Part I: Team2228 Robot Requirements Process

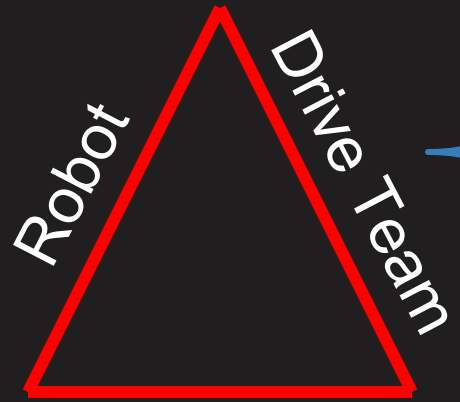
Objectives:

- To understand the process to determine what the robot has to do to play the game

- To understand the questions to ask in each stage to be successful

Robot IRON Triangle

- Has functionality to play game
- Functionality works and is repeatable
- Functionality is fast (cycle time)

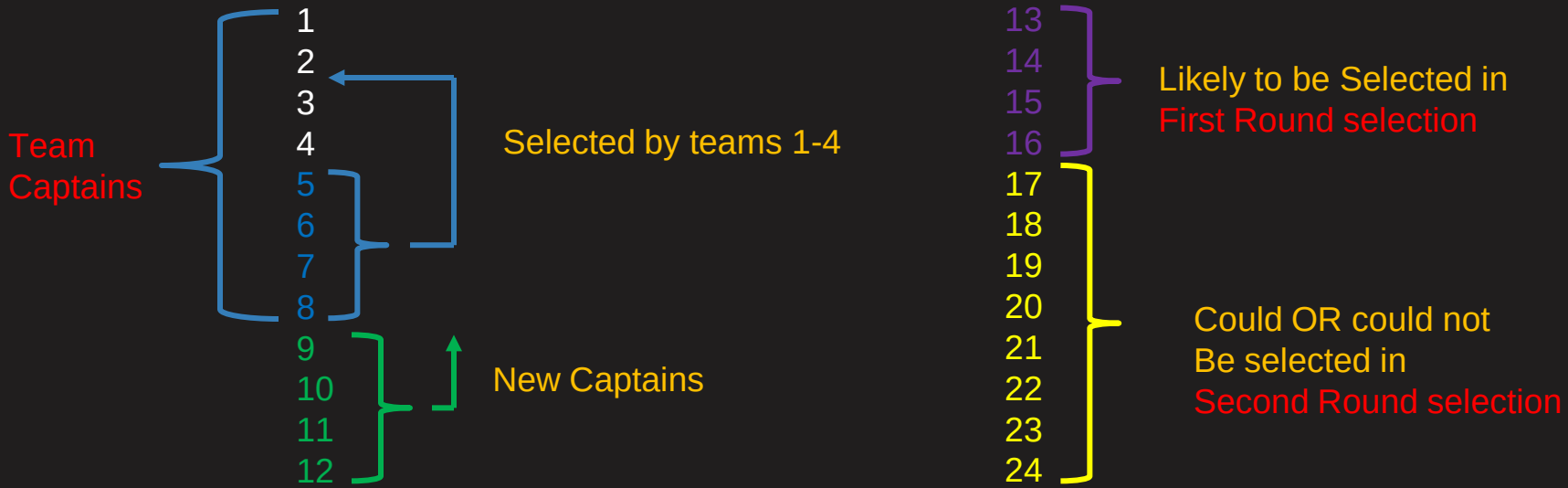


-Knows how to play the game
- Knows game rules
- Can work under pressure
- Can drive the robot

- Scoring Strategy
- Motion Plan for Scoring Strategy
- Definition of Robot Functions for Scoring Strategy

Competition Team Selection Process

- Each team plays in an alliance of three teams 9-10 times
- Highest 8 ranked teams are the captains for the finals
- 24 teams in the finals – (3x8)



Team2228 Robot Concept Design Process

There are two stages of the robot concept design process:

- Phase 1: How to play the game and what is the team strategy (Needs Analysis – Team developed)

- Phase 2: Develop a robot system to satisfy the needs of the game (Concept – Technical sub-team developed)

Team2228 Organization on Kickoff

Team 2228 will divide into two (2) teams:

- There should be a mix of technical and operations team members
- Mentors will be assigned to sub-teams

Team2228 Robot Game Strategy Process

1 READ the game rules!!!!!! / Robot rules

2 Understand the scoring: game points / ranking points

3 Develop a Scoring Strategy for the game

4 Define robot action steps to execute the strategy

1st Question:
What is the Goal?

FOR FIRST COMPETITION:

“OBTAIN THE HIGHEST SCORE/RANKING SCORE IN A MATCH”

READ THE GAME MANUAL

WHAT ARE ALL THE SCORING SCENARIOS???
(List scoring with respect to complexity)

DEVELOP TRAVEL PLAN FOR SCORING SCENARIOS
(List travel distances and travel time)

DEVELOP CYCLE TIME SCORING STRATEGIES
(For Captain/1st Choice/2nd Choice team types)

THIS IS COMPLETED BY EACH SUB-TEAM – WRITE THE RESULTS IN YOUR ENGINEERING NOTEBOOKS

2nd Question:

What Robot actions are needed to play the game?

FOR EACH SCORING SCENARIO – WHAT ARE THE ACTIONS NEEDED?

FOR EACH SCORING SCENARIO

STEP	ACTION	ACTION TIME

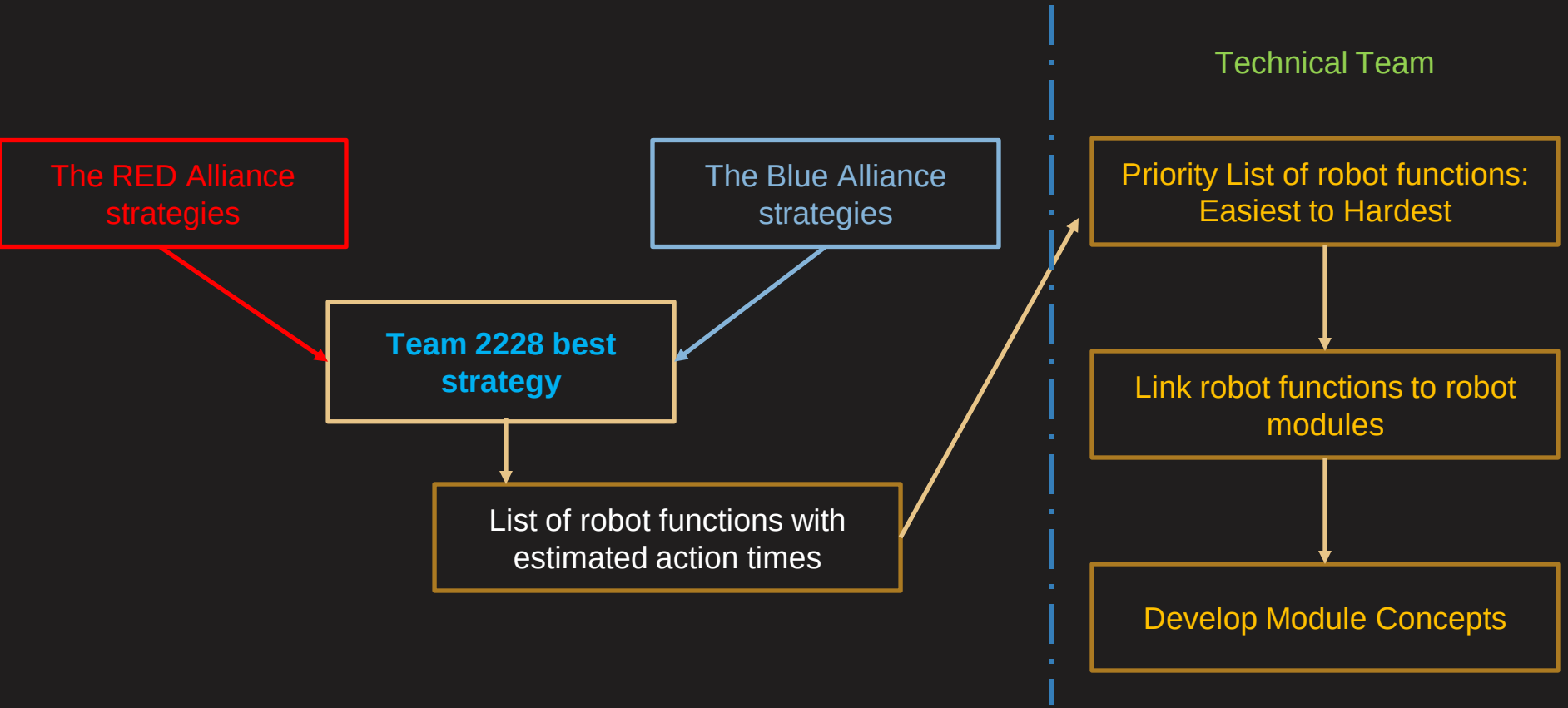
WHAT SCENARIO HAS THE FASTEST TIME???

ARE ALL ACTIONS LEGAL??

THIS IS COMPLETED BY EACH SUB-TEAM – WRITE THE RESULTS IN YOUR ENGINEERING NOTEBOOKS

3rd Question:

As Team2228: What is the best strategy?



Team Exercise

Watch a previous year animation

- Do a scoring analysis

- Develop robot strategy to play game

- Define robot functions necessary to play game