

COSMO SALUS ROBO MOTIVE (CRM)

A Telemetry of Self Designed Vehicle to pick and drop an object via Mechanical Arm



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PREFACE

This is a final year project report about the “Telemetry of Self Designed Vehicle to Pick and Drop an Object via Mechanical Arm”. It has been designed and implemented after studying the concepts taught in the four years of our engineering career of being a student.

We have called this project as an alias of “COSMO SALUS ROBO MOTIVE (CRM)”. The main theme behind this project and inspiration of this name is briefly discussed in the coming chapters.

We have worked hard to ensure that our whole project is based on exercises of engineering and science based.

We have used almost all cases of real data either consulting our experienced and supporting project advisor (Mr. Saleem Ata) with other faculty members or our consulting experiences.

We believe that engineers, especially to the field of electronics and communication should go through such project to experience the exciting tone of engineering as we did.



ORGANIZATION OF THE REPORT



We have retained relatively modest way of presenting this report in manner that it is understood even by a First grade engineering student.

To make sure that he/she could make a better ground of understanding and to create more opportunities for making able an engineer to do more benefits to the nation, language is used as friendly as it could get.

Chapter 1 is an overview about what the Cosmo Salus Robo Motive is and why we chose it. In this chapter we will also learn that what Cosmo Salus Robo Motive actually means? There is a brief overview of the whole Project also in the end of the chapter.

Chapter 2 is about how the team CRM stepped into the Project CRM, also there is a brief topic about the inspirational learning out of uncertainties that engineers do learn while completing the project. Moreover there is a brief overview of the further units and sub-units of Cosmo Salus Robomotive (CRM).

Chapter 3 is an overview about what we will learn that how Power Unit, Display on Graphic LCD (GLCD), Movement of dynamic unit, Transmission of data, Transmission of video, Switching of respective cameras, Fan for cooling static unit, Motherboard (for controlling mentioned tasks) work under the circumstances of the Project CRM.

Chapter 4 is helpful in learning about Behind the Manufacturing Story of the Vehicle. What kind of motors is being used in it? Why the typical type of wheels is used and how they are managed to move the vehicle. Also what the



Vehicle is whole about? How we managed to build it? There is also an insight of the vehicle with all the description of the components of the Vehicle.



Chapter 5 is about what is the mechanical arm that we used in the Project CRM? We'll learn about the movement of the arm, also we will elaborate the arm. We will go through with how we managed to build it? At the end of the chapter there is an insight about the mechanical arm.

Chapter 6 is about the circuit diagrams, introduction to the ICs used and the programming code of the static unit. We also learn about what is running the static unit and who the actual brain of it? Moreover, how the Brain is Interpreting?

Chapter 7 is about the circuit diagrams, introduction to the ICs used and the programming code of the vehicle. Also we'll study that what is running the Vehicle? There is also a brief overview that what movement makes it the Vehicle? We'll learn about the Brain and its interpreting.

Chapter 8 is about the circuit diagrams, introduction to the ICs used and the programming code of the mechanical arm. Also we'll study that what is running the arm? There is also a brief overview that how movement of the motors makes it the arm? We'll learn about the Brain of the arm and its interpreting.

Chapter 9 is about the GUI and Video Receiving terminal. Which development tool is used to build the GUI, how the data transmission is done, what we can do with the GUI? We'll learn about the whole story of CRM GUI.



ACKNOWLEDGEMENTS



First of all, we would like to thank Al-Mighty **ALLAH** for giving us strength to complete our final year project. Then to thank our parents without their support this project was impossible to finish.

We truly acknowledge the cooperation and help made by Mr. Saleem Atta, Project Advisor, University of Management and Technology. The project wouldn't have been in the present form without his unflagging guidance and support.

He took out his precious time and helped us right from the beginning of the project. He has been a constant source of guidance throughout the course of this project. And other faculty members of School of Science and Technology also supported to their great extent.

We are also thankful to our friends and families whose silent support led us to complete our project.



ABSTRACT



A four Channel (forward, backward, left, right moving) vehicle to go near the target to perform the task operated by the operator standing at a far most distance of his requirement and .

A Robotic Arm to pick and drop the targeted object. This is also controlled by the operator.

Interfacing of Software and Hardware also helps to control the whole system via software, which is not only human interactive but also quite need of the hour.

Switching of Video Cameras controlled through RF is quite helpful in the Cosmo Salus Robo Motive aka CRM to judge the kind and intensity of the target through visual of the case.



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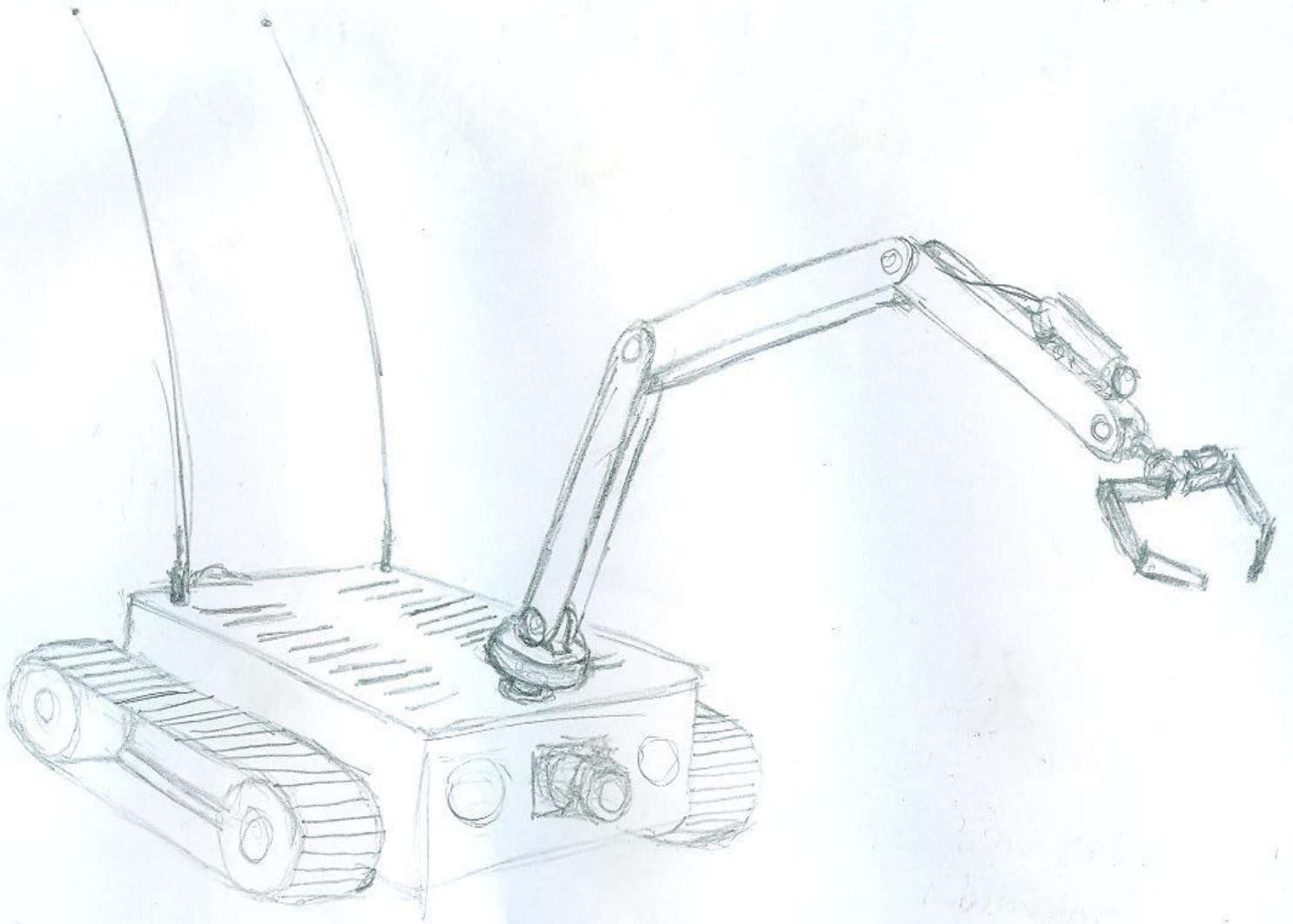
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Introduction to Cosmo Salus Robomotive (CRM)

Chapter Outline

- 1-1 Vision of Project
- 1-2 Aim of the Project
- 1-3 Cosmo Salus Robo Motive
- 1-4 Insight

Learning Objectives

- What is Cosmo Salus Robo Motive?
 - Why we chose Cosmo Salus Robo Motive
 - What Cosmo Salus Robo Motive actually means?
 - A brief over view of the whole Project
-



1-1 Vision of Project

As the current scenario of the world, as it is facing limitless risks not only with respect to its financial resources but also the precious lives of human beings are at stake.

Millions of lives have been lost in bomb blasts and other terrorist activities like that and several lives also have been lost during examining or disposing off the bombs.

There is a high stake alarming danger while approaching the bombs that it might blow off as one of the crew member of bomb disposal squad is reached just within its radius.

He might not get a chance to look at it that what kind of this evil could be. Either this is a short range bomb or that could have done a wide range disaster to the human lives.

This is where “Cosmo Salus Robo Motive” aka CRM comes to play a vital part in. This is where we the team CRM created a theme for the safety of the society in this aspect.

1-2 Aim of the Project

“To save a human’s life while disposing off a planted bomb”

Team CRM is quite clear to achieve the goal of the project as mission is clear in front of us.



A person relating to dispose off the planted bomb can examine the description of the subject while standing at least 110 meters away from the planted bomb.



This not only helps the person to keep himself quite safe enough in a manner to keep away from possible harm but also a technical advancement to have a better examination of the target across the several distance that could be vary with respect to the range of Receiver and Transmitter (Rx/Tx).

1-3 Cosmo Salus Robo Motive

To call such a project which is made in the betterment of helping mankind to save human lives; which is not only an automated circuitry but also a moving vehicle; was a quite creative task to come over with.



We took the help from Latin, Greek and other language roots to call a name, and at last we come up with the name “Cosmo Salus Robo Motive”.

The word basically originated from Greek roots that are COSMO + SALUS + ROBO + MOTIVE. Their meanings to the English words are described as follows.

COSMO	>> Human Being
SALUS	>> Helper
ROBO	>> Robot
MOTIVE	>> Moving

A four Channel (forward, backward, left, right moving) vehicle to go near the target to perform the task operated by the operator standing at a far most distance of his requirement.