

# Retrofit Car



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# Introduction

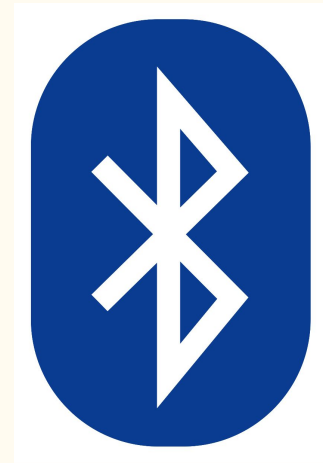
Almost all old cars lack features and lag behind modern technology. People replace their working vehicles all the time while they still work in favor of one with newer and increased features. Rather than buying a whole car it is smarter to add features to old cars. A possible solution is an all in 1 user interface that could add multiple features and improve an older vehicle or one that simply lacks features. This is more environmentally friendly than simply getting a whole new car. In the following presentation we will describe a UI that can add and improve features.

# Problem Description

Some older cars don't have certain features:

- bluetooth connectivity for music
- backup cameras
- trip mileage

What if we could add these features to a car?



# Proposed Solution: A UI System for Old Vehicles



# Proposed Solution: A UI System for Old Vehicles



Proposed Solution: New and Improved!



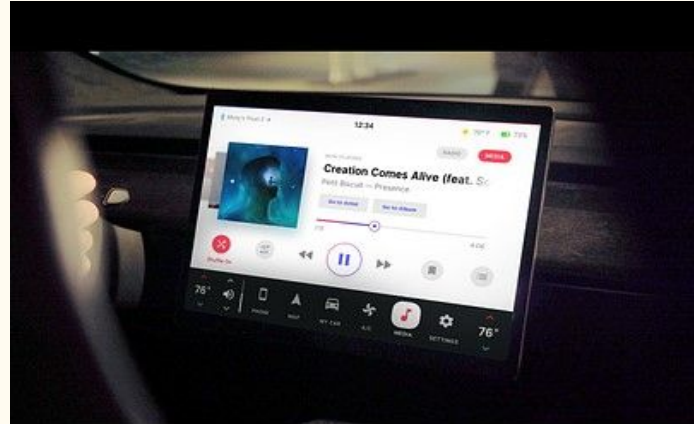
# On a more serious note...

- Our project, Retrofit Car, is a display UI system that displays a multitude of features, all accessible by touch!
- The car itself will be the power source for many of our components. Most components will be wirelessly connected to the UI display
- Your Next Driving Companion!



# Demonstrated Features

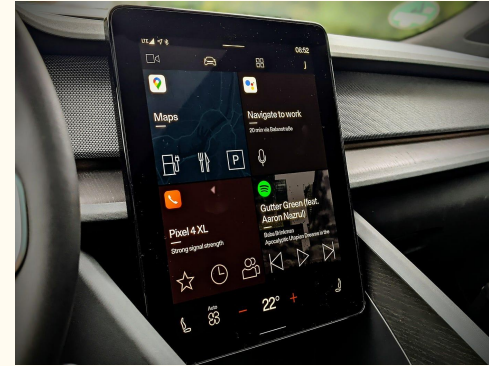
- UI
  - Screen options: (1) Main screen, (2) Audio Screen, (3) Backup camera screen
- Back-up camera
- Bluetooth/Audio Output
- Accelerometer
  - Detecting crashes
- GPS
  - Tracking Speed
  - Mileage
- Other possibilities → Proximity Sensors, auto windshield wipers, engine temp, oil pressure





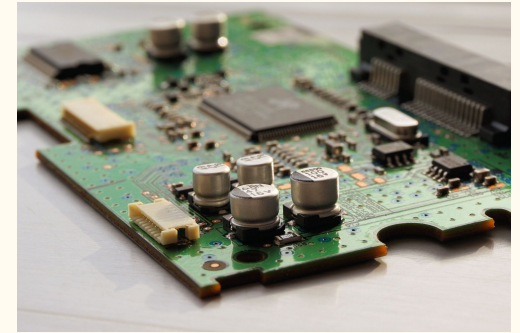
# Available Technologies

- Touch Screen Display
- GPS
- Bluetooth
- AM/FM Radio



# Engineering Content

- The first engineering hurdle is finding suitable parts for GPS, temperature, audio amplification and other components we may need to enable all functionality.
- The next thing after finding all sensors, amplifiers and components is to combine them in a compact board that is powered by 12V of a car battery.
- Also need to find a suitable UI screen that can display all information and must design the UI in a highly functional way as to work well with driver of vehicle.



# Engineering Content Cont.

- Once the board is made, the next step is to connect all components and test each component separate from the UI screen.
- Lastly is to combine all sensors and features to be displayed or interact with the UI and processor.
- Throughout these steps there will be back tracking and more testing in small loops until each step is accomplished to the best of our ability.



# Conclusions

This project has promise to be a streamline package that can be added to any vehicle to upgrade the current features. This can save people time and money by combining all features into 1 package. The retrofit can also push people towards keeping their cars longer and therefore extended the use of a car and helping the environment.