

Final project

Group members:

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Kilder(egne ord)

Hjem side

Speed, drunkenness, and distraction are three obstacles on the road that leads to fatalities in our cars. Accordingly, we aim to address these major challenges through a new and extremely unique innovation that aims mainly to reduce the occurrence of the disaster or arrive in a timely manner for assistance and survival.

Due to the increase in the number of car accidents that are claiming the lives of many, it has become necessary to develop some safety specifications in cars and provide them with systems that will reduce the occurrence of traffic accidents and reduce their risks if they occur. Some developed countries have recorded a decrease in the death rate in recent years due to the advanced technologies and safety systems witnessed by modern cars. This prompted us to create our (safety Drive) system or application.

Current problem:

Safety Drive application.

Many traffic accidents happen in the world every day. There are many reasons behind these traffic accidents such as lack of attention, falling asleep, sudden heart attacks, or driving under the influence.

This means that we need to invest the artificial intelligence to help reduce traffic accidents in the world and secure drivers while driving.

The situation is more dangerous when a traffic accident occurs in areas far from traffic, so death may occur for trivial reasons such as that the driver needed first aid.

Safety Drive is the car's indispensable safety system, as the system contributes to saving lives when the car is exposed to violent accidents, and its importance lies in protecting the driver from his physical symptoms, the most important of which are heart rotation and heartbeat, and the driver's protection from car accidents.

How does the Safety Drive system work?

Safety Drive is an application that is installed on the automotive system so that it is linked to it and helps it to save important information related to the safety of the driver. Safety Drive is associated with government departments such as hospitals, police, fire station, traffic, and auto repair shops.

The idea of the new system is based on the presence of some sensors in the car that analyze the data after an accident of the car and then send it automatically to the emergency center directly through the car, which helps to speed up the arrival of ambulances, fire truck, or police car to the site of the accident instead of traditional methods and waiting for A person to report a traffic accident.

Safety Drive automatically sends some data, such as the location of the vehicle, the severity of the accident and the resulting damage, in addition to the users' condition and measuring the heart rate through the pulse sensors on the steering wheel, to the central information store, which in turn receives this data and sends it to the nearest ambulance to rescue the wounded

The procedures that the Safety Drive system takes before calling

Automatic emergency braking ABS.

Using front cameras and radar, the safety duration will trigger an automatic emergency braking that warns the driver of an imminent frontal collision with another vehicle, pedestrian, or something, then our app will break the car on behalf of the driver if no action is taken.

Driver alert system in case of feeling drowsy while driving:

As this system monitors the driver's attention and alertness level, by measuring the number of heartbeats that increase when feeling sleepy, for example, or monitoring the movement of the car and the extent of its deviation, so alerts the driver of the need to take breaks while driving, through a set of voice messages that the system launches, but if these alerts are not useful, as the system automatically tightens the seat belts, and in critical driving situations and stop the vehicle automatically.

the app's features:

There is also a feature in this app to ensure the driver's protection and health. This app contains the driver's complete health file, which emergency and paramedics and doctors can rely on to know the driver's condition. In addition to this, the app contains an emergency call feature in the event of an accident on the road, or the driver's health condition was bad such as fainting or dizziness.

In short, this feature allows you to call emergencies in your country, police, or civil protection, utilizing the sense feature on the driver's steering wheel. Which in turn measures the heart rate and pressure rate of each driver, and if the rate changes from normal, the app sends an automatic message with the location of the person whose heart rate changed due to the accident or fainting to the nearest hospital, fire station, or police station.

How to install?

First, you must purchase our products from the store nearest to your city. The product is a USB drive and steering wheel cover that has special sensors to measure the heart rate

To install the app in the car's system, insert the USB drive into the USB port in your car and run the application.

Meanwhile, install our steering wheel cover on the car's steering wheel.

here is a picture that explains how to install the steering wheel cover
The steering wheel cover is working on measuring every driver's heart rate and blood pressure and has a smart technique that remembers every driver's normal health condition and sends an urgent message to the closest hospital or police station in case if something was abnormal.

Enjoy safe driving with our security software that protects you everywhere you go.

Norwegian text:

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Hjem side

Fart, fyll og distraksjon er tre hindringer på veien som fører til dødsfall i trafikken. Til tross av det, fokuserer vi på å håndtere disse store utfordringene gjennom en ny og ekstremt unik innovasjon som hovedsakelig baserer seg på å redusere årsaken til katastrofen eller komme i tide for hjelp og overlevelse.

På grunn av økningen i antall bilulykker som tar mange menneskers liv, har det blitt nødvendig å utvikle noen sikkerhetsspesifikasjoner i biler og gi dem systemer som vil redusere årsaken til trafikkulykker og redusere risikoen hvis de inntreffer. Noen utviklede land har registrert en reduksjon i dødsraten de siste årene på grunn av avanserte teknologier og sikkerhetssystemer som moderne biler har sett.

Dette fikk oss til å lage vårt (Safety Drive) system eller applikasjon.

Problemstilling

Det er mange trafikkulykker som skjer i verden hver dag. Det er mange grunner bak disse trafikkulykkene, som mangel på oppmerksomhet, kjøring i påvirket tilstand, plutselige hjerteinfarkt eller sovne mens du kjører.

Dette betyr at vi må investere kunstig intelligens for å redusere trafikkulykker i verden og sikre sjåfører under kjøring.

Situasjonen er farligere når en trafikkulykke inntreffer i områder langt fra trafikk, så død kan oppstå av trivielle grunner som at føreren trengte førstehjelp.

Safety Drive er bilens nødvendige sikkerhetssystem, ettersom systemet bidrar til å redde liv når bilen utsettes for voldelige ulykker, og dens betydning ligger i å beskytte sjåføren mot fysiske symptomer, hvorav det viktigste er hjerterotasjon og hjerterytme, og førerens beskyttelse mot bilulykker.

Hvordan fungerer Safety Drive-systemet?

Safety Drive er et program som er installert på bilsystemet slik at det er koblet til det og hjelper det med å lagre viktig informasjon knyttet til sjåførens sikkerhet. Safety Drive er assosiert med offentlige avdelinger som sykehus, brannstasjon, politi, trafikk og bilverksteder.

Ideen om det nye systemet er basert på noen sensorer som finnes i bilen. Disse sensorene analyserer dataene etter bilulykken, og sender dem deretter til beredskapssentralen direkte gjennom bilen, noe som hjelper til med å få raskere ankomst av ambulanser til ulykkesstedet.

Safety Drive sender automatisk data, for eksempel kjøretøyets plassering, alvorlighetsgraden av ulykken og den resulterende skaden, i tillegg til brukernes tilstand og måling av pulsen gjennom pulssensorene på rattet, til den sentrale informasjonen butikk, som igjen mottar disse dataene og sender dem til nærmeste ambulanse eller for å redde de sårede.

Prosedylene som Safety Drive-systemet tar før ringer

Automatisk nedbremsing ABS.

Ved bruk av frontkameraer og radar vil sikkerhetsvarigheten utløse en automatisk nedbremsing som advarer sjåføren om en overhengende frontkollisjon med et annet kjøretøy, fotgjenger eller noe, så vil appen vår knuse bilen på vegne av sjåføren hvis det ikke blir gjort noe.

Sjåførvarslingsystem ved søvnighet under kjøring:

Dette systemet overvåker sjåførens oppmerksomhets- og årvåkenhetsnivå ved å måle antall hjerterytmer som øker når du føler deg søvnig, for eksempel eller overvåker bilens bevegelse og omfanget av avviket. så varsler bilen om behovet for å ta pauser mens han kjører, gjennom et sett med talemeldinger som systemet starter. Men hvis disse varslene ikke er nyttige, strammer systemet automatisk bilbeltene og i kritiske kjøresituasjoner og stopper bilen automatisk.

Appens funksjoner

Det er også en funksjon i denne appen for å sikre førerens beskyttelse og helse. Denne appen inneholder sjåførens komplette helse fil, som beredskap og ambulansepersonell og leger kan stole på for å kjenne sjåførens tilstand.

I tillegg til dette inneholder appen en nødanropsfunksjon i tilfelle en ulykke på veien, eller sjåførens helsetilstand var dårlig som besvimelse eller svimmelhet. Kort sagt, denne funksjonen lar deg ringe nødsituasjoner i ditt land, politi eller sivil beskyttelse ved hjelp av sansefunksjonen på førerens ratt. Som igjen måler hjerterfrekvensen og trykklfrekvensen til hver sjåfør, og hvis frekvensen endrer seg fra normal, sender appen en automatisk melding med plasseringen til

personen hvis hjerterefrekvens endret seg på grunn av ulykken eller besvimelse til nærmeste sykehus, brannstasjon eller politi stasjon.

Hvordan installere?

Først må du kjøpe produktene våre fra butikken nærmest deg. Produktet er en USB-driver og rattdekselet som har spesielle sensorer for å måle hjerterefrekvensen

For å installere appen i bilens system, sett inn USB-stasjonen i USB-porten i bilen din og kjør applikasjonen.

I mellomtiden installerer du rattdekselet på bilens ratt.

her er et bilde som forklarer hvordan du installerer rattdekselet

Rattdekselet jobber med å måle hver sjåførs hjerterefrekvens og blodtrykk og har en smart teknikk som husker hver sjåførs normale helsetilstand og sender en presserende melding til nærmeste sykehus eller politistasjon i tilfelle om noe var unormalt.

Nyt trygg kjøring med sikkerhetsprogramvaren vår som beskytter deg overalt.

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Website's link:

[https://ciwankurd.github.io/Final-project-](https://ciwankurd.github.io/Final-project-EN/index.html?fbclid=IwAR0IaPccdSa8GkisVYf8bIT13O1_XciGi5CUZGUi_sH-_a_53fzSzSTvzUA)

[EN/index.html?fbclid=IwAR0IaPccdSa8GkisVYf8bIT13O1_XciGi5CUZGUi_sH-_a_53fzSzSTvzUA](https://ciwankurd.github.io/Final-project-EN/index.html?fbclid=IwAR0IaPccdSa8GkisVYf8bIT13O1_XciGi5CUZGUi_sH-_a_53fzSzSTvzUA)

Documentation of the process:

- **Identify and Name the Process:** Inova is a new company that needs an accessible website for everyone to showcase the nature of their work and their focus on frugal innovation, and spread their experience with frugal innovation.
- **Process scope:** It was required that we create a website that is easier to access, and put some information on it related to the company, previously mentioned as: information about the company and what they do, information about the staff members, Schedule for all upcoming innovation camps, and contact information.
- **Process Boundaries:** First, we began the task by finding members of the group to work together, and we distributed the roles to everyone. Our primary mission was to create the most accessible website for Inova Company, and it ends when we get an accessibility score of higher than 90% on all pages in the website.
- **Process Outputs:** Once the task is completed, Inova will have the most accessible website.
- **Brainstorming:** We made a brainstorming for the information needed to create this website, and determined what would be required of everyone in the group to get this job done. Fadl, Mohammed, and Nechrvan chose to write the HTML and CSS codes. Henrik chose to write the texts for the informations that is needed to be on the website, where he also chose to be the leader for the group to follow up with the members and help who needs the help. While I, Aya, was documenting and evaluating the process and steps.
- **Organizing:** After everyone has completed their tasks, we gathered all the information and started creating the website.
- **Review and test:** After finishing the website, everyone in the group took a look at it. And each of us gave a feedback about it. Then we tested the website's accessibility on [EIII](#), we got first 85.71% in four pages and 100% in one page, but our goal was to get a score higher than 90% for all the pages. So we made some adjustments to the website and tested it again, and finally got 100% in all the pages.

Step 3:

We started the project first in distributing roles, one person wrote the HTML codes, and two others wrote the CSS codes and chose the appropriate design for the page. And someone else typed the texts we used on the web page, and was the leader as well of the group and following up with everyone in the group and helping those who needed help. The fifth person was documenting and evaluating the process. Everyone in the group chose their own roles and everyone agreed on that and performed it to the fullest. Everyone in the group got enough time to do their part and none of us was stressed. Then we gathered all the information and started creating a web page for our project. First we agreed on the shape and the design of the page. Then we wrote the important elements codes for the page. The Communication between members of the group was somewhat difficult due to the conditions related to the Coronavirus, and some had difficulty agreeing on a date for a meeting, so we chose to do all our meetings through the Zoom app. In the beginning, we faced some difficulties in communicating with each other through Zoom, so there was always a problem hindering the meeting, either a technical problem, or timing. But in the end we tried to choose the appropriate times for everyone and tried to communicate to end the project together. And if one of the members had a question, he would call at zoom and we would respond directly to it. Or if none responded to Zoom, they sent a text message to one of us, and we responded to

it directly. All the group members were understanding, friendly, and liked to help each other, and there was no difficulty or obstacles in communicating with each other.