Ministry of Higher Education

Pyramids High Institute (PHI) for Engineering and Technology





Graduation Project:

Design and Realization of Car Tracking via AI Implementation

Presented By:

Abdelrahman Shrief Sondos Reda

Asmaa Mohamed Mohamed Alaa

Mohamed Hossam Mohamed Nageh

Mahmoud Gaballah Moamen Mohamed

Supervised By:

Prof. Gamal El-Sheikh

Prof. Esraa Al-Rifa

Task	Category	Assigned	Status
Search on available GPS Modules	GPS	Mohamed Alaa	
Search on how to get speed of car	GPS	Mohamed Hossam	
Search on available modules which provide digital compass	GPS	Mahmoud Genesh	
Search on how to save location data in local Server	GPS	Mohamed Alaa	
Search on how to make a Safe Radius zone for the car	GPS	Mohamed Hossam	
Search on how to make a path for the car to go to specific location.	GPS	Mahmoud Genesh	
Make an Arduino code to get let and long data	GPS	Mohamed Alaa	
Apply window size filter to enhance the data	GPS	Mohamed Hossam	
Select Suitable Format of Speed (km per hour or m per sec)	GPS	Mahmoud Genesh	
Select Suitable Module for speed	GPS	Mohamed Alaa	
Test the compass on Self-Driving Car	GPS	Mohamed Hossam	
Make an Arduino code to save data on SD card	GPS	Mahmoud Genesh	
Integrate GPS tracking with Monitoring web application	GPS	Mohamed Alaa	
Make an Arduino code to alert if moves out of the safe zone	GPS	Mohamed Hossam	
Draw the path in web application tracking part	GPS	Mahmoud Genesh	
Search on available SIM modules which provide (2g , 3g or 4g)	GSM	Abdo Shrief	
Select Suitable module with its antenna for our needs	GSM	Sondos Reda	
Make An Arduino code to test AT commands In module	GSM	Abdo Shrief	
Provide a list of useful AT commands	GSM	Sondos Reda	
Make a function to perform AT commands	GSM	Abdo Shrief	
Make a function to Send SMS to Specific numbers	GSM	Sondos Reda	
Make a function to provide call making	GSM	Abdo Shrief	
Test sending message to the owner in case of un- known driver	GSM	Sondos Reda	
Send SMS with location data to the owner if required	GSM	Abdo Shrief	
Make a function to read received SMS	GSM	Sondos Reda	

Send SMS emergency message is network is unavailable Send SMS emergency message is network is unavailable Moke a connection with web endpoints Search on samples of required design Select a demo size and shape for the project Select a demo size and shape for the project Select a demo size and shape for the project Select a demo size and shape for the project Select a demo size and shape for the project Select a demo size and shape for the project Select a demo size and shape for the project Select a demo size and shape for the project Select a demo size and shape for the project Select suitable place or any 3d design apps Search on how to import the battery on design Search on how to import the battery on design Select suitable place for battery and antenna Select suitable place for battery and antenna Select suitable place for battery and antenna Search on some 3d printing places to print the design Search on some 3d printing places to print the design Mohamed Alaa Mohamed Alaa Add turn speed in corners to the Web app S.D. Car Search on how to use Ultrasonic in the car and place them Make an Arduino function to avoid obstacles S.D. Car Sondos Reda Apply obstacles avoidance in path part S.D. Car Sondos Reda Try applying obstacles avoidance in sequence part S.D. Car Sondos Reda Sondos Reda S.D. Car Sondos Reda Asmaa Muhamed Asmaa Muhamed Asmaa Muhamed Provide a suitable model providing Animal detection A.I. Asmaa Muhamed Provide a suitable model providing Car detection A.I. Asmaa Muhamed Provide a suitable model providing Signs detection A.I. Asmaa Muhamed Provide a suitable model providing Signs detection A.I. Asmaa Muhamed			
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Search on samples of required design Select a demo size and shape for the project Start design with blender or any 3d design apps Select a demo size and shape for the project Start design with blender or any 3d design apps Search on how to import the battery on design Search on how to import the battery on design Select suitable place for battery and antenna Select suitable place for battery and antenna Select suitable place for battery and antenna Search on some 3d printing places to print the design Mohamed Alaa Search on some 3d printing places to print the design Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Mohamed Alaa Add turn speed in corners to the Web app S.D Car Moumen Murad Search on how to use Ultrasonic in the car and place them Moke an Arduino function to avoid obstacles S.D Car Moumen Murad Moke an Arduino function to avoid obstacles S.D Car Sondos Reda Apply obstacles avoidance in path part S.D Car Sondos Reda Try applying obstacles avoidance in sequence part S.D Car Sondos Reda Search on available Al models for object detection A.I Asmaa Muhamed Search on Neural Network and how to test and train models Provide a suitable model providing Animal detection Provide a suitable model providing Animal Classification Provide a suitable model providing Car Classification A.I Asmaa Muhamed Provide a suitable model providing Car Classification A.I Asmaa Muhamed Provide a suitable model providing Signs detection A.I Asmaa Muhamed Provide a suitable model providing Signs detection A.I Asmaa Muhamed Provide a suitable model providing Signs detection A.I Asmaa Muhamed	, ,	GSM	Sondos Reda
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	Provide a suitable model providing Signs detection	A.I	Asmaa Muhamed
Classification	Provide a suitable model providing Signs Classification	A.I	Asmaa Muhamed

Provide a suitable model providing Traffic Lights detection	A.I	Abdo Shrief
Provide a suitable model providing Face detection	A.I	Abdo Shrief
Provide a suitable model providing Face recognition	A.I	Abdo Shrief
Train the model for known drivers	A.I	Abdo Shrief
Test if the model can detect un-known drivers	A.I	Abdo Shrief
Send a message to main controller if there is un- known driver	A.I	Abdo Shrief

Phase 1 (Weeks 1:4)

Task	Category	Assigned	Status
Search on GPS Theory	GPS		
Search on available GPS Modules	GPS		
Search on how to get speed of car	GPS		
Search on available GSM Modules	GSM		
Search on suitable battery system	Power		
Search on Step-Down Modules	Power		
Search on different microcontrollers	M.C		
Design Home Page in Web App	Figma		
Design Manual Control Page in Web App	Figma		
Design Live Stream Page in Web App	Figma		
Design Login Page in Web App	Figma		
Design Register Page in Web App	Figma		
Add turn speed in corners to the Web app Design	Figma		
Code turn speed in corners to the Web app	S.D Car		
Use Ultrasonic in the car and place them	S.D Car		
Make an Arduino function to avoid obstacles	S.D Car		
Apply obstacles avoidance in path part	S.D Car		
Try applying obstacles avoidance in sequence part	S.D Car		
Enhance the distance calculation	S.D Car		