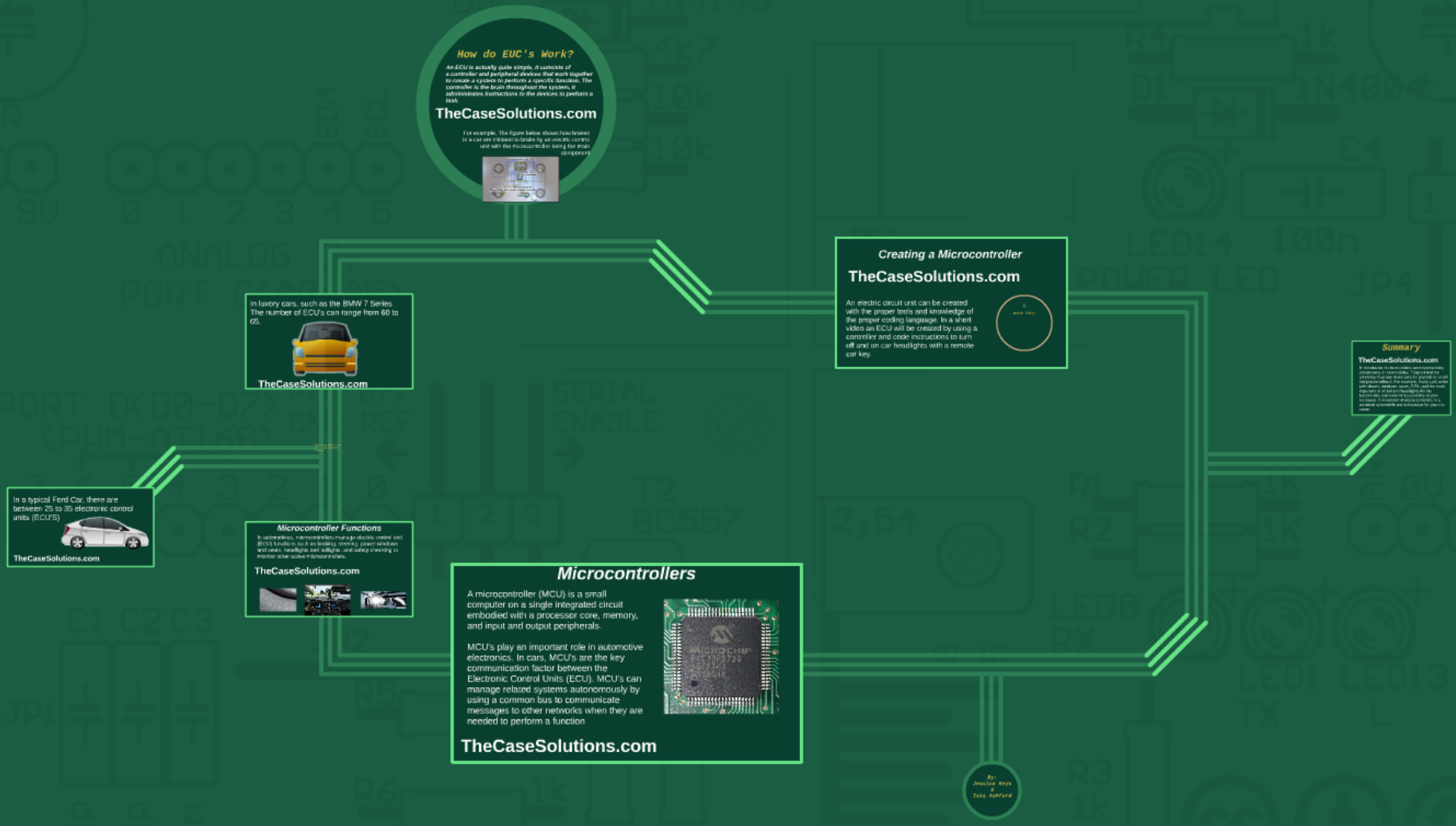
Peixe Urbano (A) - The Ride Up The Roller Coaster



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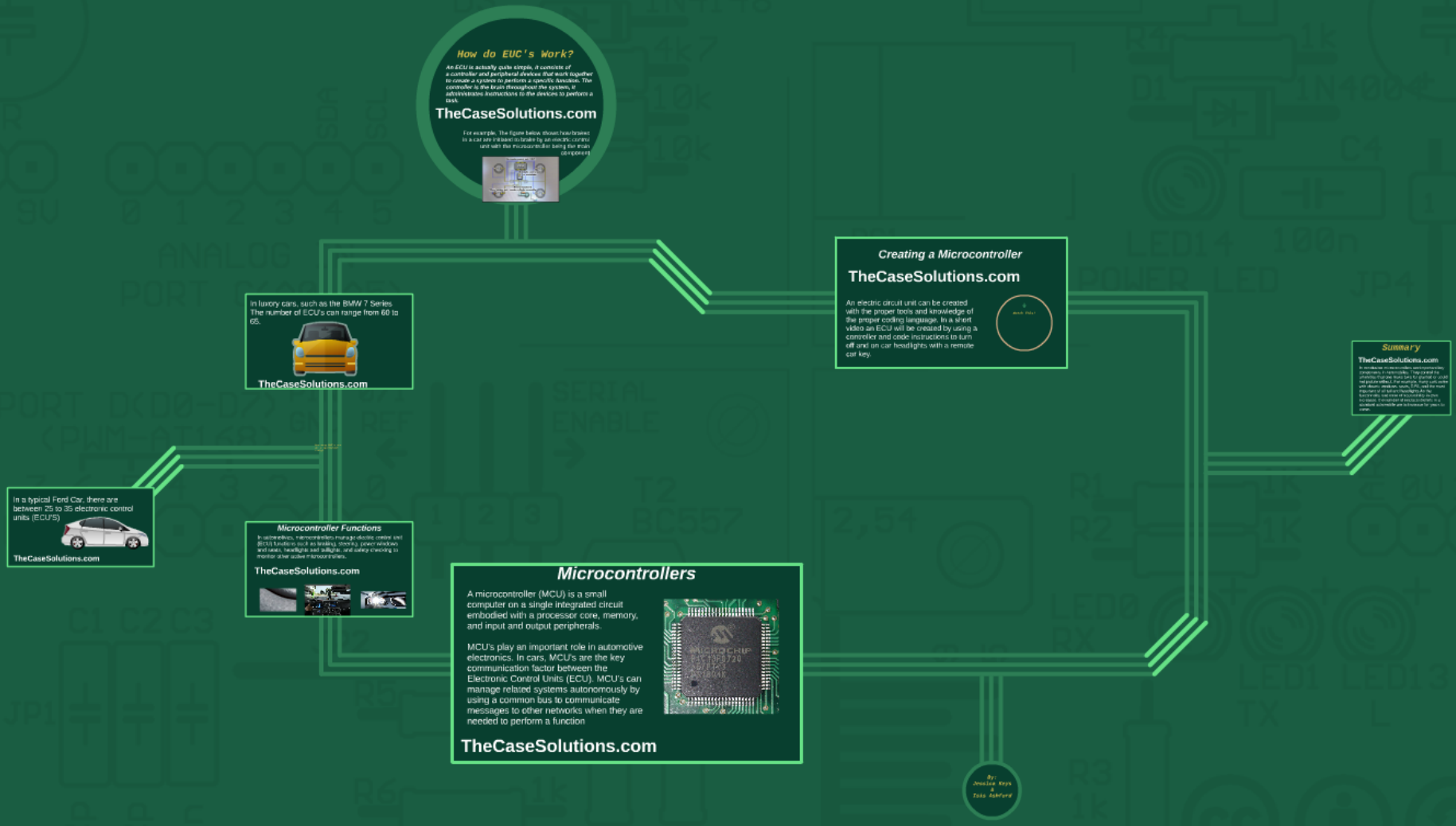

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Microcontrollers

A microcontroller (MCU) is a small computer on a single integrated circuit embodied with a processor core, memory, and input and output peripherals.

MCU's play an important role in automotive electronics. In cars, MCU's are the key communication factor between the Electronic Control Units (ECU). MCU's can manage related systems autonomously by using a common bus to communicate messages to other networks when they are needed to perform a function

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How do EUC's Work?

An ECU is actually quite simple, it consists of a controller and peripheral devices that work together to create a system to perform a specific function. The controller is the brain throughout the system, it administrates instructions to the devices to perform a task.

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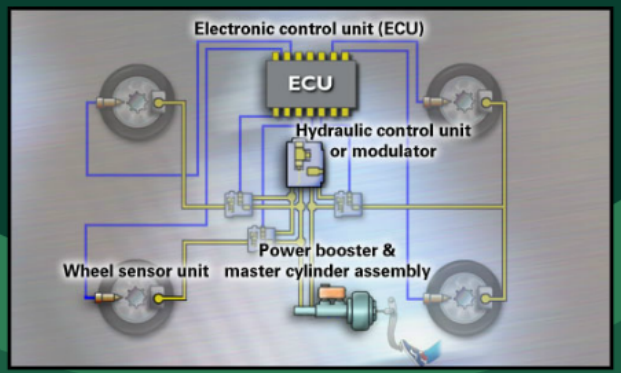
For example, The figure below shows how brakes in a car are initiated to brake by an electric control unit with the microcontroller being the main component



Summary

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In conclusion microcontrollers are important key components in Automobiles. They control the amenities that one make take for granted or could not picture without. For example, many cars come with electric windows, seats, GPS, and the most important of all tail and headlights.As the functionality and ease of accessibility in cars increases, the number of microcontrollers in a standard automobile are to increase for years to come.

Creating a Microcontroller

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An electric circuit unit can be created with the proper tools and knowledge of the proper coding language. In a short video an ECU will be created by using a controller and code instructions to turn off and on car headlights with a remote car key.

In luxory cars, such as the BMW 7 Series The number of ECU's can range from 60 to 65.

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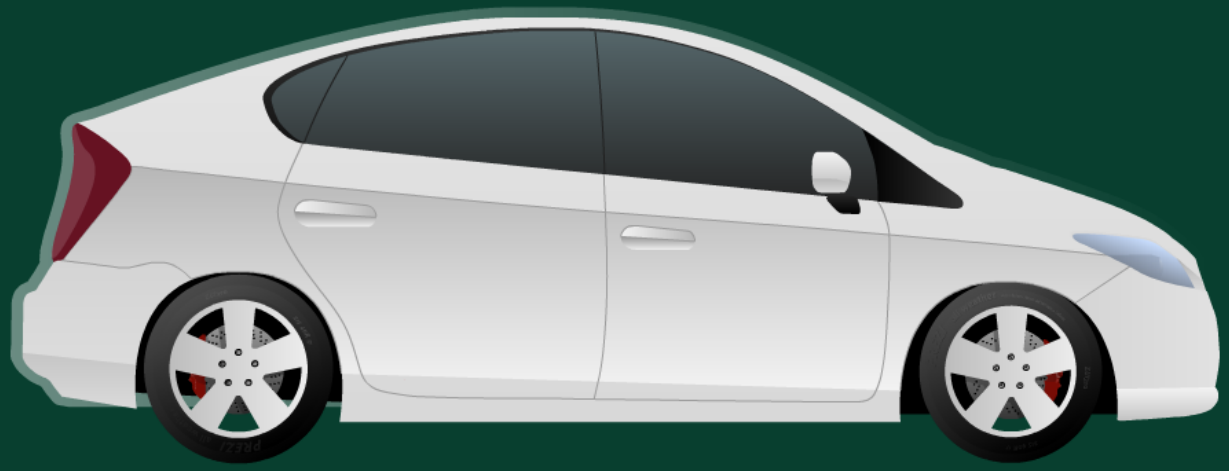
In a typical Ford Car, there are between 25 to 35 electronic control units (ECU'S)



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Microcontroller Functions

In automotives, microcontrollers manage electric control unit (ECU) functions such as braking, steering, power windows and seats, headlights and taillights, and safety-checking to monitor other active microcontrollers.

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