User Mode: Driver Mode

Actors	Driver
Description	The Driver Identifies themself to the interface, allowing adjustments in speed to be entered The System no longer allows adjustments to Kp and Ki to be entered
Data	All current input states will be passed User variable will be updated
Stimulus	User toggle button pressed by the Driver
Response	"Mode: Driver" displayed
Comments	N/A

User Mode: Engineer Mode

Actors	Engineer
Description	The Engineer Identifies themself to the interface, allowing adjustments in speed to be entered The System no longer allows adjustments to Speed to be entered
Data	All current input states will be passed User variable will be updated
Stimulus	User toggle button pressed by the Driver
Response	"Mode: Engineer" displayed
Comments	N/A

User Tasks: Match Command and Current Speed

Actors	Driver, Train Model
Description	The Train Model sends the intended Speed of travel to the Driver, at which point he should adjust the Current speed to reflect said Command Speed while in Manual Mode While in Automatic Mode, the Command Speed should be input as the Speed input that the Driver would normally control When Speed is 0, station arrival is assumed, and announcement is made
Data	The Speed value will be adjusted The Error values will change to reflect the speed change The Power values will be recalculated based off these new error values

Stimulus	Speed input buttons, input Command Speed from Train Model
Response	"Speed: ##" displayed, Power value updated and sent to the Train Model
Comments	Only available in Driver Mode

User Tasks: Address Passenger Comfort

Actors	Driver
Description	The Driver is able to adjust the internal car temperature for the passengers
Data	Temperature value
Stimulus	Temperature input buttons
Response	"Temperature: ##" displayed Send to Train Model
Comments	Engineer has option to perform this action, but assumed that the driver would be doing so

User Tasks: Basic Safety

Actors	Driver, Train Model
Description	Driver is able to adjust the on/off inputs for basic train needs • Tunnel Lights on or off • Left Door on or off • Right Door on or off • Automatic Control on or off • Hand Brake on or off
Data	All current input states for non-integer inputs will be passed
Stimulus	Any toggle button: Lights, Left Door, Right Door, Mode Selection, Hand Brake
Response	The updated state displayed i.e. "Left Door: Open" Send new states to train model
Comments	Engineer is also able to activate these, but assumed Driver would be doing so Automatic/Manual not reported to Train Model

User Tasks: Emergency Safety

Actors	Driver, Train Model
Description	Driver is able to adjust the on/off inputs for basic train needs

	• Emergency Brake on or off
Data	All current input states for non-integer inputs will be passed
Stimulus	Emergency Brake button
Response	The updated state i.e. "Emergency Brake: On" send updated state to train model
Comments	Engineer is also able to activate these, but assumed Driver would be doing so If Speed is 0, and E-Brake is on, the station will not be assumed to have been arrived at

User Tasks: Adjust Power Calculations

Actors	Engineer, Train Model
Description	Engineer is able to input new Kp or Ki values if power calculation is not correctly matching the command speed
Data	Kp value Ki value
Stimulus	Kp input buttons Ki input buttons
Response	The updated state displayed i.e. "Kp: ##" Power calculation sent to Train Model
Comments	If Driver mode is select, these inputs will not be allowed or accepted