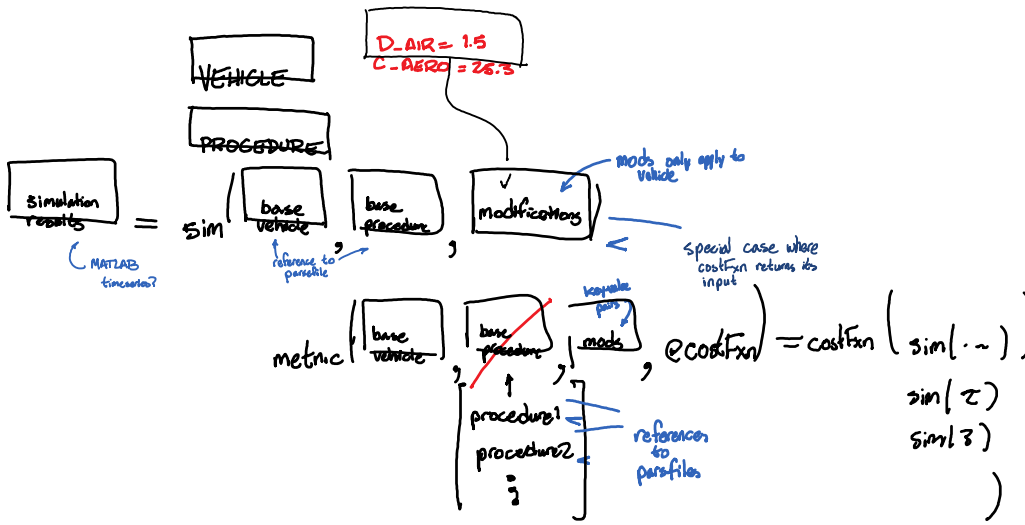
BikeSim / CarSim stuff

Saturday, November 08, 2014 3:14 PM

- BikeSim utility
  - Both teams have an interest in using BikeSim/CarSim to predict competition performance (lap times)
  - BikeSim/CarSim as-is are not good at predicting lap times
    - Greg says that driver model is inadequate for competition performance prediction
  - Current goal: set up a framework for MATLAB/BikeSim based optimization
  - Next step: develop a method for competition performance prediction
    - This will require improving driver model or being creative with procedure generation



Need to:

- Figure out what format "simulation results" block above should be
  - MATLAB time series?
  - Structure of MATLAB timeseries es?
  - Structure containing all output variables
  - In general, all variable + parameter naming should be identical to the naming used inside BikeSim/CarSim
- Determine format for sim() arguments
  - How will "base vehicle" and "base procedure" be referenced?

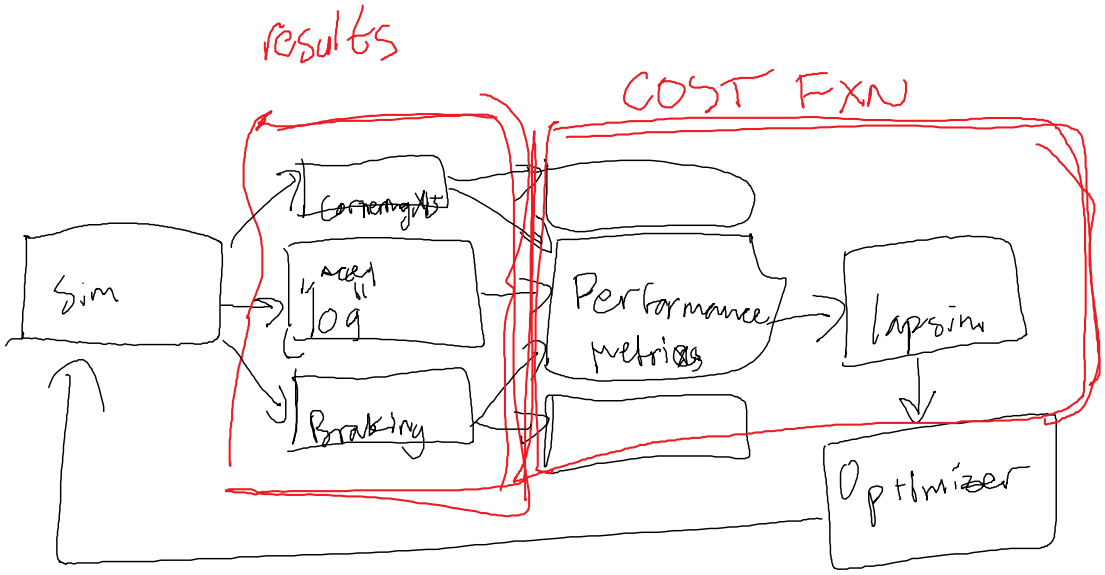
- Document the parameters and functionality we decided on today
  - Documentation goes in GitHub Wiki
- Software responsibility : "mostly Sean"
- Give Greg *extremely limited* access to BC GitHub

Timeline:

- Greg requests by Feb
- Brody requests "ASAP"
  - Specifically, sim() would be useful ASAP
- NOV 22: documentation complete
  - Function prototype
    - All arguments and format
    - Data type and format of function return value
  - Structure of cost function
    - Description of arguments that will be provided to cost function
    - Very basic function template
- DEC 1: v. 0.1 functional
  - Sim() and metric() functions
  - "Demo" costFxn(): does something simple to demonstrate the functionality of costFxn

Notes on dynamic programming of course speed profile

Saturday, November 15, 2014 4:03 PM



results =

Procedure1 struct

Procedure.velocity timeseries

Procedure.accel