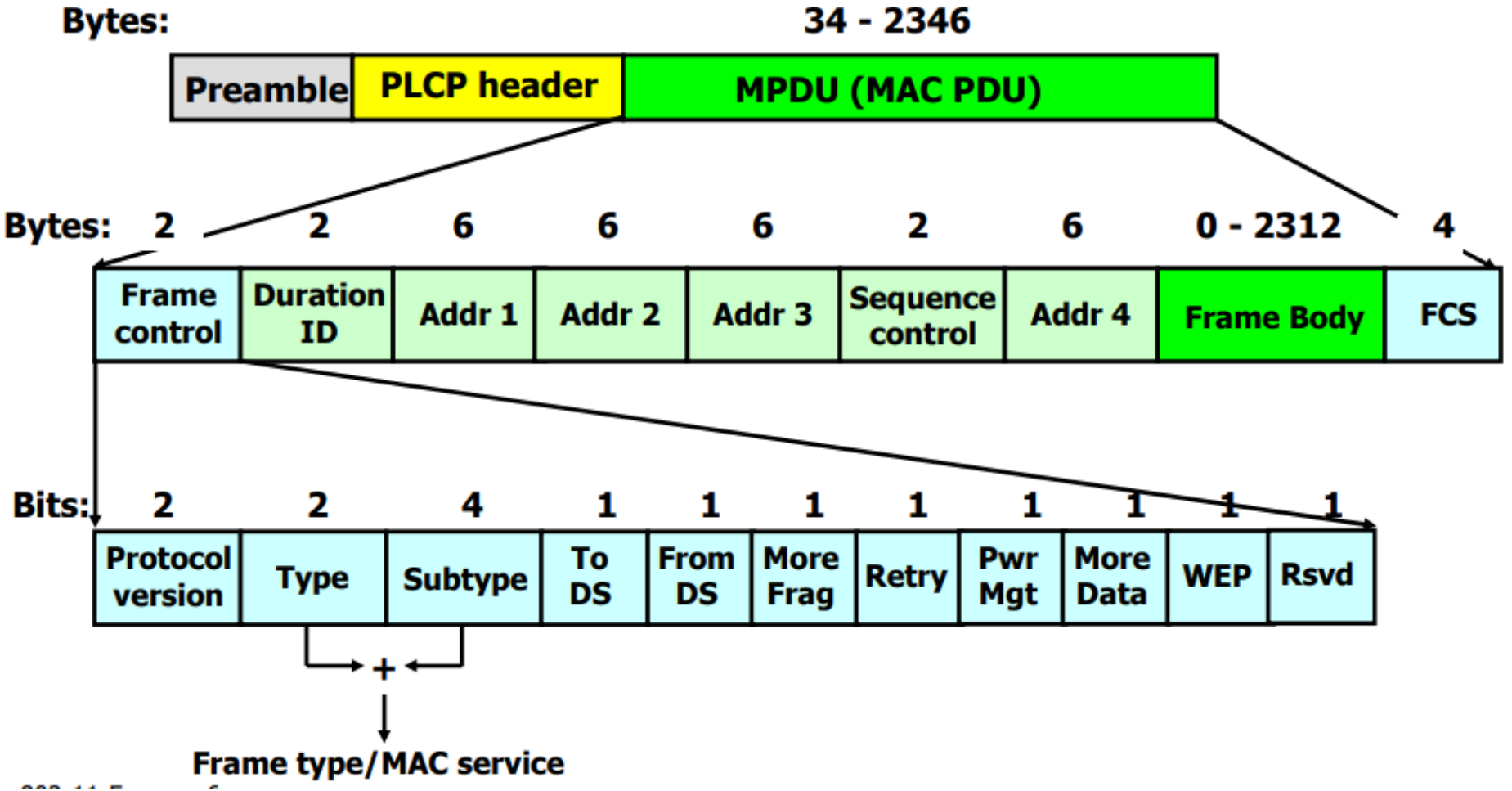
WIRESHARK SNIFFING

W14 Measure frame content to overhead

Samyuktha Sivaram

Swarna Narayanan

802.11 Frame Format



Source: http://www.studioreti.it/slide/802-11-Frame_E_C.pdf

Frame Types and Subtypes

1.Management Frames

- Association Request
- Association Response
- Re association Request
- Re association Response
- Probe request
- Probe Response
- Beacon
- Dis association
- Authentication
- De authentication
- Action

2.Control Frames

- Power Save(PS) Poll,
- Request to Send (RTS),
- Clear to send (CTS),
- Acknowledgement(ACK),
- Contention-Free(CF)-End (PCF only),
- CF-End+CF-ACK (PCF only),
- Block-ACK(HCF) and
- Block Ack Request(HCF)

3.Data Frames

Code Snippet

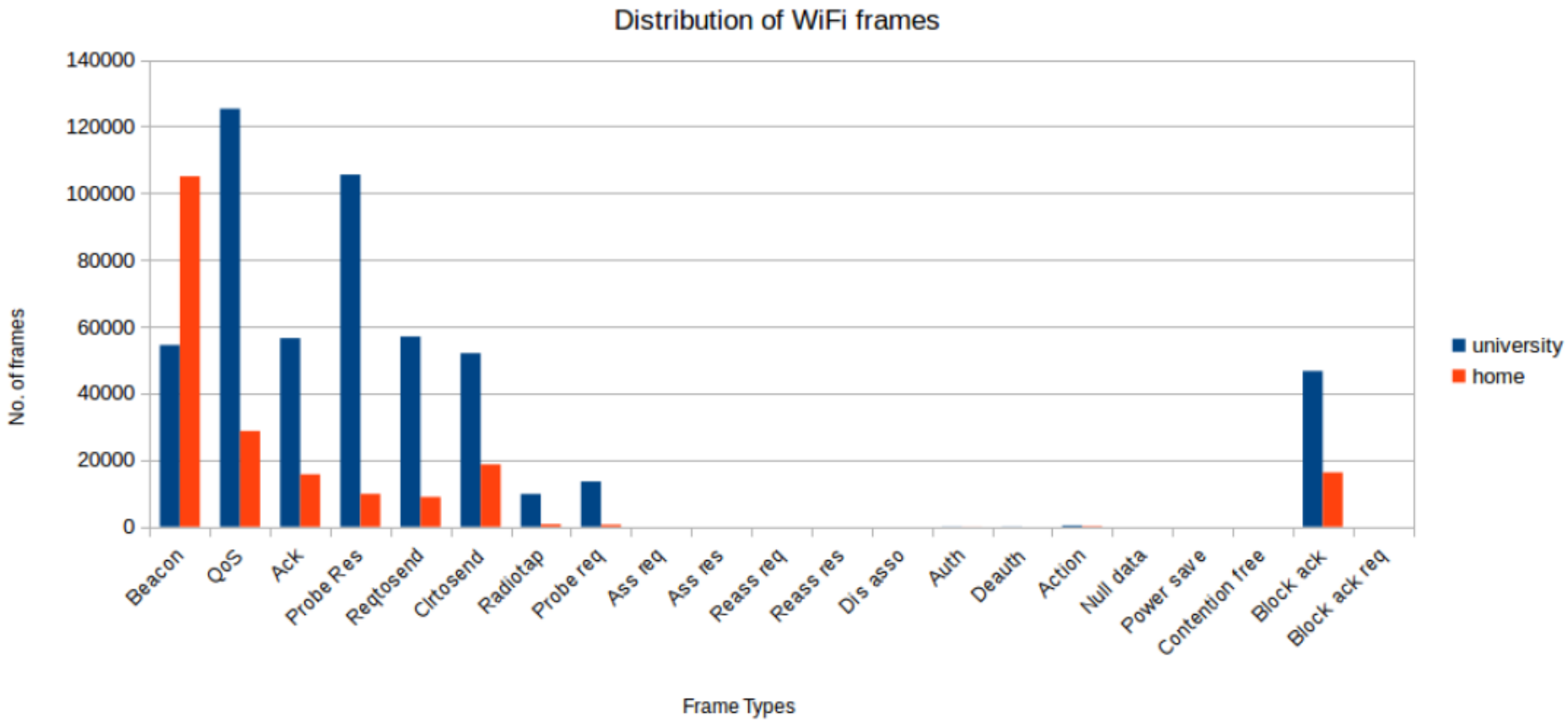
```
count=[0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
tot=[0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
frames=["Beacon","Data","Acknowledgement","Probe Response","Request-to-send","Clear-to-send","Radiotap Capture

for x in range(0,1000):
        os.system("tshark -I -T fields -E separator=/t -E quote=d -e _ws.col.Info -e _ws.col.Length > t.csv")
        with open('t.csv', 'rt') as f:
                reader = csv.reader(f,skipinitialspace=True,delimiter="\t")
                for row in reader:
                        values.append(row[0])
                        framesize.append(row[1])
for i in range(len(values)):
     for j in range(len(frames)):
        if frames[j] in values[i]:
           count[j]+=1
           tot[j]+=int(framesize[i])
```

Frame type and subtype breakdown at home

Frame Type	**Frames**	**Size(Bytes)**
Data	28689	19166109
Control	59504	3299826
Ack	15706	785300
RTS	8897	498232
CTS	18663	933150
Block Ack	16238	1083144
PS Poll	0	0
Management	115668	35208232
Action	184	13312
Authentication	14	1123
Beacon	105029	31207652
Probe Request	610	85143
Probe Response	9831	3601002
Radiotap	708	142868

Frame Distribution at University and Home



Analysis

At Home

- Data frames 14%
- Control frames 28%
- Management frames 56.4%

At University

- Data frames 24%
- Control frames 41.4%
- Management frames 33%