**Critical Mass - KPI Project Update**

**Current status of the project:**

* Currently, the team is working on individual tasks with the leadership and guide of the Data Lead, Saul Chirinos. After cleaning the data and some feature engineering, we have done some mechanical EDA (Exploratory Data Analysis). To further explore the data, we have found a useful function in pandas which will automatically analyze our features.
* The KPI team is also currently working on Progress Report 1, which is intended to provide an in-depth update of how our project has progressed so far. This will be spearheaded by the Report Lead, Feyre Gezahegn. Once completed, the report will be submitted to Dr. Crost and will also be shared with the CM representatives.
* Muhammad Khan, the Engineering Lead, is currently running an EDA profile report using a pandas module called pandas.profiling.This module uses the funtion ProfileReport to generate a report including critical values and distributions of features, correlations between features, outliers/anomalies, and more. The idea is that this report should help us evaluate feature importance and give us some ideas for feature interaction.
* In addition, the following tasks are being currently executed:
  + Data wrangling and transformation is finished but we will continue to undergo experiments with manipulating our data, such as adding monthly binary variables to test for seasonality.
  + Feature engineering and feature importance are partially complete. We are hoping the profile report will tell us more, getting us closer to understanding feature importance. We will simultaneously create and remove features as we test our machine learning model over the next few weeks.

**Current Status:**

* Broadly speaking, our project can be divided into four main phases.
  + Phase 1 spanned the month of January and consisted of project initiation and planning, including the submission and getting approval for the Partner Agreement Form and Project Proposal.
  + Phase 2 spanned the month of February and consisted of understanding the data, including the submission of Progress Report 1, which is the report we are currently working on.
  + Phase 3 spans the month of March and consists of project implementations and submission of Progress Report 2, which includes Model evaluation, and lastly, User testing and GUI.
  + Finally, Phase 4 will span over the rest of the semester - the first two weeks of April - primarily consisting of the creation of our final report, finalizing our final code, and creating then presenting our KPI presentation to students and CM.
* So far, we have followed the deadlines as set out on the Gantt Chart and have stayed on schedule, with the exception of Progress Report 1 which had its deadline altered by Dr. Crost to allow us to allocate more time towards a different team project. However, the KPI team is confident that we will be able to catch up and submit the progress report close to our original deadline.
* The data received from CM has been cleaned and is as mentioned earlier awaiting the final analysis to be submitted, once that is complete we will move on to Project Implementation, particularly focusing on forecasting model, model evaluation, user testing, and GUI, and lastly, work on our Progress Report 2.
* Our remaining deliverables are to modify our project based on our first two Progress reports, finalize a written report, create a presentation, write a code, and make a user-guide which will be provided to CM.
* The KPI team also plans to start working on model building and tuning, final outputs, and the dashboard with the leadership of Wes Warman, the Project Lead.

**Pseudocode**

**Other Updates**

* Critical Mass is no longer evaluating our project against a benchmark model. Nothing has been decided yet in regards to the evaluation method.