

CS 5973

Project 3

Team 3

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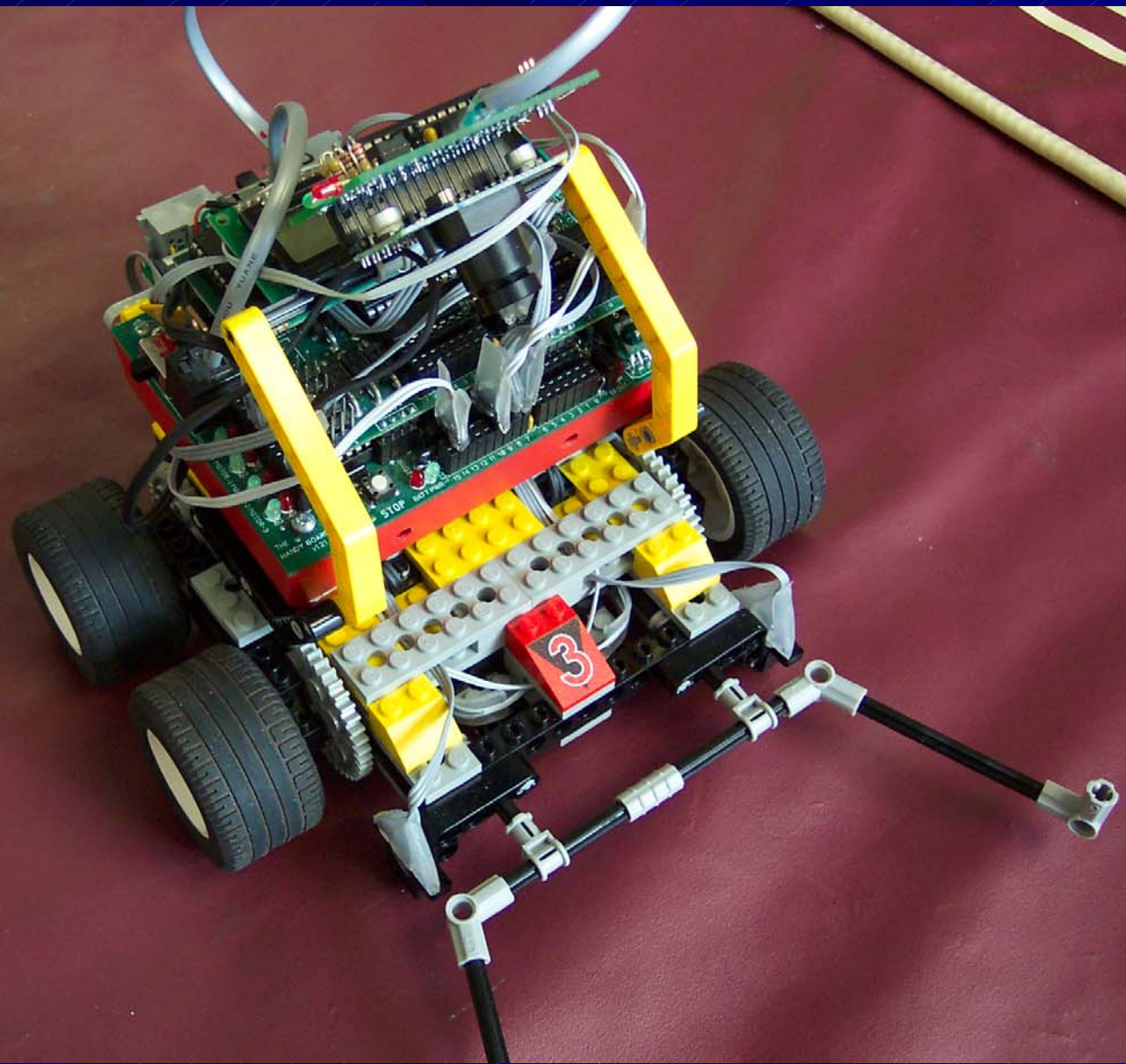
Mike Taylor

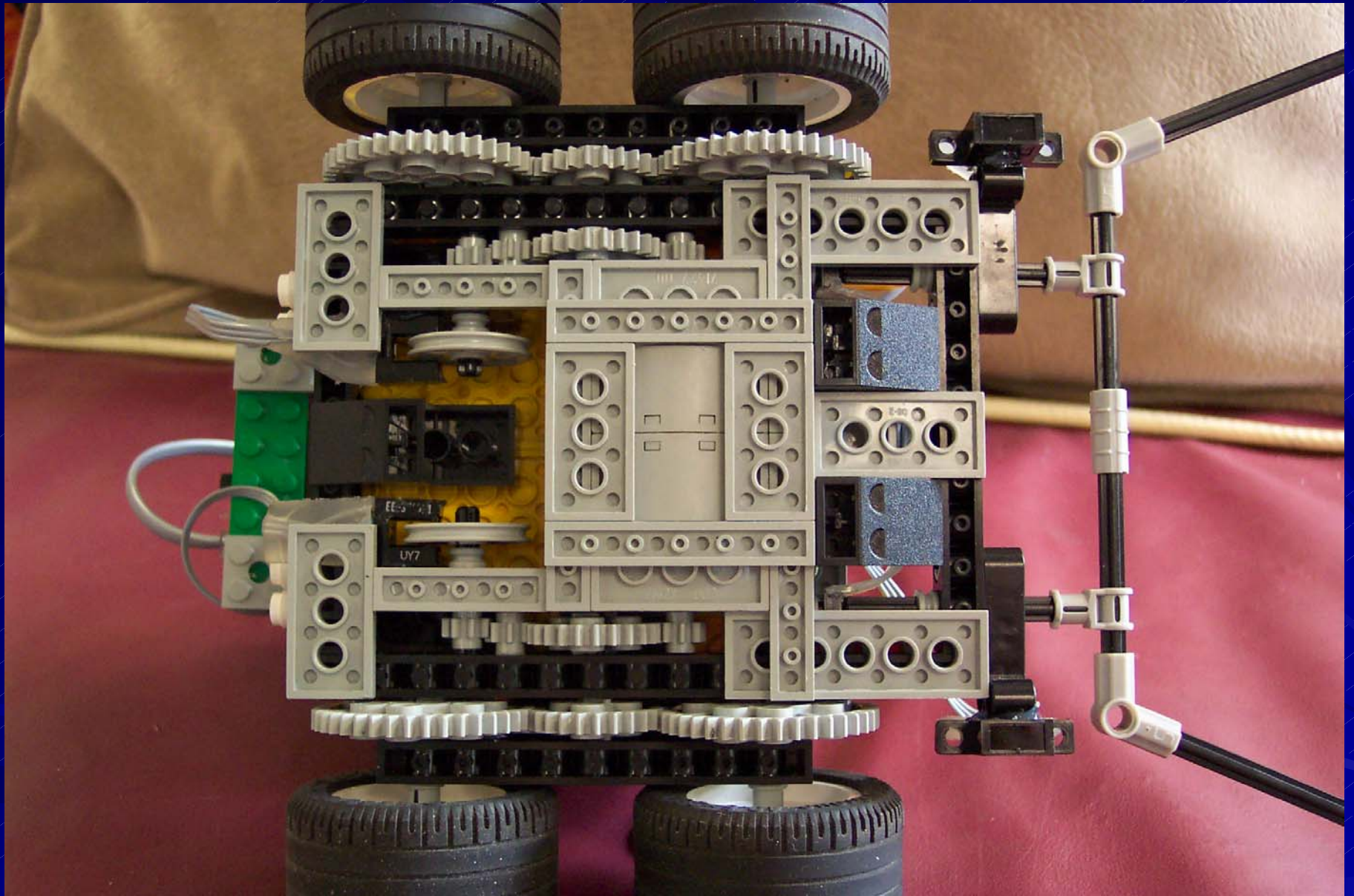
Amit Mathur

Hardware Design

Components

- Two Encoders
- Two Bump sensors
- Two IR sensors
- CMU cam
- 2 Motors





Chassis Design

- Four wheel drive
- 5:1 gear ratio

Software Design

- Simple
- Multiple functions
- No multiple threads

Functions Used

- Move to closest block()
 - find closest object
 - moves to that object
- Find block()
 - Turns till track orange()
 - Orient itself for new direction
- Move to closest goal()
- Find goal()
 - Searches for the goal and drops the box
- Stage()
 - Used Encoders and IR sensors to align

Functions contd...

- Break ()
 - series of brake commands to stop robot from drifting
- get distance traveled ()
- Swerve()
 - turns to avoid the orange block
- Track enemy()
 - use location of centroid to ram the enemy

Success

- Able to detect boxes
- Able to detect nearest goal
- Able to drag it to goal

Improvements

- Avoid obstacle
- Kill enemy
- Find Block searched only when box was real close
- Failed to realign
- Detected other boxes while finding goal