American International University – Bangladesh
Faculty of Engineering
Department of EEE & CoE

MICROPROCESSOR & EMBEDDED SYSTEM PROJECT PROPOSAL

SEMESTER: Fall 2021-2022

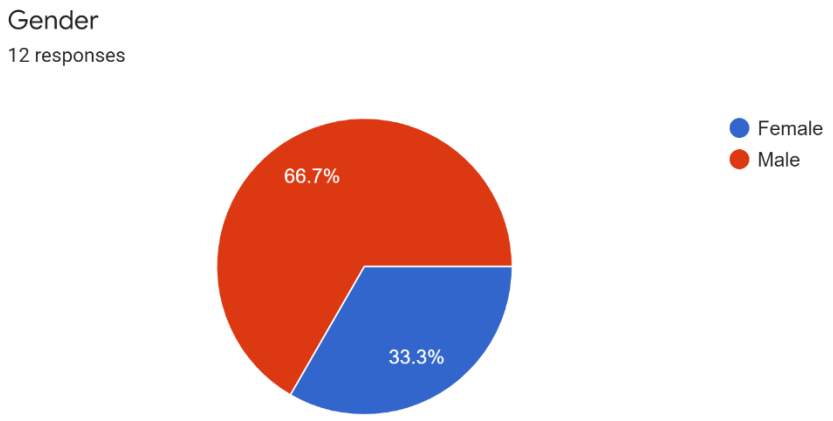
PROJECT TITLE: An implementation of a Self-driving vehicle using Arduino Uno.

Survey to develop process for complex engineering problems considering cultural and societal factors (use pie chart):

Survey:https://docs.google.com/forms/d/e/1FAIpQLSedXP7CCCpb_zH0CkUY9ixK3w7fXzIFf82IYJ9B4TgC5n4aiw/viewform?usp=pp_url

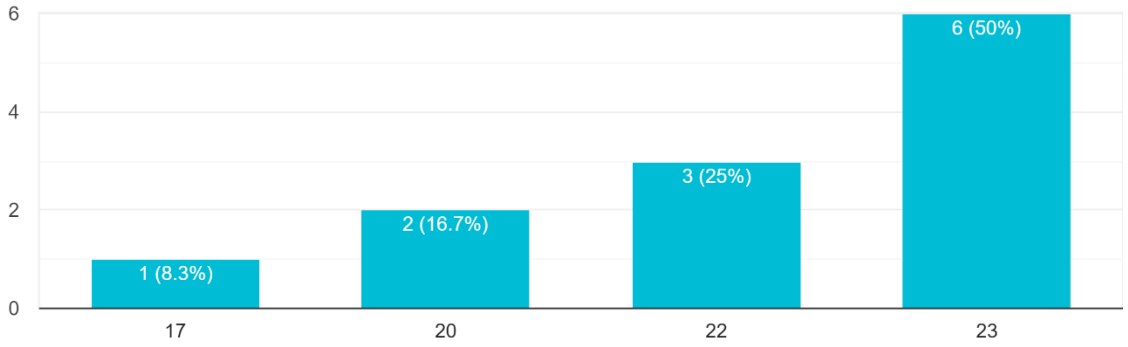
In the project we find some social and environmental impact using this survey. It can be a while earlier than self-riding vehicles are extensively widespread in our shipping structures and visible on the market at purchase right here pay right here car dealerships. But as self-riding vehicles come to be greater famous and networked, the variety of street crashes will decrease. The risk of human mistakes because of distraction or inebriated riding is minimized, saving tens of thousands and thousands of lives and tens of thousands and thousands of dollars.

Pie chart for the survey response of our project are shown below:



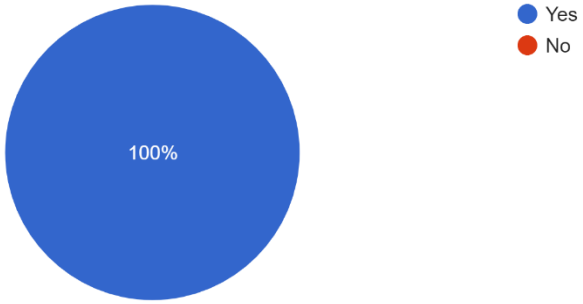
What is your age?

12 responses



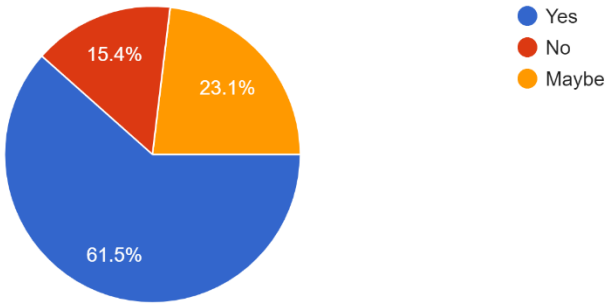
Do you think this device are helpful for automobile?

12 responses



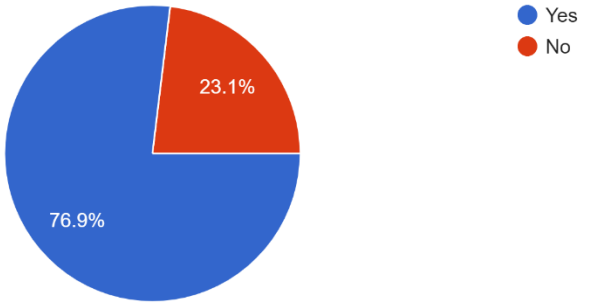
Do you think this project are replaced existing device?

13 responses



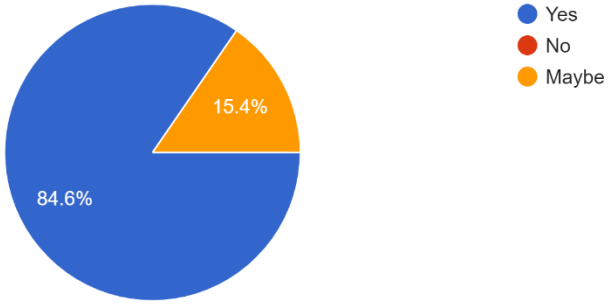
Do you think this device are helpful for all ages people?

13 responses



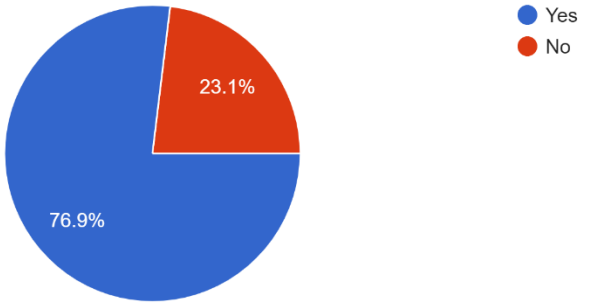
Do you think proposed device give us financial benefit?

13 responses



Do you think its maintenance and monitoring is not risky?

13 responses



GOALS AND BENEFITS OF PROJECT

Goals and Benefits driving Car:

Every time in vehicle to move everywhere, there are operating on accomplishing a goal. There is someplace need to be, so if take motion to get there. The 3 primary matters that get wherein are need to move **while using Specific Destination, Directions Tracking Progress**. These need to have 3 matters to attain any goal.

Specific Destination

Before even entering into vehicle, need to have acknowledged wherein are going. Unless have a selected vacation spot, there are simply transferring the auto and losing fuel line. There is not something specifically incorrect with this; a few humans revel in simply using round and searching on the scenery. But if need to get someplace, need to recognize wherein are going.

When placing goals, need to recognize precisely what its miles that wanted. Get a clean photograph of it in mind. If it is a brand new job, photograph in that job. If it is extra money, visualize that month-to-month financial institution statement. Imagine what going to sense likes whilst you attain something its miles striving for. Write it down, like might write down the deal with of a residence there are travelling for the primary time.

Directions

If that is a vacation spot had been to earlier than the guidelines might not be perfect, and regularly they are not. "It's both the second one light, I cannot recall which," is something regularly heard while getting using guidelines. But its miles get the satisfactory guidelines. Goal placing is the same.

Tracking Progress

It wasn't the second one light, it become the fourth. take a look at the map, pull into the closest fuel line station, or make a tele cell smart phone call. Try to get returned on tune. But don’t provide up! Don’t flip round at the primary closed avenue and pass returned home, saying "I did not really need to get there anyway." If this have been to show up, in no way get everywhere hadn't been earlier than, and lifestyles might be quite limited. Even if I must head all of the manner returned home, I begin again. Eventually, get to that vacation spot.

Don't end on goals, both. There can be setbacks, lifeless ends, even vehicle accidents. But recollect with a view to in no way get there if do not maintain taking motion and transferring closer to vacation spot. When that prospect says no, it is now no longer a failure; it is every other mile below their belt. When not anything appears to show up for an extended length of time, simply getting toward that subsequent landmark.

Benefits of Self-Driving Cars:

1. Environmentally Friendly

Most driverless vehicles to be delivered within side the destiny might be electric powered automobiles. We can nearly without a doubt classify those automobiles as ‘green’. Technology utilized in self-riding vehicles guarantees that gasoline intake might be optimized. This ought to bring about dramatically lowering emissions. The riding protocol of self-reliant

vehicles protect in opposition to immoderate pace and keep away from repeated braking and re-accelerating, lowering the quantity of emissions launched into the surroundings as compared to a car pushed through an infallible human.

2. Improved Safety

It can be a while earlier than self-riding vehicles are extensively widespread in our shipping structures and visible on the market at purchase right here pay right here car dealerships. But as self-riding vehicles come to be greater famous and networked, the variety of street crashes will decrease. The risk of human mistakes because of distraction or inebriated riding is minimized, saving tens of thousands and thousands of lives and tens of thousands and thousands of dollars.

Self-riding vehicles are anticipated to keep treasured lives which can be misplaced each day because of immoderate dashing or riding the effect of alcohol. Estimates imply that almost 1.3 million humans lose their lives in street injuries international each year. A self-reliant vehicle does away with guide controls and removes fatalities due to human mistakes.

3. Car Sharing

We may also see towns circulate to a machine wherein humans not generally personal vehicles, rather calling up using a self-riding vehicle best once they want it. Cars might be pooled collectively as a public service. There might be no want for vehicle garages, and those might not want to fear approximately ongoing renovation and restore in their personal car.

4. Better Mobility

Many humans are not able to power a car due to age, disability, or restrained mobility. They cannot procure a riding license, and might discover themselves feeling isolated. Fully-automatic vehicles show to be a boon for such humans, permitting them to reclaim their freedom whilst making sure that lives will now no longer be endangered.

5. Faster Commutes

One of the largest blessings of driverless vehicles that we are able to foresee is a dramatic discount in visitors jams that account for delays in commuting. Self-riding vehicles might be capable of talk with different vehicles at the street. As braking capabilities may be absolutely automatic, nose-to-tail crashes can in large part be avoided. Cars will journey at secure distances from one another. Speed limits also can be accelerated as we advantage better self-assurance in our automobiles.

6. Better Use of a Driver's Time

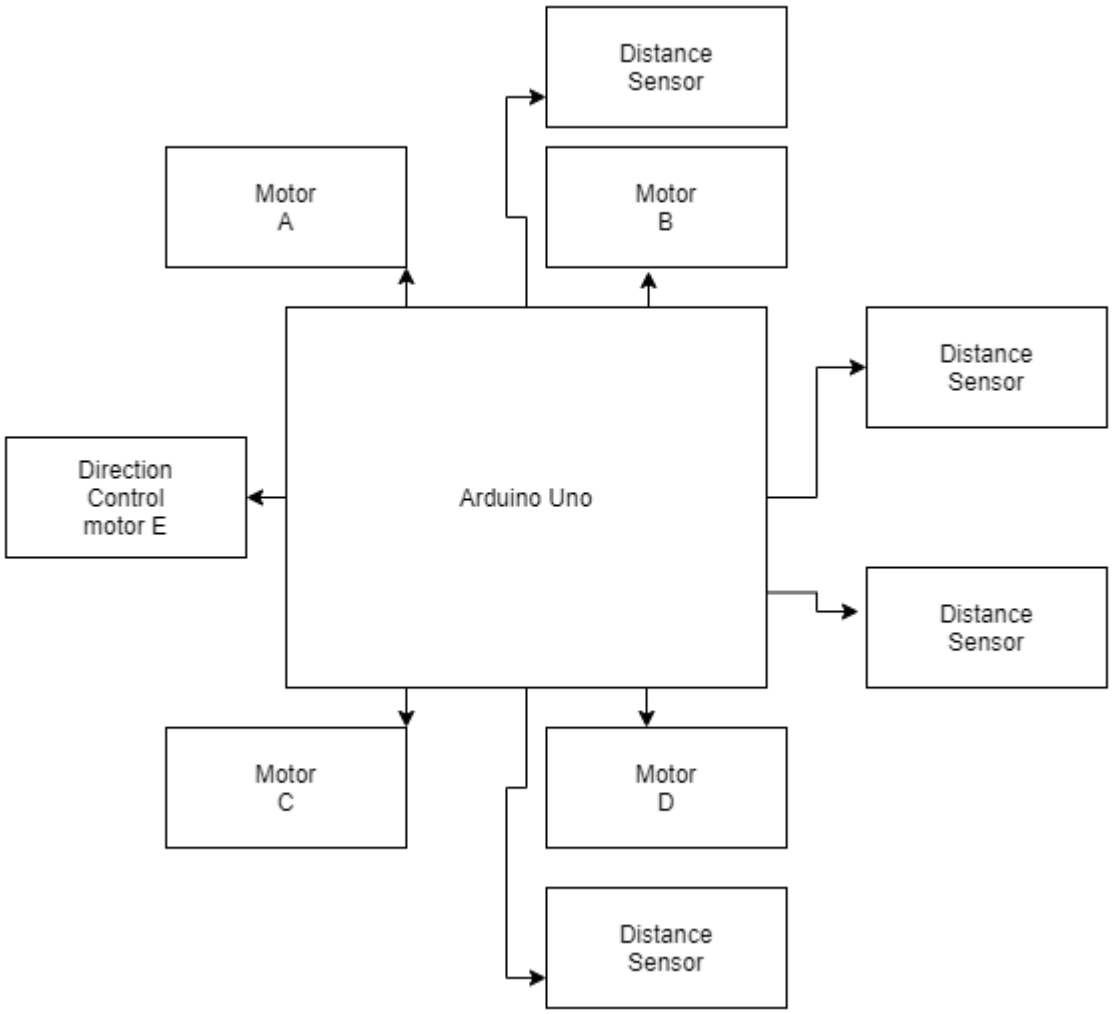
Normally, a driving force needs to be very alert whilst riding a vehicle. While commuting to and from work, he has to attention completely on riding. With self-riding vehicles, the passenger can gainfully make use of the time spent commuting.

7. Better Traffic Management

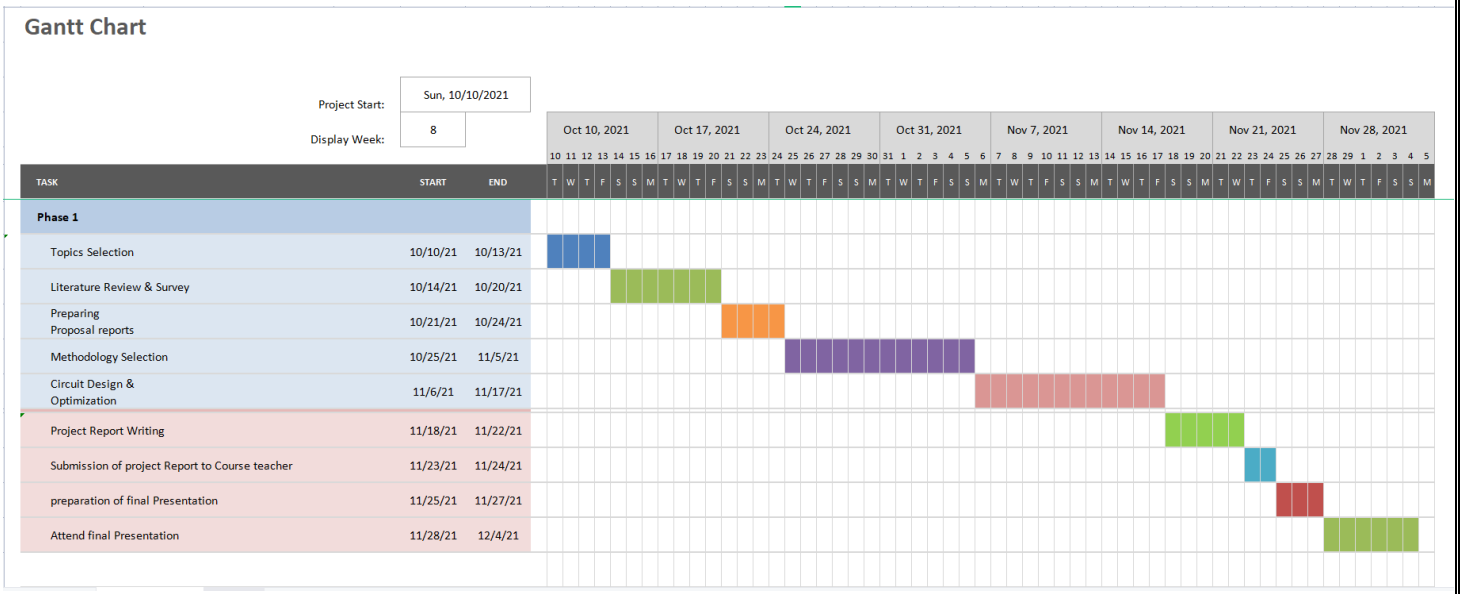
According to estimates, city American drivers spend almost seven billion hours in visitors, losing as much as three.1 billion gallons of gasoline, ensuing in a lack of approximately $one hundred sixty billion from visitor's congestion. Self-riding vehicles can get right of entry to virtual maps, real-time and correct visitors data. Using this data, they'll

efficaciously pick out the excellent feasible route. The apparent advantages that might end result are much less visitors and congestion, with reduced wastage of gasoline and time.

EXPERIMENTAL BLOCK DIAGRAM:



PROJECT TIMELINE (GANTT CHART):



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REMARKS (for OFFICE use only)