Final Year Project Report

RC Hover Board with Automated Parking and Wireless Charging

Submitted by

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Acknowledgement

All praises for Allah, Lord of all the Universes, known or unknown, the One who blessed us all with caliber, intelligence, ability, patience, tolerance, acumen, aptitude, talent and serenity along with courage and power to work hard, which has resulted in the following project and its report, achieving all the possible goals thought before starting this assignment. The project's uniqueness is one factor that makes us believe in ourselves more than before.

We would like to thank our BSc advisor, Sir Muhammad Atif, and co-advisor, Ma'am Maryam Ali, who have never uttered a sigh while helping us in the previous months. Their patience and tolerance has been as of a father and a mother to us. In the past seven months, their constant support has helped us achieve all that we had planned. We would like to give sincere gratitude to Sir Muhammad Haris and Sir Salman Khalid, who have been helping us morally and boosting our morale. We hope we could be as successful as you four are. We pray we could enjoy our post degree education, being as lively, enthusiastic and energetic as you all. Thanking Sir Khan Muhammad Nazir for his emails that made us work faster but worried us equally. We thank Sir Jameel Ahmed for his support and his online help on the research for the Hover-Board. We would like to thank our schools Physics teacher, who has been in touch with us for the Wireless Charging. All of the teachers mentioned above are legends for us. From the field of engineering to being a friend, they have never left us alone. In spite of being busy in their routines, they have always found time on call, email, Skype and every possible way to help us out wherever we were stuck according to the project.

We would like to pay my sincere regards to our parents, who have never said a no wherever and whenever we wanted to be for the project, who have supported us financially and morally so that we never lose hope, also gratitude to our university fellows who have supported our idea. At the same time, thanking all those who hated us all along, they all made us stronger on our will to give a better outcome and response, considering the following project.

It was not the matter of final year, but the things that we learnt while making this project, the comprehensive skills and communication that we had to do around inside and outside the country, the competitive aptitude that was boosted, the sense of responsibility, time management, sincerity and most of all, the craving for success. We have found a much better engineer in us while making this project than we were while coming out of the last examination.

We pray for all the teachers, students and people who have helped us in the completion of this project. May Allah bless you all with His divine blessings and immense happiness. (Ameen)

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Abstract

Since the birth of mankind, humans have been looking forward on making things easier, with regard to their travelling or their work, hence anything that is essential for a general lifestyle. Human is progressing in technology every second that passes by, they are always found in a desire to get best out of what they have been provided with. We have been seeing the evolution from stone-age to the modern world.

Transportation idea had developed with the advent of wheel. Carts pulled/driven by animals were the first traffic. Then as per advanced equipment and machinery were invented, engine was made. Now the rush of most modern and radical vehicles can be seen on the roads worldwide. Travelling throughout the world is no longer an issue now, the fastest airplanes, electric trains, robust cars have made it all the way easier. The concern today is the fuel, power and energy required to drive these automobiles.

For our Final Year Project, we have come up with a totally new idea of passage (travelling) that is RC Hover Board which uses electrical power as fuel. 1800mAH LiPo battery is being used as a power source. The stability and balancing of the Hover Board was a challenging task until we did not know about the KK board (Flight Controller) and once we got familiar with that, desired task was achieved. RC transmitter is used to govern all the maneuvers of the hover board from the range of about 50 to 60 feet.

This Hover Board can be used as a prototype to implement a similar type aircraft on a larger scale to make possible the idea of single man air travelling at cheaper rates and obviously it would be more than just fun.

The second and third modules of this project are Automated Parking and Wireless Charging, wherein the Hover-Board was supposed to land on a specific platform but due to some technical difficulties it could not happen but in near future it will be made possible and the parking train will take it near to the wireless charging coil. Wireless charging facility has been installed in the wall (hanger) using magnetic induction, which we have named as an “Opened up Transformer Idea”.