Lab 2 Section 3 Collaborative Outline

1. Specific Requirements
   1. Functional Requirements
      1. Databases (**Thomas Kennedy)**

*Figure: Database Schema*

* + - 1. Driver Profile Database

*Figure: Customer Database ERD (site)*

* + - 1. Virtual Checkpoint Database

*Figure: Route Database ERD (site)*

* + - 1. Speed Limit Database

*Figure: Speed Limit Database ERD*……………………(**TO DO**)

* + 1. Algorithms
       1. Aggregate Speeds **(Nick MacLeod)**
       2. Checkpoint Allocation **(Andrew McKnight)**
       3. Checkpoint Reallocation **(Binh Dong)**
       4. Route Matcher **(Andrew Crossman)**
       5. Route Analysis **(Thomas Kennedy)**

*Figure: Route Analysis Algorithm (site)*

* + - 1. Blockage Finder **(Sujani Godavarthi)**
      2. Next Checkpoint ETA **(Andrew McKnight)**
      3. Driver Generator **(Andrew Crossman)**
    1. Simulation Console **(Andrew Crossman)**
       1. Region Selection
       2. Traffic Scenario Selection
       3. Driver Generator
       4. Simulation Runtime Execution
       5. Traffic Activity Display
    2. GUI
       1. Smartphone Application (w/ *Figures (screenshots)*) **(Andrew McKnight)**
* GUI: Login
* GUI: New/Edit Route
* GUI: Route Tracer
* GUI: Travel Map
* GUI: End of Trip
* GUI: Delay Notification
  + - 1. Simulation Console (figures)…………….(**TO DO, Andrew Crossman**)
  1. Performance Requirements
     1. Database Read/Write Speed **(Nick MacLeod)**
     2. Smartphone Resource Management **(Sujani Godavarthi)**
     3. Wireless Data Transmission Speed/Fidelity **(Binh Dong)**
     4. Algorithm Efficiency **(Andrew McKnight)**
     5. Simulation Demonstration **(Andrew Crossman)**
  2. Assumptions and Constraints **(Collaborative)**
     + Assumptions: Driver base

*Table: Assumptions Table*…………………………**(NEEDS EDIT)**

* 1. Non-functional Requirements **(Sujani Godavarthi)**
     1. Security
     2. Maintainability
     3. Reliability
        1. Server Uptime/Redundancy