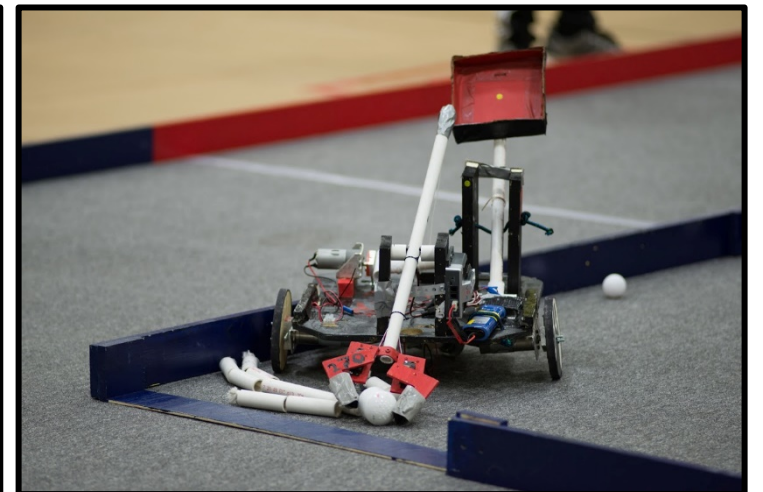
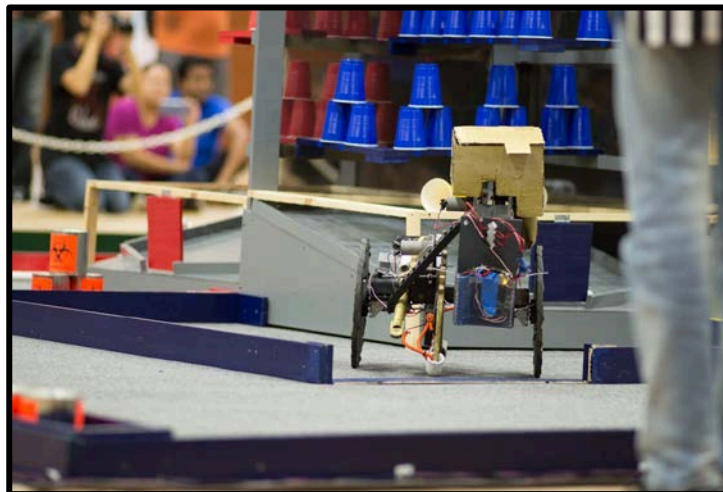


# Competition Overview

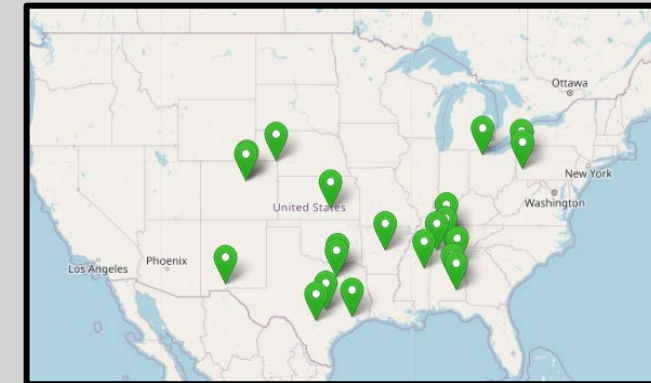
July 9, 2021



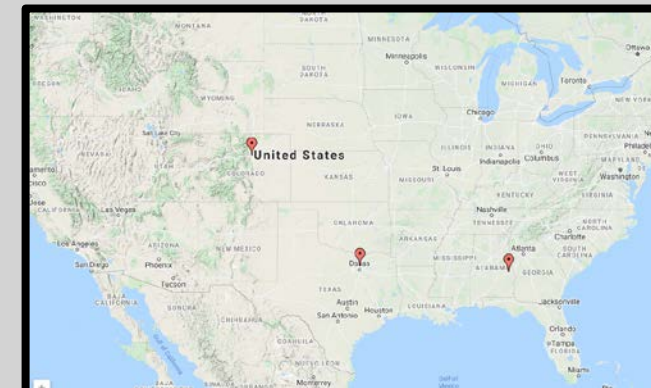
# Competition Overview

- Hub Level Competition
  - Held in local community/geographic area
  - Hubs follow the same rules, schedule & kit materials
  - One to Two-day event
  - Teams advance to a Regional Championship based on Hub performance
- Regional Championship
  - Competition between winners of Hub Level competitions
  - Two to Three-day event

**Hubs**

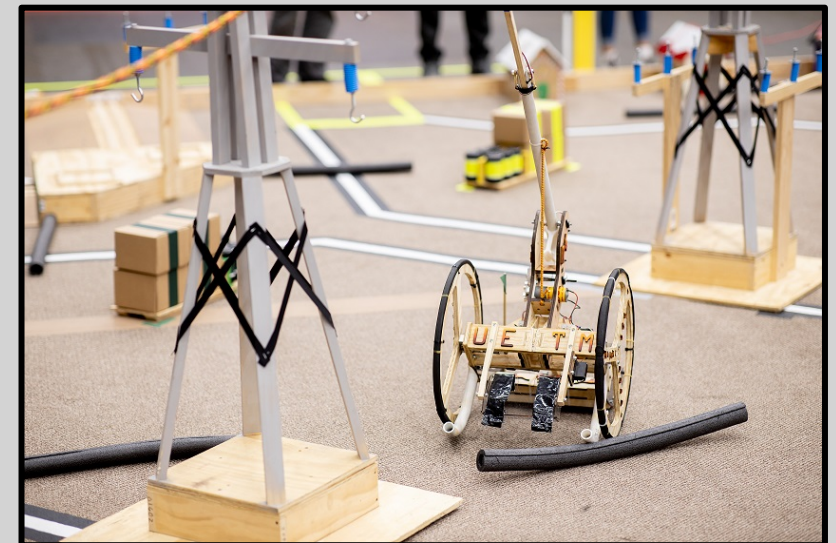


**Championships**

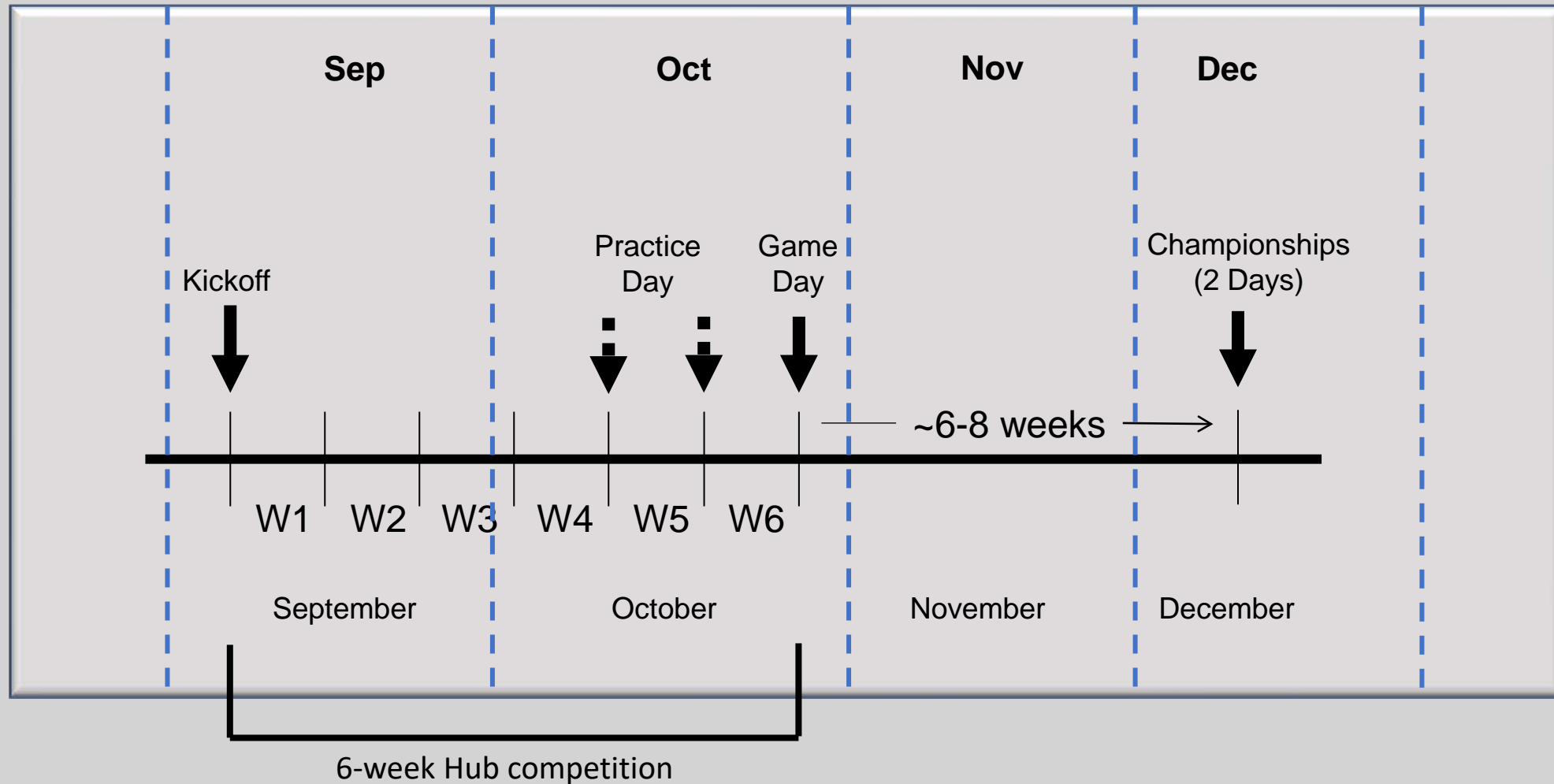


# Competition Characteristics

- Common Characteristics
  - No registration fees or equipment (kit) costs
  - Open to Middle or High Schools
  - Public, Private, Charter, K12 and Homeschools
  - One team per school
  - No limits on team size, student age
  - All teams compete against one another
- Consistent and Educational
  - Same rules, same kit, same schedule
  - Emulates real-world product development
    - Design to Cost, Design to Function, Time to Market
  - Help solve an industry or global problem



# Competition Schedule



# Competition Formats

*We've created Classroom and Online options to expand our BEST Robotics program while making it safe and accessible for students during these uncertain times.*

## BEST Classic 2021

*Go Head to Head  
vs Other Robots*

- Standard Multi-team Format
- Same Legacy Competition
- BEST Award & Head to Head



## BEST Classroom 2021

*It's BEST Robotics  
On-Location*

- Hub Provided Field Kit
- BEST Award & Robot Time Trials
- Streaming from the Classroom

## BEST Online 2021

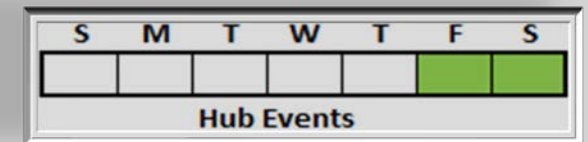
*3D Virtual Field -  
Virtual Robot*

- Online Skills Challenges
- Driver Controlled & Autonomous
- BEST Award & Virtual Robot Time Trials
-  Instant Replay  Highlight Videos

# BEST Events

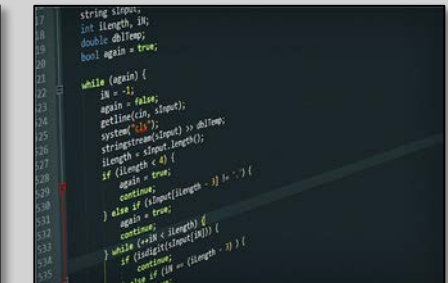
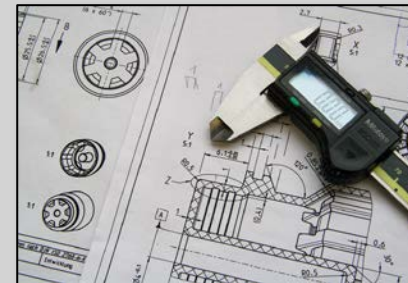
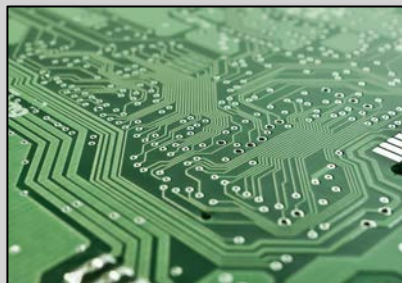
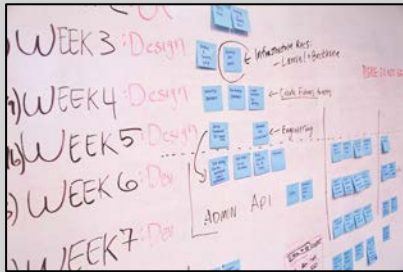
- Kickoff Day
  - Unveiling of game, rules and judging schedule
  - Distribution of Kits
- Practice Day
  - At least one practice day on the game field
- Game Day (1-2 days)
  - Head-to-head competition & BEST Award judging
- Championship (2-3 days)
  - Top teams in head-to-head and BEST Award advance
  - Game Day among championship teams

## Typically Weekend Events

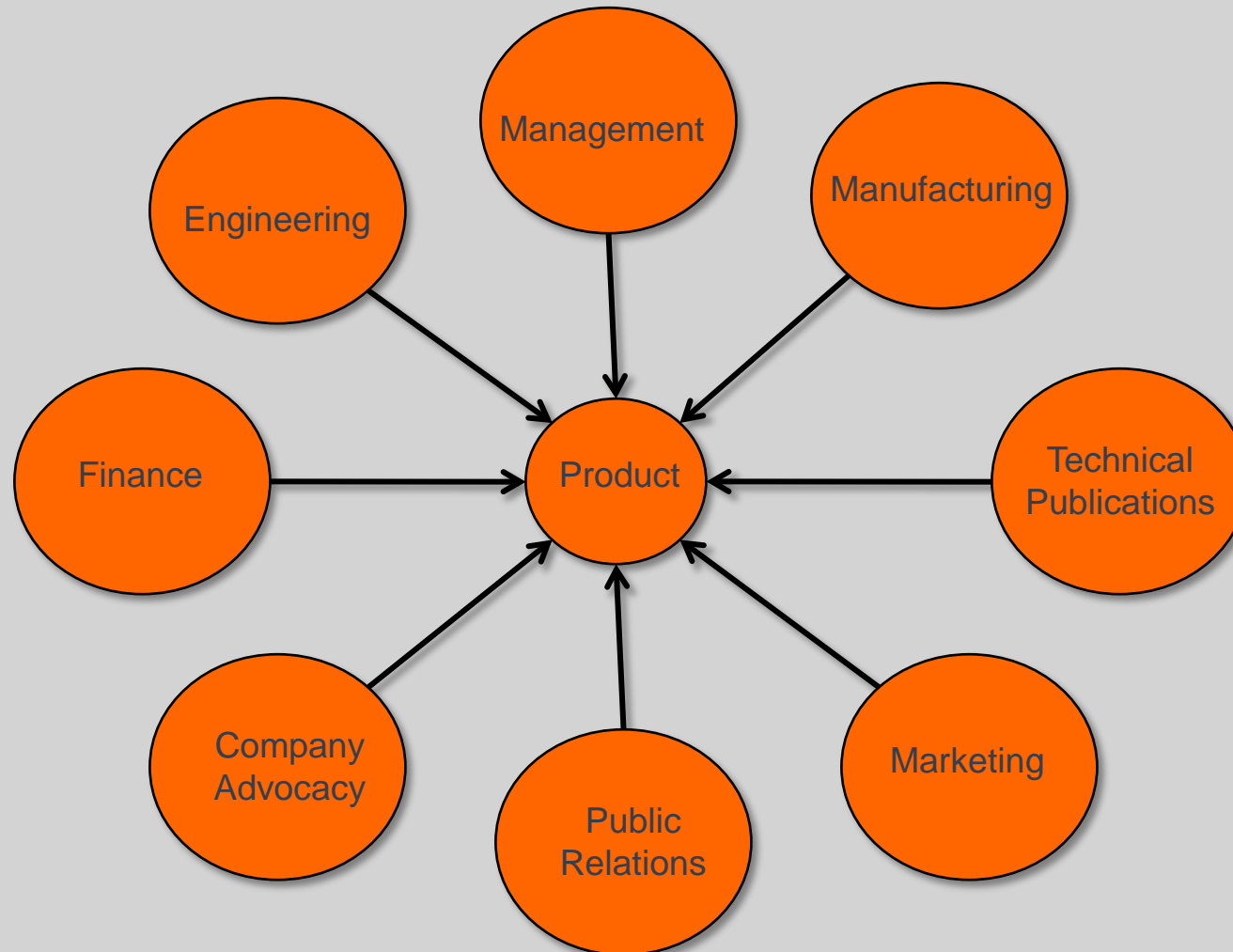


# Emphasis is on a complete Product Development

There are many design disciplines involved in a successful product development.



# Product Development Disciplines



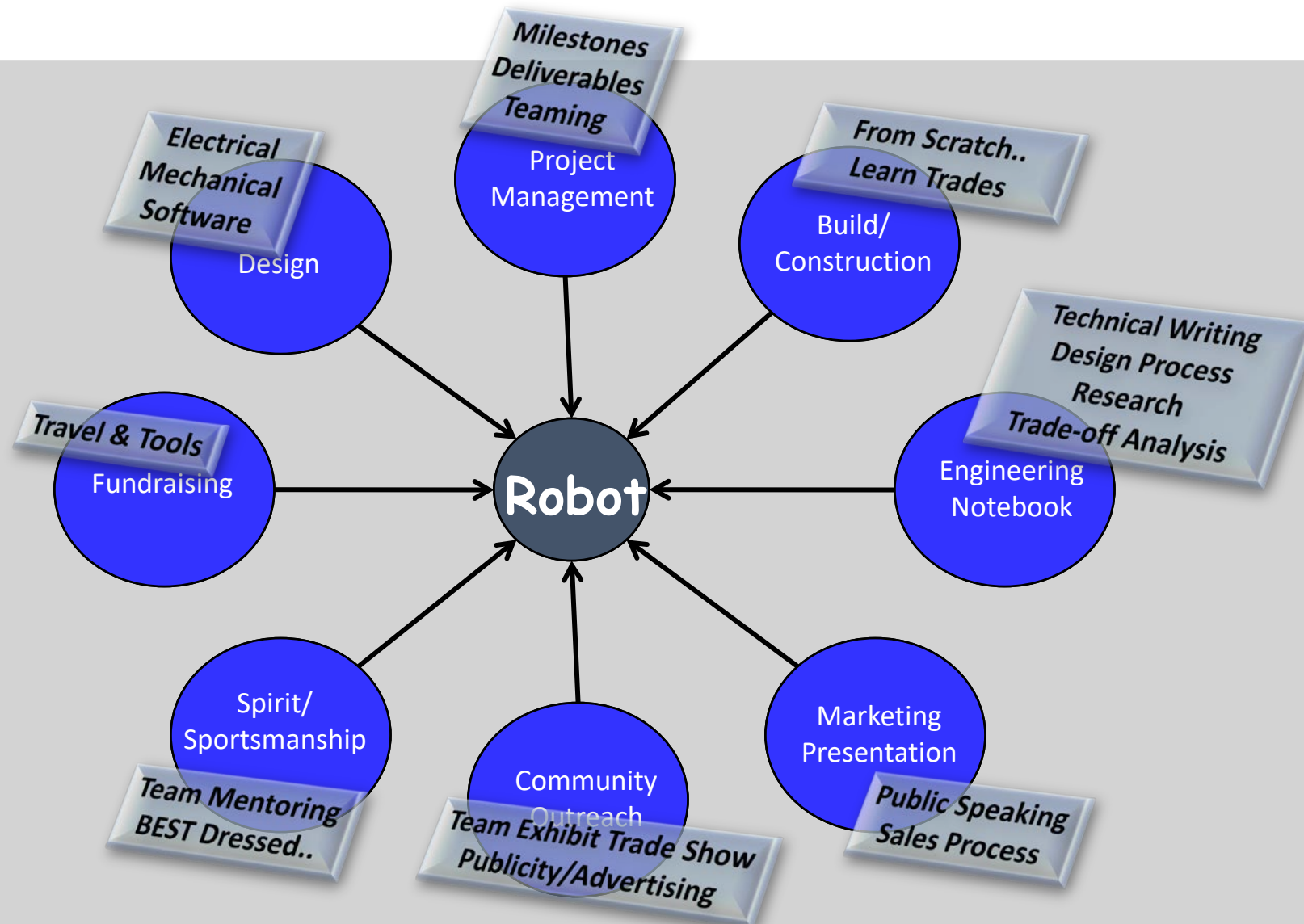
In The  
REAL WORLD



# Product Development Disciplines

BEST emphasizes each of these design disciplines during the competition

# Product Development Disciplines



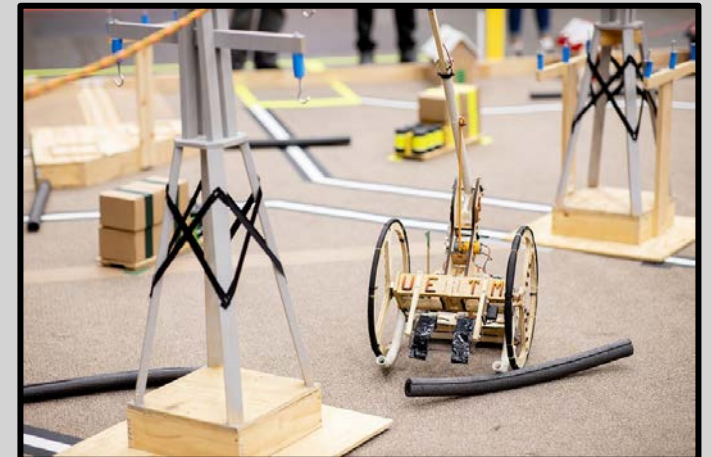
In The  
REAL WORLD



In The  
BEST WORLD

# Head-to-Head Competition

- New educational theme/challenge and game field each year
- Challenge and field kept secret until Kickoff Day “unveiling”
- Playing field is typically 24’ x 24’ configuration
- Points awarded for successful completion of tasks
- 4 teams compete in 3-minute matches
- Progression
  - Round robin seeding phase (6-8 matches per team)
  - Wildcard phase (best remaining notebook scores)
  - Semifinals phase (8 or 16 teams)
  - Finals phase (4 teams)



# Judged Activities

- Teams compete in the following required categories
  - Engineering Notebook
  - Marketing Presentation
  - Team Exhibit
  - Spirit and Sportsmanship
  - Robot Performance



- The BEST Award
  - Best overall score in all 5 categories

- Additional Design Awards
  - Most Robust Design
  - Creative Design
  - Simulink Design Award

# The BEST Award

- The BEST Award is the “Top Award” in the competition
- Presented to the top 3 teams that best embody the concept of Boosting Engineering, Science and Technology through:
  - Teamwork
  - Diversity of Participation
  - Sportsmanship
  - Positive Attitude and Enthusiasm
  - School/ Community Involvement
  - Creativity
  - Application of the Engineering Design Process



# Unique Skills Challenges

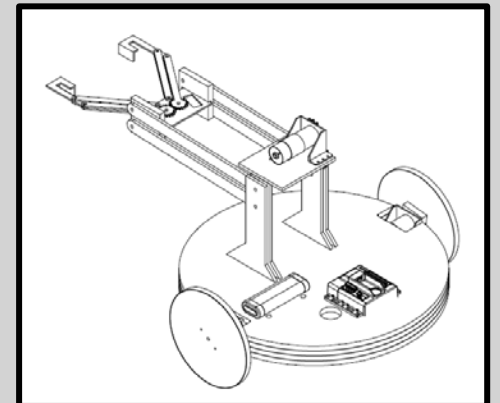
### Minecraft Challenge



### Video Design Challenge



### Engineering Drawings Challenge



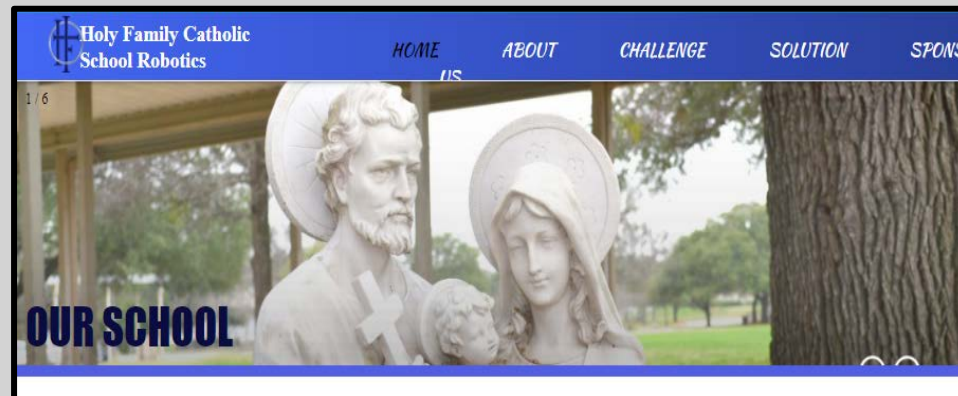
### BESTMania IQ Challenge

Game Time Remaining: 4 days, 15 hrs, 15 mins, 48 secs  
Question Start Time: 2020-09-13 09:41:18 | Answer Update Time: Pending  
Question Number: 2 | Difficulty: Easy | Points: 1000 | Questions Answered: 0/24

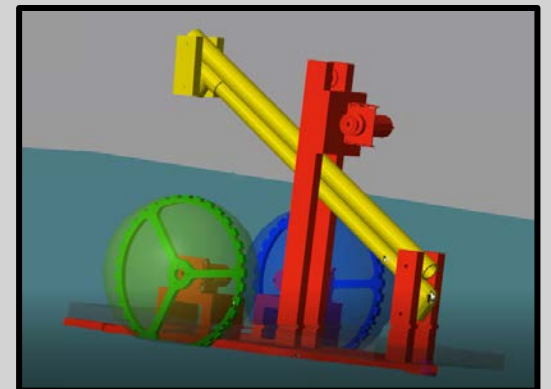
When a typing mistake is made in a source code it is called \_\_\_\_\_

- (A) A typo
- (B) An algorithm
- (C) A syntax error
- (D) A function
- (E) All of the above

### Website Design Challenge



### Robot Modeling Challenge



# Industry Design Tools Available



# Robotics “Kit” is Provided

- Returnables Kit
  - Loaned to the school for the duration of the competition
  - Electronics equipment used to power the robot
  - Microcontroller, motors, servos, batteries, sensors, wiring, etc.
- Consumables Kit
  - Expendable raw materials provided to the school
  - Materials used for construction of the robot structure
  - Plywood, PVC, metals, hardware, fasteners, miscellaneous



# Basic Design Constraints

- Teams may only use the materials and quantities provided in the KIT!
- Only two team custom parts may be used
- Final robot must be no larger than 24" x 24" x 24"
- Final robot must weigh no more than 24 lbs.
- Parts, size, weight, and methods are verified prior to Game Day

# Student Expectations

- Engineering Design Process
- Design & Construction
- Programming
- Driver-controlled and Autonomous Performance
- Documenting the design
- Marketing the design
- Publicizing BEST Robotics, the team, and the design

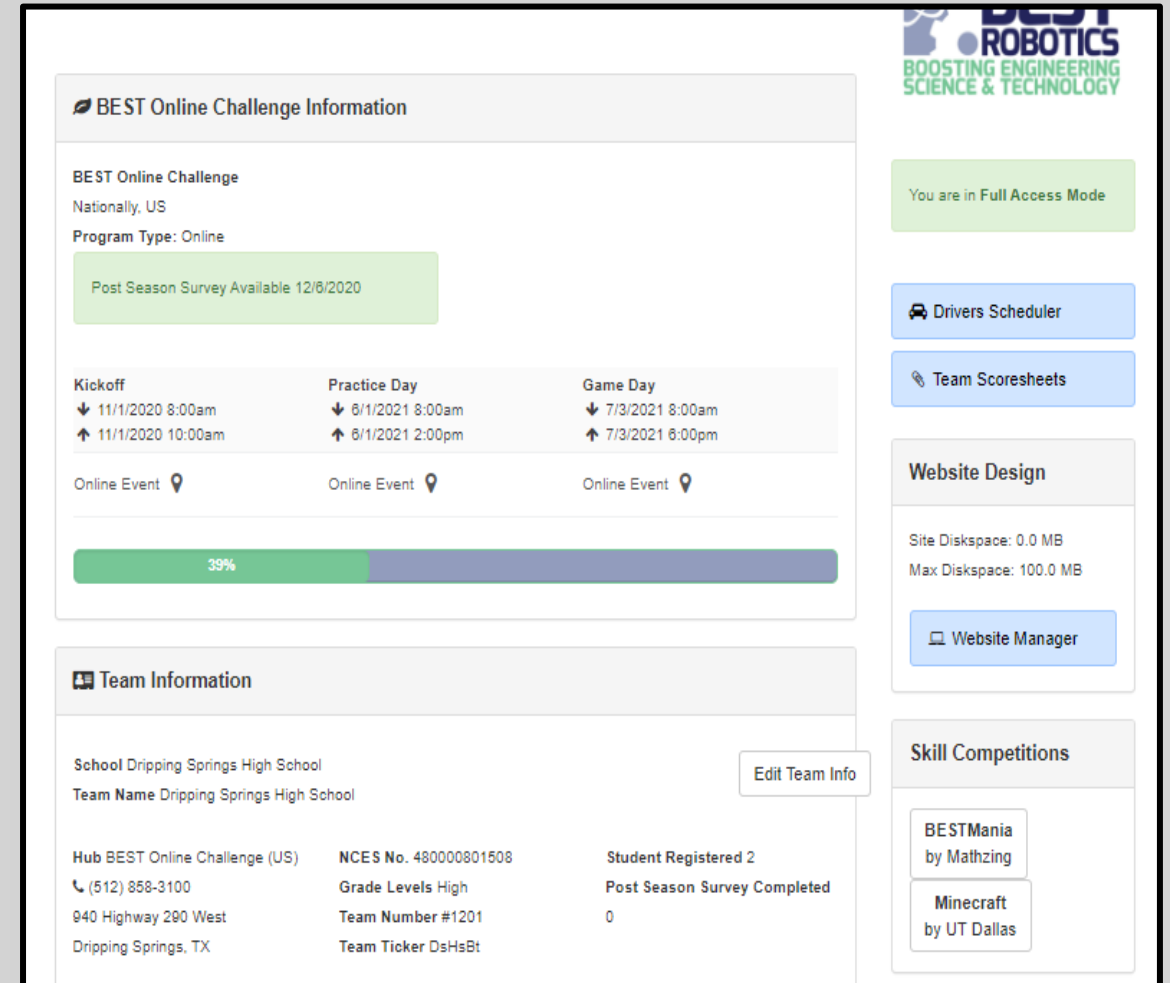


# BEST National Registry

<https://registry.bestrobotics.org>

- Team Registration
- Participant Registration
- Competition Management
- Team Management & Access
- National Demographics, Surveys

	STUDENT	GENDER	PREVIOUS PARTICIPANT	GRADE LEVEL	PERMISSION	POST SEASON SURVEY	ATTENDING GAMEDAY	WORKFLOW ACCESS
⊕	Brown, Jim	M	No	8TH	✓	✓	<input type="checkbox"/>	None
⊕	Rocket, Johnny	M	Yes	12TH	✓	✓	<input checked="" type="checkbox"/>	Full Acx
⊕	Young, Halei	F	Yes	12TH	✓	✗	<input checked="" type="checkbox"/>	Full Acx
⊕	Young, Jenny	F	Yes	9TH	✓	✓	<input checked="" type="checkbox"/>	View O
⊕	Young, Valerie	F	Yes	11TH	✓	✗	<input type="checkbox"/>	None



**BEST Online Challenge Information**

BEST Online Challenge  
Nationally, US  
Program Type: Online

Post Season Survey Available 12/8/2020

Kickoff	Practice Day	Game Day
↓ 11/1/2020 8:00am ↑ 11/1/2020 10:00am	↓ 6/1/2021 8:00am ↑ 6/1/2021 2:00pm	↓ 7/3/2021 8:00am ↑ 7/3/2021 8:00pm

Online Event 📍      Online Event 📍      Online Event 📍

39%

**Team Information**

School Dripping Springs High School  
Team Name Dripping Springs High School Edit Team Info

Hub BEST Online Challenge (US) (512) 858-3100 940 Highway 290 West Dripping Springs, TX	NCES No. 480000801508 Grade Levels High Team Number #1201 Team Ticker DsHsBt	Student Registered 2 Post Season Survey Completed 0
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**Website Design**  
Site Diskspace: 0.0 MB  
Max Diskspace: 100.0 MB  
Website Manager

**Skill Competitions**  
BESTMania by Mathzing  
Minecraft by UT Dallas

Drivers Scheduler  
Team Scoresheets

You are in Full Access Mode

# What Next?

- Become a Sponsor
- Register a Team
- Mentor a Team
- Volunteer
- Find an Event

<https://registry.bestrobotics.org>