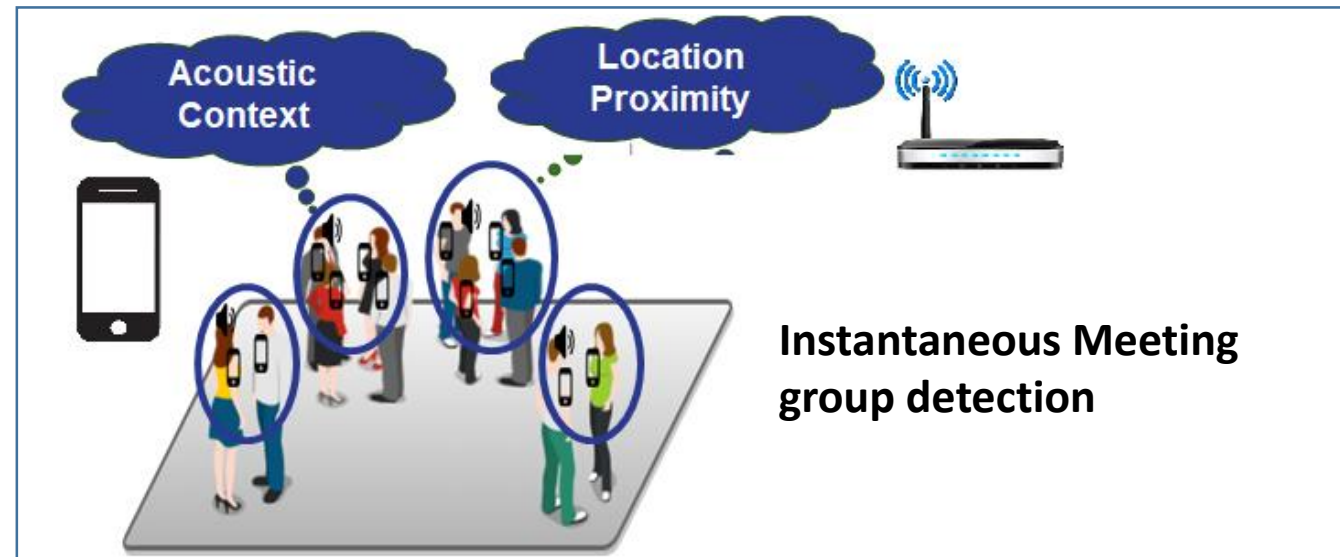
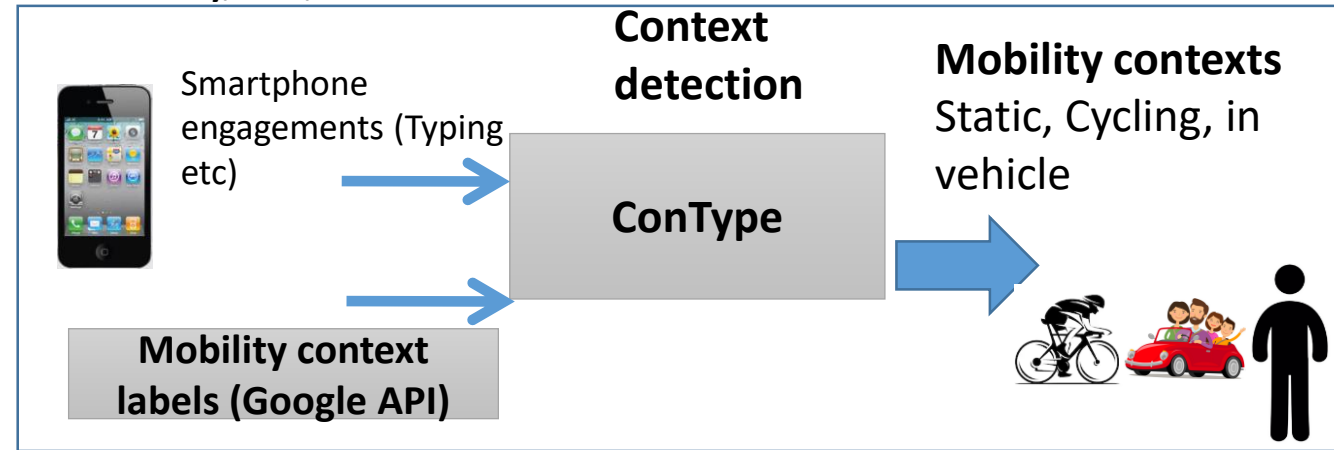
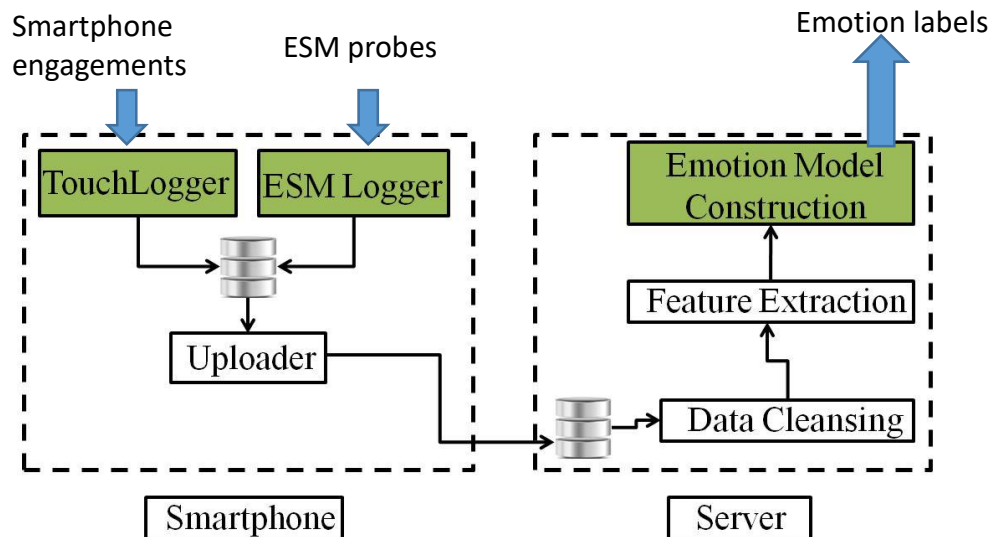
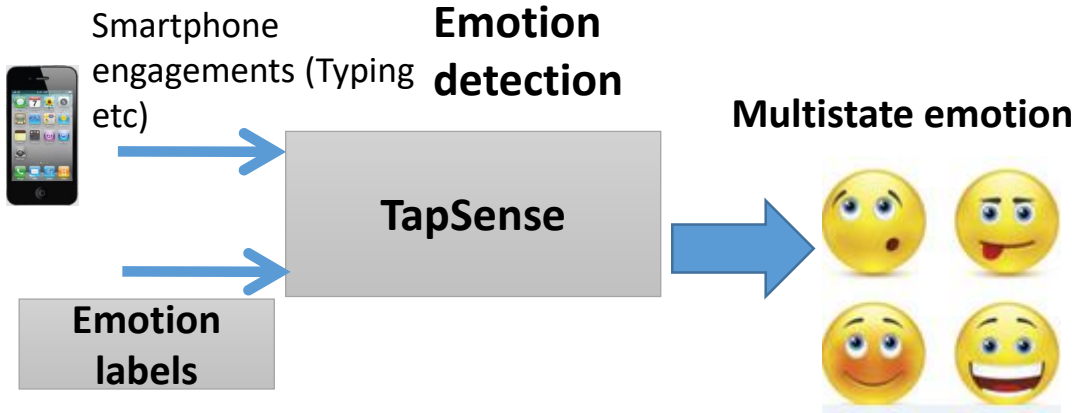


Smartphone Based Emotion and Context sensing

Publications: IEEE PerCom 2022, IUI 2021, IEEE TAC 2021, IEEE TMC 2019, MobileHCI 2017, ICMI 2020, PerCom 2020, CHI 2020 (late breaking), ACII 2017-2019, IUI 2018, IEEE Globecom 2018, CCNC 2017, Mobicom 2018 (posters)

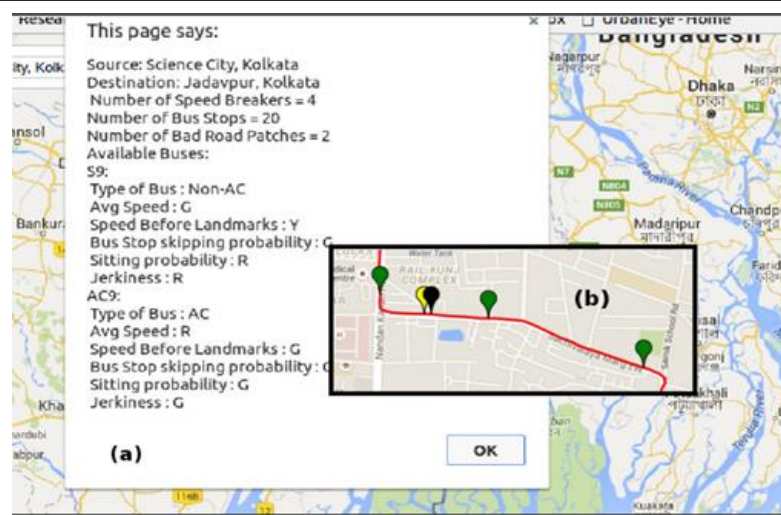
Funded by MHRD (SPARC), TCS Innovation lab

Collaborations: University of Maryland Baltimore County, Georgia Southern University, USA, TCS Innovation lab



Smart public transportation for India

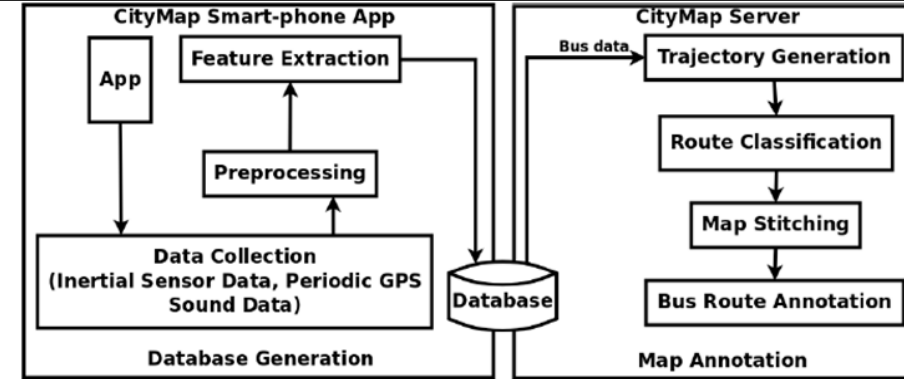
Publications: IEEE TCSS 2020, PerCom 2019, ACM Sigspatial 2018-2017, RecSys 2018, IEEE Inforcom 2016



CityMap: Developed crowdsensing based **Rich Annotated City Transit Map**

(a) Discover the **bus routes**, extract the route specific features (congestion in a route, possibility of getting a place to sit)

(b) **Annotate the map** with this information.



Conducted experiments with 30 volunteers in Kolkata, BBSR, Durgapur.

Hecate: Developed a Navigation-cum-Alert System for commuters

Smartphone-based system

(a) **Informing** bus commuters about **upcoming stops** along with the expected **travel time**

(b) **Alerting** commuters about impending discomfort during the travel, like **sudden turns, bad road patches, speed breakers**.



Builds Landmark Database



Collect Inertial Sensor Data

Generate Landmark Database



Gets Source & Destination



Navigation and Alert

Energy-Efficient Navigation

Collect Inertial Sensor Data

Detect Landmark and Localize

Estimate Time to Destination

System ML: Anomaly detection & troubleshooting from system logs

Publications: IEEE Inforcom 2018, PAKDD 2018

Funded by DST-SERB, NetApp, Huawei

Detect **system anomalies** from the event message logs

Troubleshooter localizes faulty components within a very short time.

