# HIC Group Project – Smart Car Interface Application

Colby Reinhart, Vanessa Sanders, Jayden Stearns

Purpose:

The purpose of this application is to serve as an interface between a “smart” car and a driver. A smart car refers to the new generation of automobiles whose flagship features include self-driving, fully-electric power, and maximum onboard computer integration. The smart car is similar to today’s Tesla cars. This application will oversee handling most of the range of interface options a driver has when operating a smart car, from climate control to audio streaming to navigation. This application will be responsible for handling both the driver and central dash displays.

# Home Screen:

The purpose of this screen is to act as the first screen that users see. This screen will have all of the other locations as options from this screen. It is also meant to be able to handle having all of the information that a driver might need even while he is managing multiple applications at once, such as maps and music simultaneously.

The map at the top would actually have a live map running and directions on the side. The other buttons below are links to the other screens, and then the essentials bar will have access to go home and to music and heating and cooling.

The 8 golden rules that apply are:

**Consistency** in the buttons shapes and outlines as well as with the overall color palette and placement of main content and the essentials bar.

There are **shortcuts** for playing and pausing music and heating and cooling.

**Reducing short term memory load** because the buttons are big and there are only five of the main ones.

You can easily go home so there is a **reversal of actions.**

This is the **internal locus of control** that lets users guide the process.

There would be **informative feedback** such as the play button turning to a pause and visa versa as well as the page changing when they go to a certain location.

# Phone Contacts:

The purpose of this screen is to allow the user to see their phone contacts that they have set up with their car and choose to voice message, call or delete them from the display screen.

We still have the essentials bar as well.

The 8 golden rules that apply are:

**Consistency** in the buttons shapes and outlines as well as with the overall color palette and placement of main content and the essentials bar and each contact is consistent.

**Reducing short term memory load** because there are very few options that we allow a user to do with the phone contacts.

I also alternated colors to allow distinctions.

You can easily go home so there is a **reversal of actions.**

This is the **internal locus of control** that lets users guide the process.

This is a confirmation **dialogue box to yield closure** that appears for this screen when you click to call or message.

There would be **informative feedback** such as the play button turning to a pause and visa versa as well as the page changing when they go to a certain location.

# Stats Screen:

This screen is meant to act as a place to check your tire pressure and battery life and other statistics about your car such as miles traveled in the month etc.

The 8 golden rules that apply are:

**Consistency** because the color scheme and then the layout of the screen as well as the image used for the car representation.

You can easily go home so there is a **reversal of actions.**

**Reducing short term memory load** because there are very few options and we try to cluster everything so that it is easy to get the specific statistics information that we are looking for.

Audio Screen:

The audio screen serves as an enhanced and more powerful interface for audio-related settings. A basic media player interface that allows the driver to control the volume and current song playing will be present from all screens, but this screen specifically presents more information and control, such as playlist selection and sound settings. This page is accessible from anywhere in the application by clicking on the currently song playing or by navigating to it through the home screen.

The 8 golden rules that apply are:

**Consistency:** The color scheme is consistent with the rest of the pages. The essentials bar is located in the same locations as other screens and has an identical layout.

**Support internal locus of control:** This page allows for advanced manipulation of audio-related settings and serves as a locus of control for such settings.

**Reduce short-term memory load:** This page does not ask the user to remember anything except the relative location of buttons, which remains consistent. The current song playing is always displayed so that the user does not have to remember the name of the song or album.

**Permit easy reversal of actions:** Every action on this page can be easily reversed with a single button click or setting change. A skipped song can be returned to, the bass intensity can be re-adjusted, and the page can be easily accessed from the home screen if it is left.

**Offer informative feedback:** This application will use a touchscreen interface in a real environment. To make this touchscreen sensible and keep the driver’s eyes on the road, every valid click on the screen which successfully creates action will be accompanied by a “click” sound.

Settings Screen:

The settings screen is where general settings related to the smart car will be manipulated. Any settings which intuitively make sense on other screens will be placed on those screens as well, but regardless this screen will allow access and manipulation to every setting which the user is permitted to interface with.

The 8 golden rules that apply are:

**Consistency:** The color scheme is consistent with the rest of the pages. The essentials bar is located in the same locations as other screens and has an identical layout.

**Offer informative feedback:** This application will use a touchscreen interface in a real environment. To make this touchscreen sensible and keep the driver’s eyes on the road, every valid click on the screen which successfully creates action will be accompanied by a “click” sound.

**Permit easy reversal of actions:** Every action on this page can be easily reversed with a single button click or setting change. All setting toggles can be reset and anything which is altered can be reverted. This page can be easily returned to from the home screen if accidentally exited from.

**Support internal locus of control:** This page serves as the central locus of control for the entire application. Every setting and/or adjustment which can be made in this application is accessible from here.

Driver Dashboard

This screen is different from the other screens in the following ways: it appears on a separate screen behind the steering wheel instead of on the central console and persists regardless of what state the central console is in. This screen serves as the traditional dashboard for the driver and displays things such as battery level (assuming this is an electric car), current speed, current speed limit, fuel economy, the current song playing, and other features. Things that appear on this screen are contextual to both the state of the main application being interfaced from the central console and to the controls on the steering wheel of the car.

The 8 golden rules that apply are:

**Consistency:** The color scheme is consistent with the rest of the application.

**Permit easy reversal of actions:** Any input which is applied to this screen can be reversed immediately. Windshield wipers can be turned on/off, cruise control can be freely toggled, etc.

**Support internal locus of control:** Following the general theme of the rest of the application, this screen (corresponding to the controlling steering wheel) allows for control of the more mechanical-oriented features of the car, such as the gas/brake, steering, windshield wipers, headlights, etc.

**Reduce short term memory load:** The immediate and important state of the car, such as the current speed, whether high beams are on, if cruise control is set, and other things are immediately visible from this dashboard. The user does not have to remember how fast the car is going or what important features are turned on or off.