Project Proposal

The first project deliverable will be the project proposal. Please include the following in your proposal, which should be no longer than 2 pages. All the sections outlined below should be included.

* Title
* Group Members and their Roles
* Description: What the group plans to do for the project and your approach

* Motivation: Why the work matters
* Description of previous research in the area (with references)
* Resources you may need (in terms of hardware, software, etc)
* How do you plan to get these resources?
* Timeline
* Grading Criteria: What are the deliverables of this project that we should grade you by
* References

The project plan you include in your proposal is just an initial plan, not a binding contract.  It is your best guess initially. It is ok to revise and update it as your work progress and changes occur.

* Title

Modeling and discovering human behavior using Sensus application and GPS data from smartphone.

* Group Members and their Roles

Shailesh Kelkar

Srihari Venugopalan

Gayatri Sivaraman

Jayant Bedwal

* Description: What the group plans to do for the project and your approach ?

We plan to model and identify trends of human behavior like the places of interest, location pattern of daily routine activities, clustering of people with similar habits/trends. We are planning to monitor location of the participants using GPS embedded in smartphone and Sensus application triggered suvery to make it more accurate and reliable. We plan to collect data of about 30-40 participants over the span of 2-3 weeks followed by feature extraction and model training. Once , we have the sufficient data, we plan to improve prediction accuracy.

* Motivation: Why the work matters

Till now, lot of applications have been developed for location tracking and behovioral trend classification using GPS data from smartphones. We plan to use real-time data collected from Sensus application to predict the places of interest and to cluster people with similar trends. This work will be very helpful in modeling the behavipral trends of a particular society. Also, this work finds its use in artificial intelligence domain which benefits food industry by attracting the desired customers.

* Description of previous research in the area (with references)

Sensus Application Paper

/\*\*\* More to Add \*\*\*/

* Resources you may need (in terms of hardware, software, etc)
  + Sensus Application
  + Mobile GPS Data
  + Python for Machine Learning ( with the help of anaconda packages )
  + Tool for filtering Data and extracing features
* How do you plan to get these resources?

As these resources are easily avaiable/ubiquitous , we don’t require any additional resources. We plan to recruit 30-40 participants associated with UT Austin ( students, professors and other staff ) to collect wide-variety of data for the period of 3-5 weeks.

* Timeline

Assuming total 8 weeks for project

Milestone 1 ( Week 1-3) : Use of GPS and Sensus Application to collect data in 2-3 weeks (intital dataset and then start working towards analysis of data )

Milestone 2 (Week 4) : Feature extraction and model selection

Milestone 3 (Week 5-6): Identification of places of interest and frequently visited places.

Milestone 4 (Week 7-8) : Classification of people with similar trends into groups ( based on places of interest, age and other attributes )

Milestone 5 (Additional) ( Week 8): Prediction of the future location of the person and improving the accuracy of these predictions.

* Grading Criteria: What are the deliverables of this project that we should grade you by

Based on the milestones mentioned above

* References

/\*\* To be added \*\*/