

CS 5973

Project 3

Team 3

Mark Branson

Mathew Roman

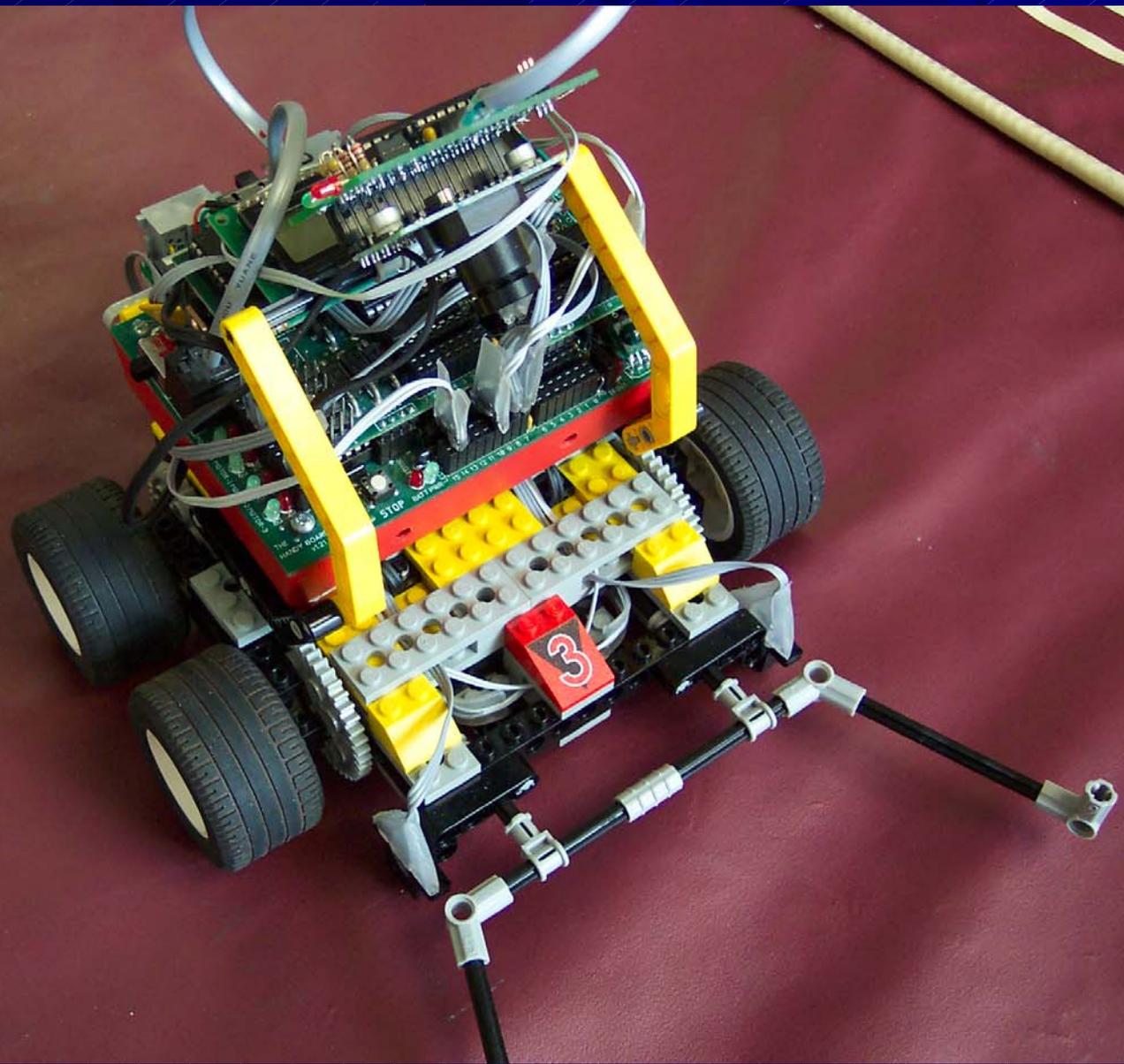
Mike Taylor

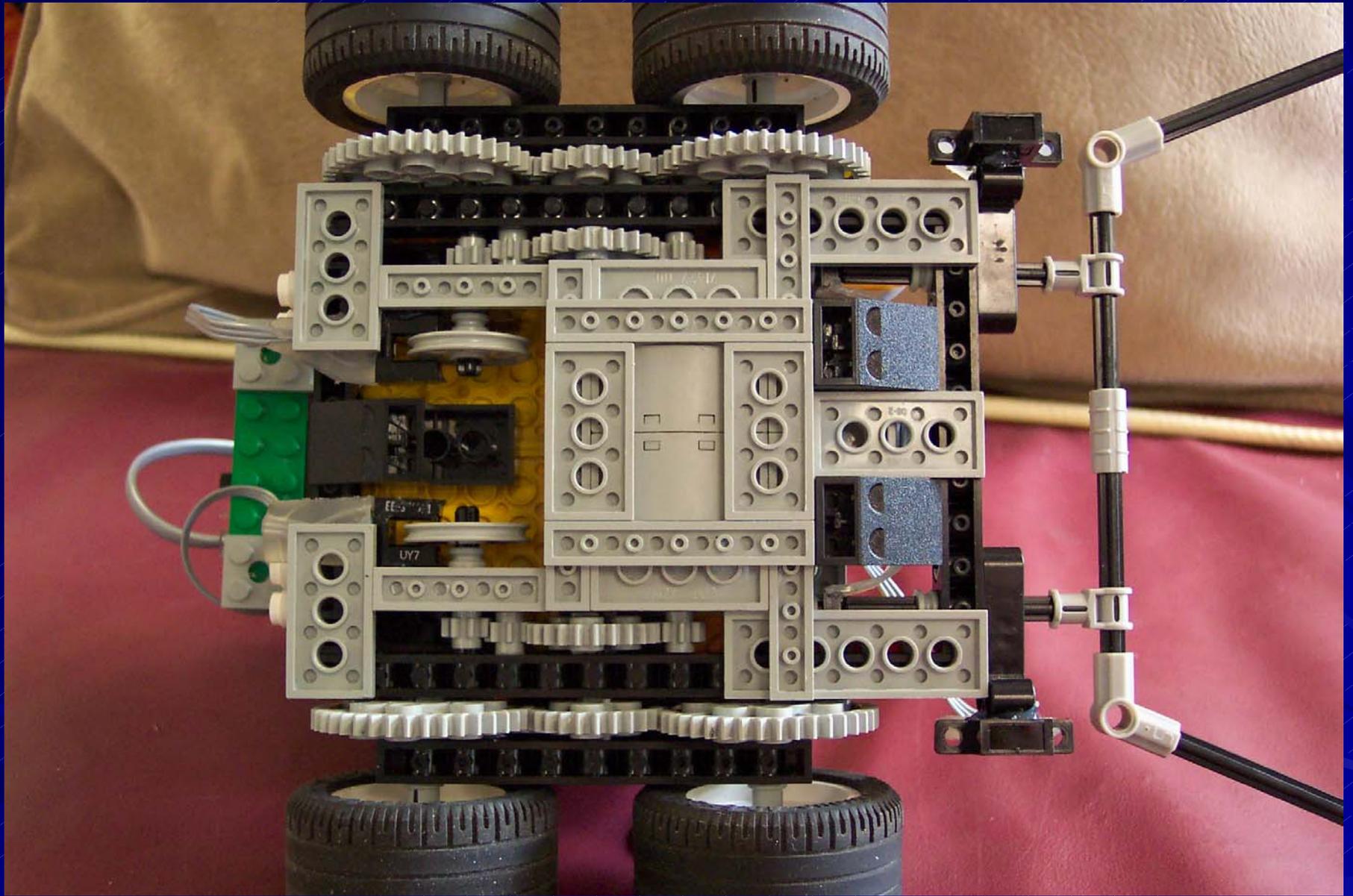
Amit Mathur

# 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