Profile
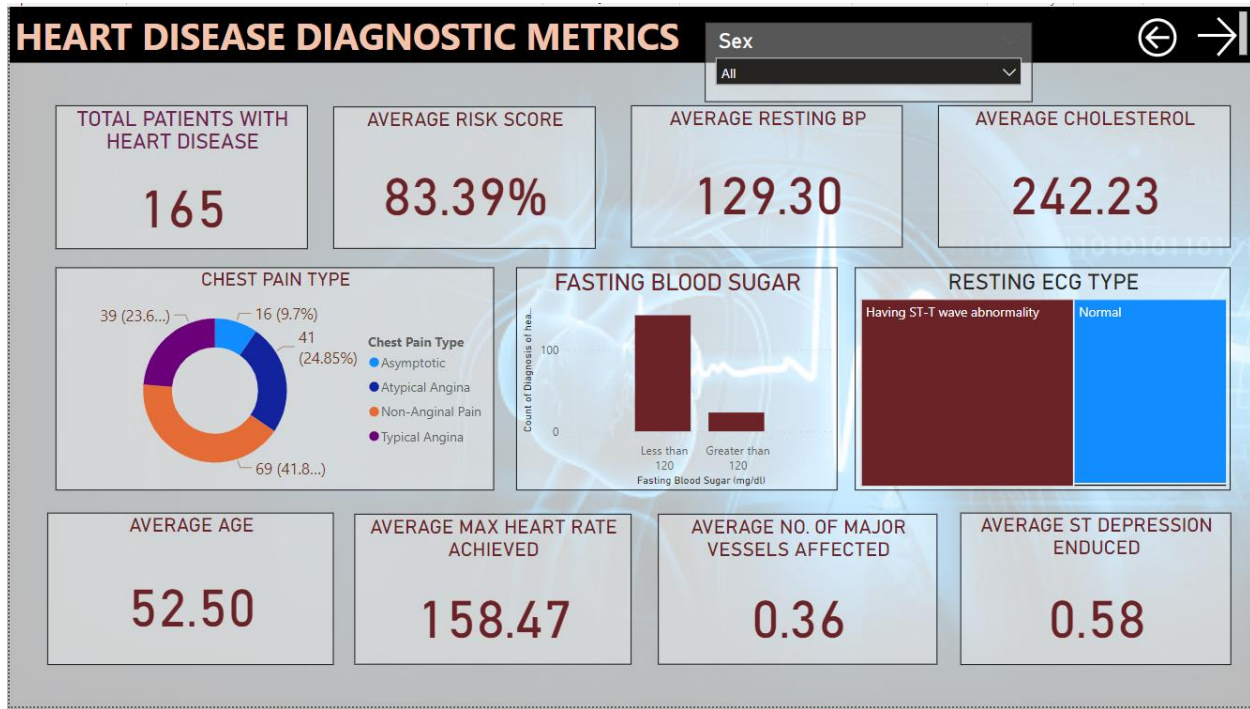
- Total Patients with heart disease is 165 (54.6%) of total 303 subjects.
- Average Risk of developing heart disease is 83.39%
- Average Resting BP for people with heart disease is 129.3 mmHg.
- Average Serum Cholesterol for people with heart disease is 242.33 mm/dl
- Average age for people with heart disease is 52.5 years
- Average max heart rate achieved for people with heart disease is 158.47 bpm
- Average no. of major vessels affected for people with heart disease is 0.36.
- Average ST depression induced due to exercise for people with heart disease is 0.58