**Team Mingoes Project Proposal**

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1. ***Project Title***

Mingoes - *“Your passport to cheap transport”*

1. ***Project Formulation and Proposed Solution***

There is currently no integrated price comparison platform for commuters. The public mode of transport here in Massachusetts, commonly known as the T, charges a flat rate, which is both a function of time and medium of transport (bus or train). Private transport options such as taxi or cab drivers sometimes post their rates online, with very little dissemination to the benefit of the average commuter. Our online platform seeks to streamline this process by implementing a fully integrated private/public transport-based website which would allow Massachusetts commuters to weigh their transportation options based on time, cost, convenience, etc. For those driving, this platform also provides price-comparison info on the costs, including estimated gas costs based on local gas prices, distance, and average MPG.

1. ***Features***

-In order to automatically find routes to the desired destination our webapp will use *geolocation* to locate the user (if this feature is enabled on the user’s web browser).  
-We aim to use client-side persistence with local storage in order to store user data like username and password.  
-Our app will employ data/screen scraping to get routes using Google Maps API.  
-We will use server-side data persistence to store more user data such as past trips.  
-Our app will use a front-end framework software to design the front-end of the application, probably Bootstrap.

1. ***Implementation Data***

-The routes will be found using data from Google Maps.

-gasbuddy.com will be used to determine average gas prices in order to calculate how much  the desired trip will cost.

-The app will acquire data on which routes will have toll charges from MassDOT.com

1. ***Algorithms***

-Cheapest path: Given 2 points A and B, it would be useful to take into account tolls and determine the shortest path that minimizes spending

-Fastest path: If requested, it would be useful to determine the quickest route/ most effective mode of transportation

-Transit: If the path requires a change in the mode of transportation (i.e. bus-train or train-bus) then any extra costs must be taken into consideration (i.e. if bus-train an extra 50 cents must be added)

-Time constraints: Given the duration of the trip, there may be the possibility that extra costs may have to be taken into consideration (i.e. train-bus is typically free if the transition occurs within an hour; however, if the trip were longer, the costs would increase)

1. ***Mockup is attached in a  separate file***