Distribution of Frame Types

Chinmaya Vyas(4739221) Vishnu Vardhan(4734335)

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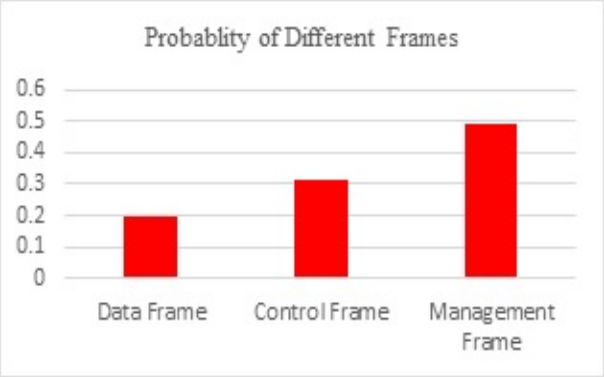
1 Introduction

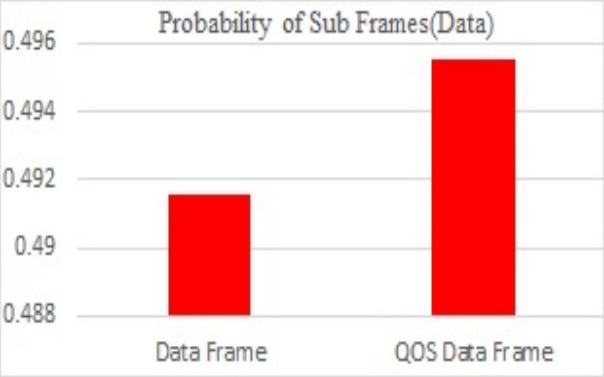
The project deals with the providing the distribution of the frame types RTS, CTS, ACK, Broadcast etc. Collecting their lengths and corresponding information like data rates used for transmission. We have collected data from the TU Delft Library, City center, De Hoven Passage and personal Dorm situated in Delft. The data was collected for time span varying from 20-40 minutes at different locations.

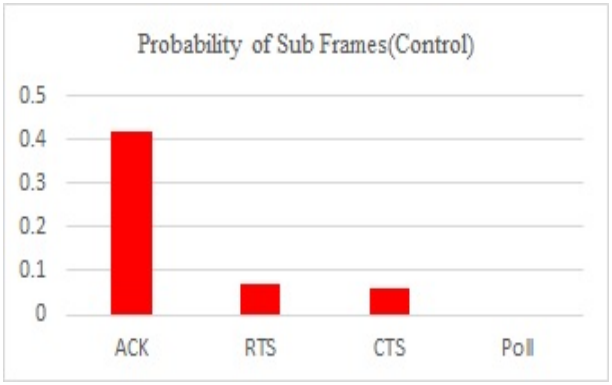
2 Data Analysis

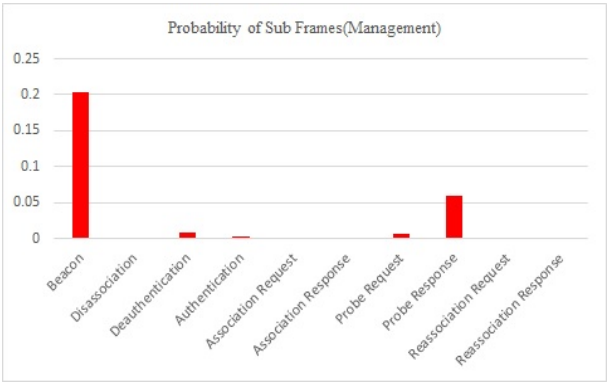
In the following report we do data analysis based on the different locations we collected the data from.
In order to compare the frames we calculated the probability of each type of frame and also calculated the probability of each sub-type. This way we can analyze the data obtained at various locations as number of packets captured varies with respect to time frame of capture.

2.1 Analysis of data from Dorm



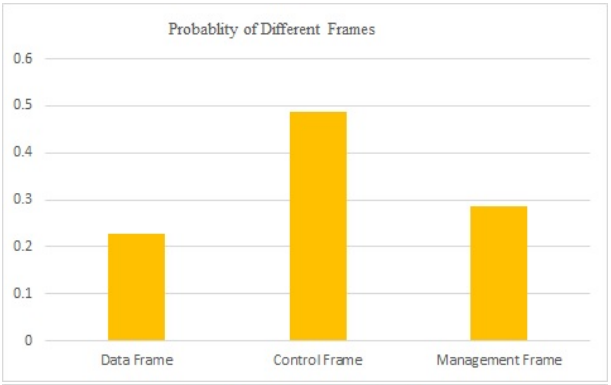


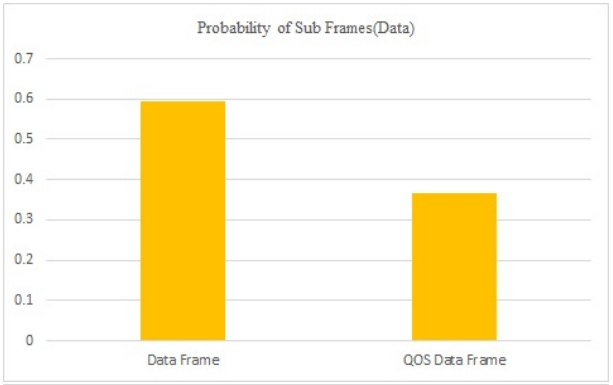


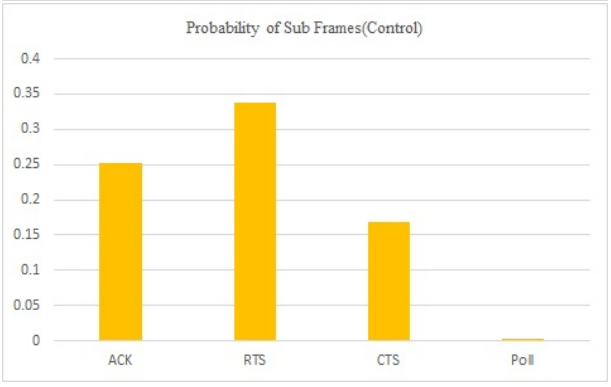


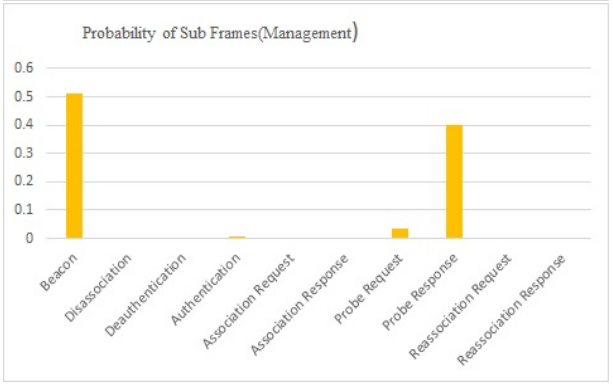
The data collected shows that the management frames have a higher length in general as compared to the control and data frames.

2.2 Analysis of data from City Center







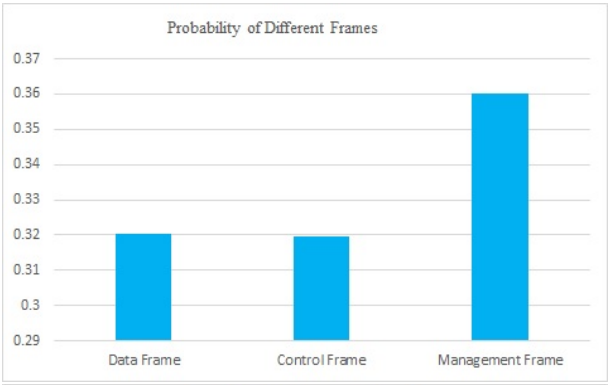


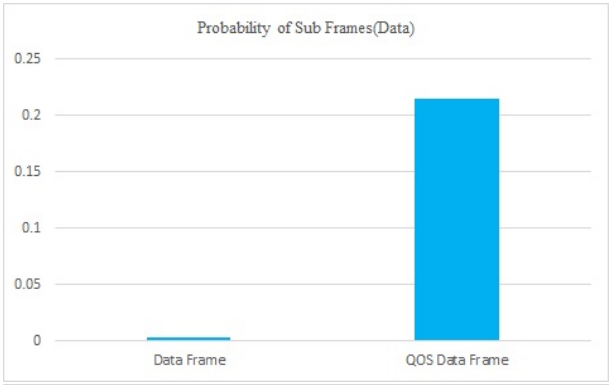
The data collected shows that management frames in general have higher length as compared to data and control frames. Whereas the data rates are constantly varying.

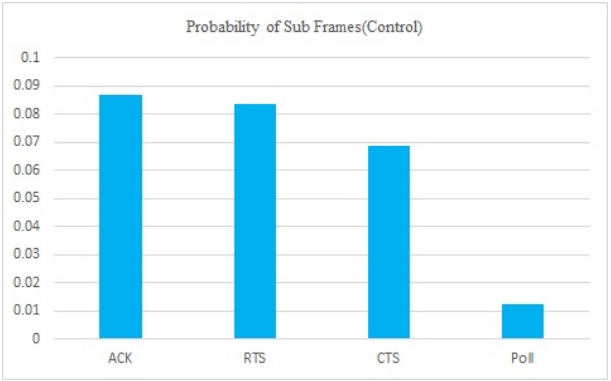
2.3 Analysis of data from De Hoven Passage

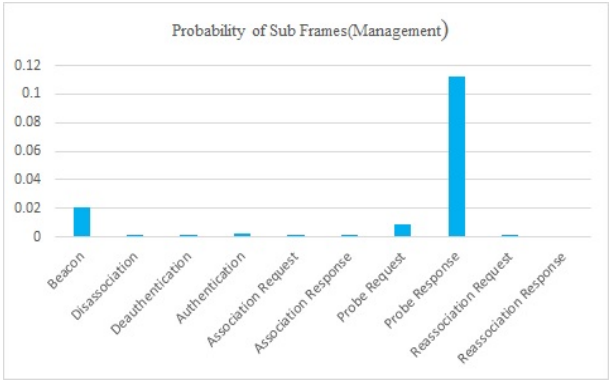
The data collected shows that the data frames have a higher length in general as compared to the control and management frames. The data rates seems to be fixed in general at 24 Mbps at the Control frames. Whereas the data rate is 72 Mbps in general at the Data frame and at the management frame it is 1 Mbps for the beacon frame, 24 Mbps in general.

2.4 Analysis of data from TU Delft Library









Here according to the data collected the lengths of the different frame types vary. Whereas in the data rate seems to fixed in general at 24 Mbps for the control frames, vary for the Data frame and again almost constant at 24 Mbps for the management frames.

3 Conclusion

After the analysis we have following observations:
1) The Ack frames are more in the De Hoven Passage area which means most of the packets transmitted are received without any errors.
2)As RTS and CTS frames are used to control frame transmission so according to our data analysis the corresponding value comes out higher at the city center.
3) Due to more density of people around city center the beacon frames were observed more as compared to the other locations.
4) The observations regarding the data rates and frame lengths about each case were explained above separately.
5) In QOS data frame there is QOS control field along with data included to prioritize QOS traffic by defining traffic identifier.