UDACITY

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PROJECT SPECIFICATION

Model Predictive Control (MPC)

Compilation

CRITERIA	MEETS SPECIFICATIONS
Your code should compile.	Code must compile without errors with `cmake` and `make`. Given that we've made CMakeLists.txt as general as possible, it's recommend that you do not change it unless you can guarantee that your changes will still compile on any platform.

Implementation

CRITERIA	MEETS SPECIFICATIONS
The Model	Student describes their model in detail. This includes the state, actuators and update equations.
Timestep Length and Frequency	Student discusses the reasoning behind the chosen *N* (timestep length) and *dt* (timestep frequency) values. Additionally the student details the previous values tried.
Polynomial Fitting and MPC Preprocessing	A polynomial is fitted to waypoints. If the student preprocesses waypoints, the vehicle state, and/or actuators prior to the MPC procedure it is described.
Model Predictive Control with Latency	The student implements Model Predictive Control that handles a 100 millisecond latency. Student provides details on how they deal with latency.

Simulation

CRITERIA	MEETS SPECIFICATIONS
The vehicle must	No tire may leave the drivable portion of the track surface. The car may not pop up onto ledges or

successfully drive a lap around the track.	roll over any surfaces that would otherwise be considered unsafe (if humans were in the vehicle).

Student FAQ