# IPRO 316 ADVANCING ROBOTICS EXPERIENCES at IIT

## PEPPY ROBOT

#### \*OBJECTIVE

-Design and manufacure the self-powered mobile and autonomous robots -Creating a powerful personal robot

#### \*PROJECT TIME LINE

ID	Tasks	Start	End	Requiredtime	2	32005					42005					
					62 1	13-2 20-2	27-2	63	133	20:3	27-3	34	104	17-4	244	1-
1	Approach	2005-02-07	2005-02-18	2w												
2	Rurchase modules	2005-02-28	2005-03-11	2w												
3	Repair Peppy	2005-02-21	20050408	7w												
4	Updatesoftware	2005-03-02	2005-04-19	7w												
5	Chassis design	2005-03-09	2005-04-19	6w												
6	Documentation	2005-02-25	2005-04-28	9w												
7	Design presentation	2005-04-25	2005-05-06	2w												

\*TEAM MEMBERS Bong Gun Sin (LEADER) Taek Min Oh Sung Ho Lee

# \*COMPONENT DIAGRAM Voice Voice Extreme IDE Sonar M plab IDE IFI Loader Component C18 Compiler (Hardware) Software (Based on C)

# **FUNCTIONS**









### \*CONCLUSION

-Successful repairing process for Peppy -Functionally well modified Peppy -Successful chassis redesign

#### \*FUTURE WORKS

-Working on sonar system -Modification on chassis with slim materials

# ROOMBA ROBOT

#### \*INTRODUCTION

Roomba: Robotic floor sweeper created by iRobot Corporation. Patent covers only the Microcontroller Platform for robotic experiments.

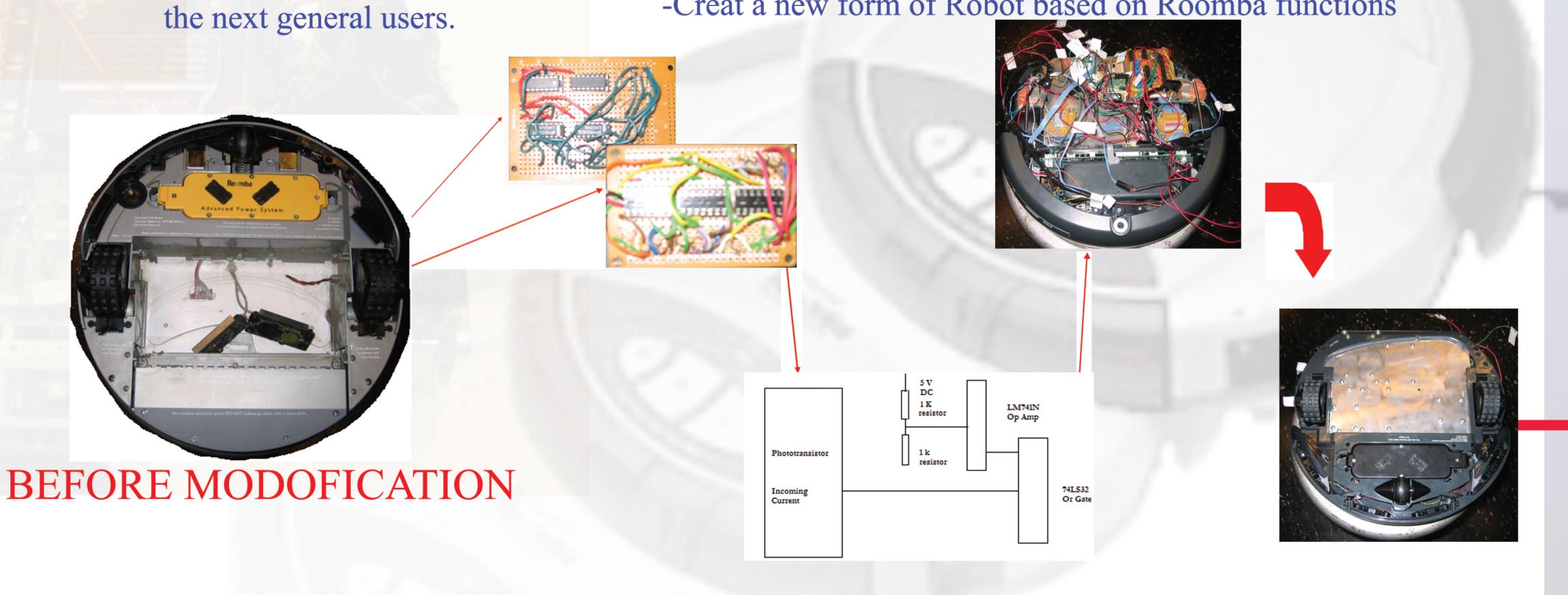


## \*OBJECTIVES

-Extract a prototype based on original roomba -Creat a modified & new form of Swarm Robot -A wonderful documentation of this prototype for

#### \*METHODOLOGY

-Reverse Engineering works on original Roomba -Provide prototype based on original roomba -Modify each component -Creat a new form of Robot based on Roomba functions

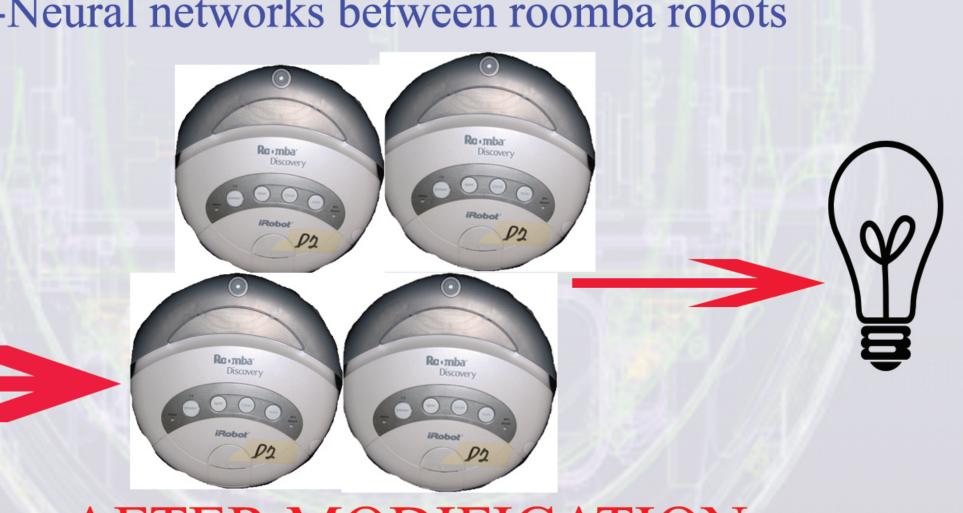


## \*CONCLUSION

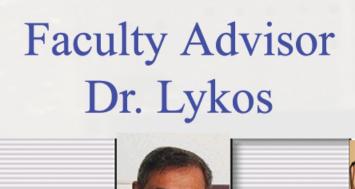
-Successful creation for the prototype -Successful analysis on electrical curcuit -Provide a new form of modified Roomba -Create a documentation of our prototype

### \*FUTURE WORKS

-Application on this Roomba prototype -Neural networks between roomba robots



AFTER MODIFICATION



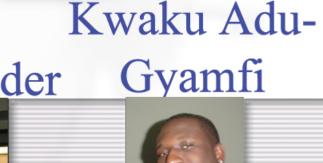
Team Leader Bong Gun Sin









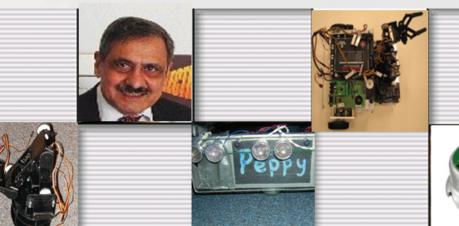














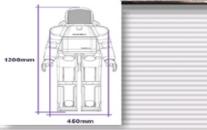








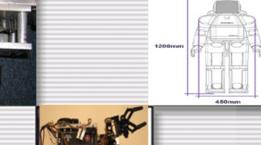
















Kwan Dong



