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# Planning Robofest Online World Championships (ROWC)

4/28/2020 1st Draft

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6/xxx/2020 7th Draft

**PDF version of this document is available at  
[www.robofest.net](http://www.robofest.net)**

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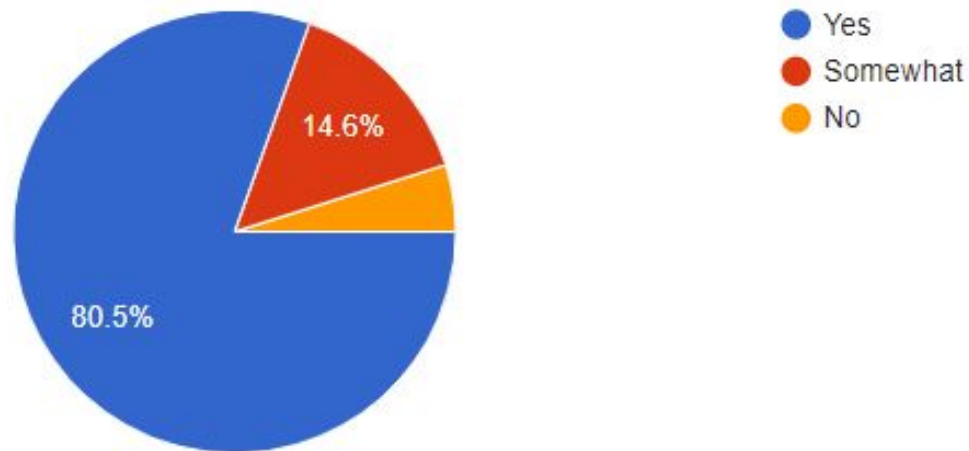
**Zoom Meeting Version on May 26, 2020 at 8AM EDT - revised on July 2 (see #6)**

CJ Chung, Professor, Founder & Director of Robofest

# 2019-20 Overview Video before the lock down

[https://youtu.be/7yL-UfPjZ\\_Y](https://youtu.be/7yL-UfPjZ_Y)

Q1. Do you support the idea of Online World Championships using a video conferencing tool, instead of completely canceling the Robofest World Championship this year?



Survey results in early May, 2020

# Goals of ROWC

- To provide opportunity and motivation for students to continue to learn robotics
- To learn online communication & teamwork skills
- To wrap-up 2019-20 season
- To pilot shifting competitions online and/or virtually when necessary in the future

# Health Safety First

National Directors, coaches, teams, and volunteers must comply with the local COVID-19 related laws, rules, ordinances, and recommendations.

This plan is based on our hopeful assumption that the Coronavirus situation will be better in Aug ~ early October\* globally so that team members can meet to practice at an individual location.

Existing 2020 Robofest teams may be restructured. *Smaller team size is highly recommended.*

(\* ) Since we are planning to kick off 2020-2021 season in November, we cannot delay the Online World Championships later.

# Tentative categories, dates, and time in GMT

- Fri, Aug 28 Jr. UMC (Max 30 teams)
- Sat, Aug 29 Sr. UMC (Max 30)
- Fri, Sep 11 Jr. & Sr. RoboArts (Max 20)
- Sat, Sep 12 Sr. & College RoboMed (Max 20)
- Fri, Sep 18 Jr. Exhibition (Max 20)
- Sat, Sep 19 Sr. Exhibition (Max 20)
- Fri, Sep 25 Jr. BottleSumo, Time Trial only (Max 40)
- Sat, Sep 26 Sr. BottleSumo CL and UL, Time Trial only (Max 40)
- Fri, Oct 9 Jr. Game, GolfBowl (Max 35) (Date updated)
- Sat, Oct 10 Sr. Game, GolfBowl (Max 35) (Date updated)
- Sat, Oct 17 Award Ceremonies (Date updated)

**Start time is 12PM GMT  
or 8AM EDT** (See next slide)

Maximum duration of a  
competition day: 3 hr 30 min

Team registration must be completed 2 weeks before the competition date. We will plan a pre Zoom meeting/dry-run 48 hours (2 days) before the competition day for each category

# How did we decide the start time?

Member Countries /Regions	USA Hawaii	USA WEST	Colombia, Ecuador, Mexico City, USA Central	USA EAST	Canada NS	Ghana, Morocco, Sierra Leone	Nigeria	Egypt, Malawi, S. Africa, Zimbabwe	Ethiopia, Bahrain, Greece, Kenya, Qatar, Saudi	UAE	India	China Beij., Hong Kong, Macau, Philippines, Taiwan	S. Korea	
GMT	-10	-7	-5	-4	-3	0	1	2	3	4	5.5	8	9	
time in 24 hours	15	18	20	21	22	1	2	3	4	5	6.5	9	10	
	16	19	21	22	23	2	3	4	5	6	7.5	10	11	
	17	20	22	23	24	3	4	5	6	7	8.5	11	12	
	18	21	23	24	1	4	5	6	7	8	9.5	12	13	
	19	22	24	1	2	5	6	7	8	9	10.5	13	14	
	20	23	1	2	3	6	7	8	9	10	11.5	14	15	
	21	24	2	3	4	7	8	9	10	11	12.5	15	16	
	22	1	3	4	5	8	9	10	11	12	13.5	16	17	
	23	2	4	5	6	9	10	11	12	13	14.5	17	18	
	24	3	5	6	7	10	11	12	13	14	15.5	18	19	
	1	4	6	7	8	11	12	13	14	15	16.5	19	20	
	2	5	7	8	9	12	13	14	15	16	17.5	20	21	
	3	6	8	9	10	11	13	14	15	16	17	18.5	21	22
	4	7	9	10	11	12	14	15	16	17	18	19.5	22	23
5	8	10	11	12	13	15	16	17	18	19	20.5	23	24	
6	9	11	12	13	14	16	17	18	19	20	21.5	24	1	
7	10	12	13	14	15	17	18	19	20	21	22.5	1	2	
8	11	13	14	15	16	18	19	20	21	22	23.5	2	3	
9	12	14	15	16	17	19	20	21	22	23	24.5	3	4	
10	13	15	16	17	18	20	21	22	23	24	1.5	4	5	
11	14	16	17	18	19	21	22	23	24	1	2.5	5	6	
12	15	17	18	19	20	22	23	24	1	2	3.5	6	7	
13	16	18	19	20	21	23	24	1	2	3	4.5	7	8	
14	17	19	20	21	22	24	1	2	3	4	5.5	8	9	

Events will not start after 9pm or before 5am



# No Vcc... RoboParade $\Rightarrow$ RoboArts

There is no independent RoboParade competition category.

It is suggested for (selected) RoboParade teams to enter **RoboArts** category.

Teams can make the robot with more artistic features such as to dance while following lines. Add more visual art & musical components. Make it more interactive using sensors.



# Suggested Setup of Online Participation for Teams

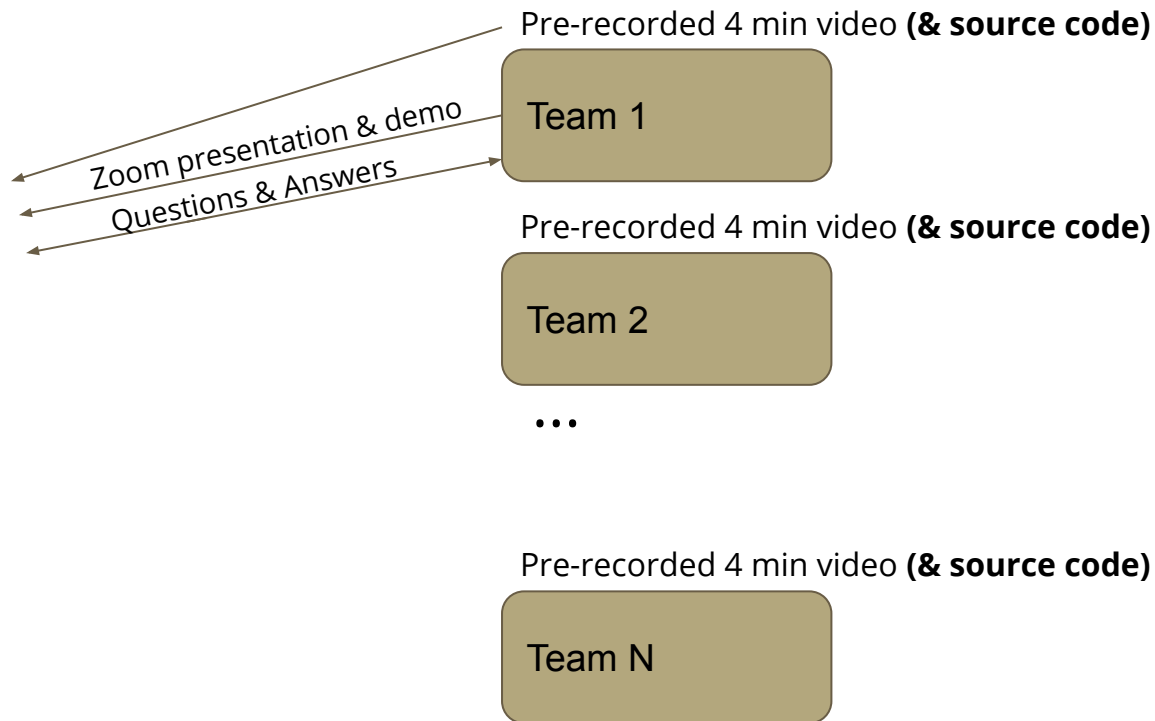
Since we cannot predict the situation in late Aug ~ mid Oct, we recommend the following *near worst case* scenario:

- Each team must be ready to demo & run robots alone at a location
- This means each team must have a playing field and means for video conferencing (camera & microphone). We will assign **one** Zoom login for each team location
- During the Game, UMC, and BottleSumo Time Trial competitions, each team must have its own playing field. We run all robots *at the same time* after unveiling unknown tasks & factors (UTF)
- This is also needed to shorten the duration of competition hours
- Again, multiple teams at one location are not recommended. We may have social distancing issues and sound echo problems if multiple speakers are used

# Judging Concept: Exhibition, RoboArts, and RoboMed



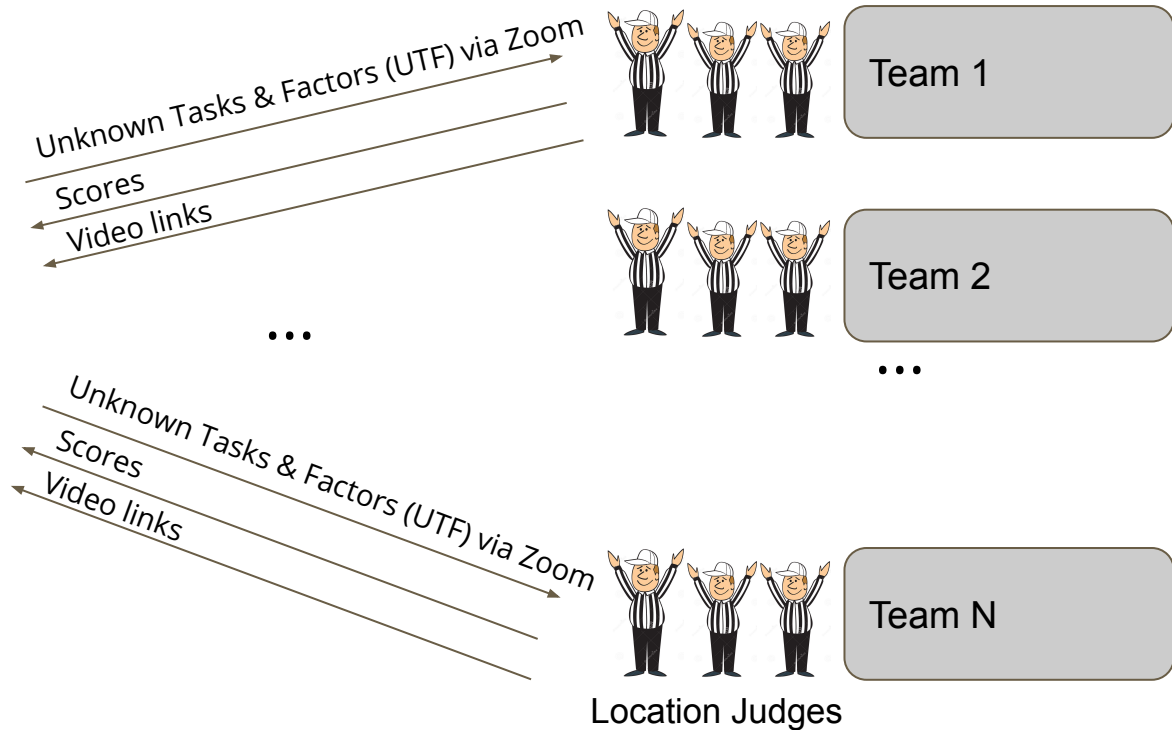
A panel of Judges - all appointed by Robofest Office



# Judging Concept: Game, UMC, and BottleSumo



Robofest Office at LTU



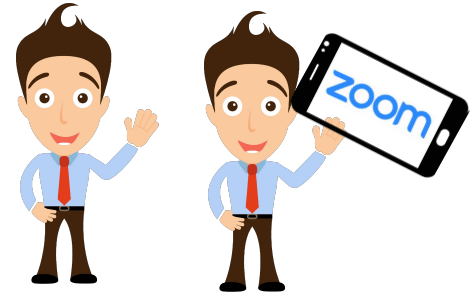
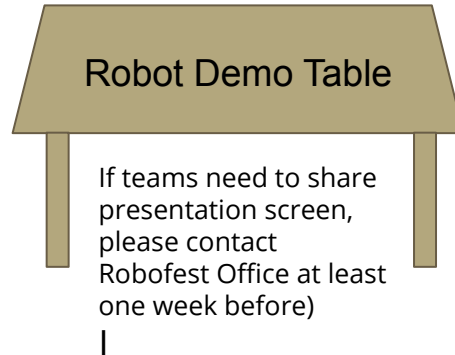
# Ideal Setup: Exhibition, RoboArts, and RoboMed location



One notebook, tablet or smartphone with microphone & camera; Zoom account must be setup and tested



(Parents are encouraged to leave the location. They can join webinar as spectators **or watch livestream on YouTube** outside the location)



Coach

(Assistant) Coach

# Ideal Setup: Game, UMC, and BottleSumo location



Two devices with microphone & camera

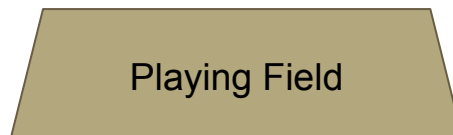


Coach

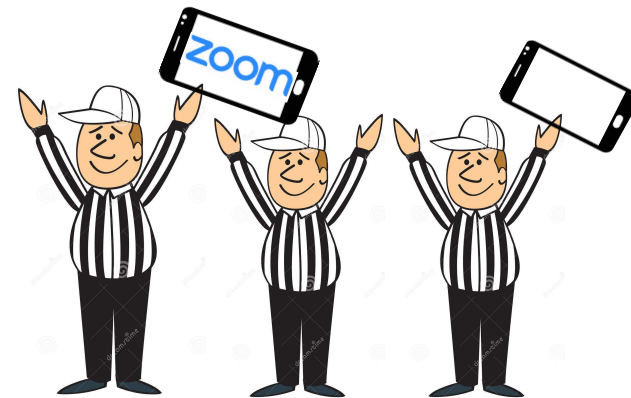
(Parents are encouraged to leave the location. They can join webinar as spectators **or watch livestream on YouTube** outside the location)



Team members



Playing Field



Location  
Head  
Judge  
(LHJ)

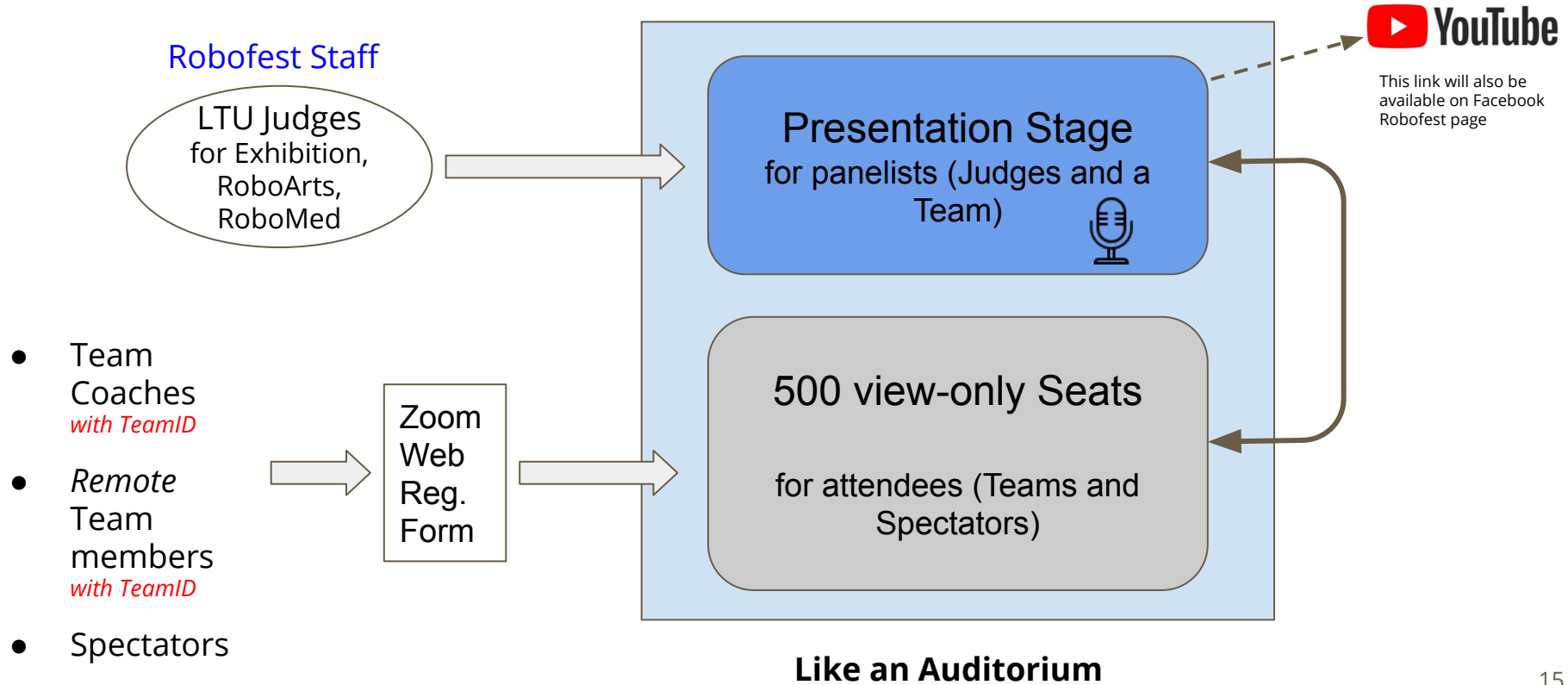
Location  
Judge 1

Location  
Judge 2 -  
Video  
recording

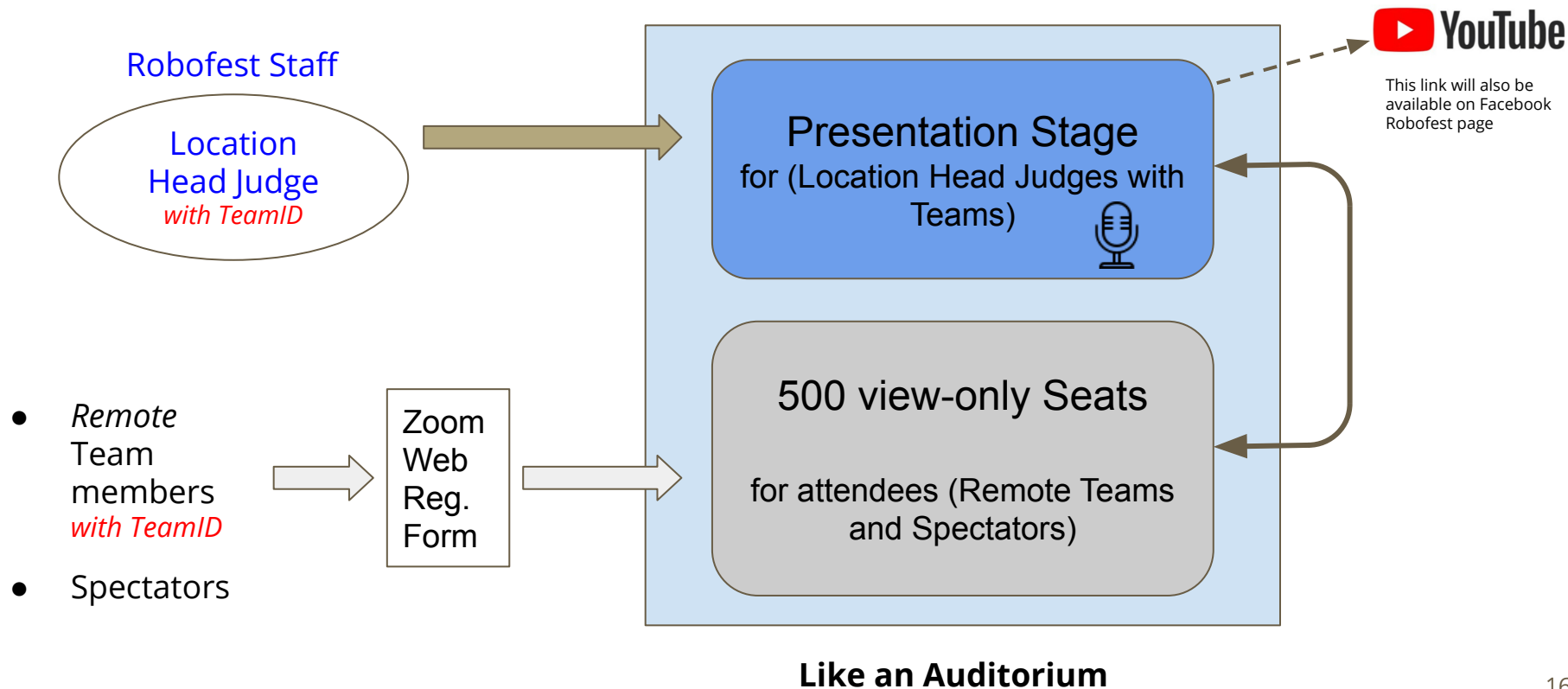
# Zoom Webinar - Online Video Conferencing Tool

- Purchased Zoom Webinar is different from free Zoom Basic for meetings
- One Zoom connection per team location (Webinar registration with Team ID required). If you need more connections due to remote members, please let Robofest Office know
- Zoom Webinar provides functions for view only audience
- Due to limited webinar connections (500), we will use YouTube live in addition

# Zoom “Webinar” Environment for Exhibition Style



# Zoom “Webinar” Environment for Game Style





# Who is Registering the Team in Zoom?

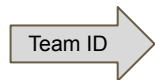
## Game, UMC, and BottleSumo:

**Location Head Judge** (LHJ) - a person who is in charge of setting up the playing field, Zoom camera setup, proctoring, and Judging (Must be approved by the National Director)

## Exhibition, RoboArts, and RoboMed:

**Team Coach** is in charge of the setting up the exhibition table and Zoom camera setup.

## How Exhibition Style Team Coaches & Remote team members will Register for Zoom (The Team ID must be added before your first name)



First Name \*

1234-2 YourFirstName

Last Name \*

Last Name

Email Address \*

youremail@gmail.com

Confirm Email Address \*

youremail@gmail.com

*For Zoom security reasons,  
one email address cannot  
be used for multiple  
computers*

I am a... \*

Team Coach

Team ID (if you selected Team in the previous question)

1234-2

Register

Note: LHJs for Game Style will be using a Google Form

# How to Advance Teams for Main Categories (Game and Exhibition)

- Using the current 2019-2020 rules:
  - Teams from official sites completed already
  - Teams from the Video Submission Sites (Due Aug 3)
  - Teams by Official *Exclusive* National Directors (send numbers to CJ Chung)
- Some spaces for teams filled by new countries (first come first serve).
- Some spaces for (new) teams filled by the USA (first come first serve)

# How to Advance Teams for Open Categories (RoboArts, RoboMed, UMC, BottleSumo)

- Spaces for teams filled by Official *Exclusive* National Directors
- Some Spaces for teams filled by new countries (first come first serve).
- Some Spaces for teams filled by the USA (first come first serve)

# How to Judge & Decide Winners for Exhibition Style

- Teams are *required* to provide a video link (as well as source code files) on the Robofest registration system. Judges will review before the competition
- Judges are selected by Lawrence Tech Robofest office. Bios will be available
- Host gives the microphone (unmute) to each team
- Each team has 4 minutes to present & demo robot(s)
- Judges will ask questions *after the presentation for 2 minutes*
- Teams must use English for all communications. Judge's question may be translated at local only when teams did not understand. However, teams must answer directly in English. Judges may send chat text as well for questions.
- Judges may ask additional questions by email to teams within 24 hours after the competition. Teams must answer within 24 hours
- Detailed document will be available later

# Tentative Program Schedule for Exhibition Style (20 teams)

1. Zoom check-in for coaches and Judges. Microphone and camera will be tested for each team location (30 minutes)
2. Opening (8 min)
  - a. LTU remarks by video (2 min)
  - b. Introduction of Judges and rules (4 min)
  - c. Announcements such as presentation orders (2 min)
3. Team presentation (4 min) and Q&A (2 min) for each team. If 20 teams, it will take 140 minutes (  $(4+2+1) \times 20$  )
4. Closing (2 min) [total: 3 hrs]

*Winners of all categories will be announced on the day of Closing Ceremonies*

# How to Manage, Judge, & Decide Winners for Game

- Jr and Sr competitions will have totally different UTFs
- Team ID sign needed
- Team & robot intro time before unveiling challenges for special awards decided by Robofest office staff
- Need to check playing field setup before the official runs
- Each location must have **location judges** to proctor & prevent unauthorized activities. See next slides
- No impounding robots needed. We run all at the same time for each round

# Qualification & Roles of Location Judges for Game Style

- Location Judges (LJ) must complete and sign the Pre-Event Checklist, show it during check-in and submit with the official scores
- LJ must sign a pledge document and recite the pledge during the opening ceremony
- LJ needs to be a person who does not have any direct relation to the team and approved by the National Director
- LJ must attend Zoom training
- LJ are to proctor & prevent unauthorized activities
- LJ will score each round and submit the official scores
- Location Judges are responsible for capturing a video of each run for score verification, uploading it to YouTube, then sending the link
- The video must show our identifiable Zoom screen & sound in the beginning & the end for us to verify whether the video was taken during the official time
- The videos must be uploaded and links must be sent within 1 hour of the end of the competition



# How to appoint Location Judges for each physical location of Game Style Competition? (Game, UMC, and BottleSumo Time Trial)

- Method 1: National or Regional Director appoints & send Judges to each location (preferred)
- Method 2: Each team recommends Judges and National Director select / approve them

Highly encouraged to take GolfBowl Game or BottleSumo Judge Certification provided by Robofest eAcademy at <https://robofest.net/index.php/tech-resources/certification>

# Location Judge's Oath

*On my honor, I agree to serve today as an official location judge of a Robofest online World Championship in a completely fair and impartial manner for this global event.*

*I personally commit to this responsibility with no previous conflicts of interest, direct relationship to the teams, or pre-determined expectations for the outcome of the competition.*

*I understand the spirit of robofest that students solve problems and adult coaches/parents are not allowed to assist during the competition.*

*I have read the rules carefully, understand them clearly, and will make my evaluations based on the rules.*

*After the competition, I will submit videos and scores with integrity.*

# Tentative Schedule for Game (35 teams)

- Zoom check-in for Location Head Judges. Microphone and camera will be tested for each team. Pre-event checklist will be verified as complete. (30 min)
- Opening (15 min)
  - LTU remarks by video
  - Rules; Introduction of Location Judges; Judge's oath
  - Announcements such as presentation order
  - Contestant pledge
- Team & robot introduction (1 minute for each team,  $1.5 \times 35 = 53$  min)
- Unveiling UTF, **1st Round** (5 min)
  - 30 min Worktime (Check Playing Fields)
  - 1st Round after checking field setup & robot dimensions by LHJ (10 min)
- Unveiling UTF, **2nd Round** (5 min)
  - 30 min Worktime (Check Playing Fields)
  - 2nd Round after checking field setup & robot dimensions by LHJ (10 min)
- Closing (2 min) [Total: 3 hr 10 min]

# Tentative Schedule for UMC (30 teams)

1. Zoom check-in for Location Head Judges. Microphone and camera will be tested for each team location. Pre-event checklist will be verified as complete. (30 min)
2. Opening (13 min)
  - a. LTU remarks by video
  - b. Judge's oath, Introduction of Location Judges and rules
  - c. Announcements such as team intro order
  - d. Contestant pledge
3. Team introduction (1 min / team) for Team Spirit awards (1.5x30 = 45 min)
4. Unveiling Unknown mission (5 min) Jr and Sr competitions will have (totally) different challenges
5. Checking Playing Field Setup for each team during **1 hr 50 min** Worktime
6. 1st Run after checking robot dimensions (5 min)
7. 2nd Run after checking robot dimensions without a break (5 min)
8. Closing (2 min) [Total: 3 hr 35 min]

# BottleSumo Time Trial (BSTT) - Rule Updates

- Unknown Start Task (starting method) is unveiled 30 minutes prior to impounding robots
- After impounding, the bottle locations for round 1 will be announced
- After the first round, teams must return the robot to the impounding area. Teams are NOT allowed to modify robot or program.
- The bottle locations for round 2 will be announced right after the 1st round
- Winners will be decided by the average results from the 2 rounds
- Detailed BSTT rules are on the [BottleSumo page](#)

# Tentative Schedule for BottleSumo Time Trial (40 teams)

1. Zoom check-in for coaches and Judges. Microphone and camera will be tested for each team. Pre-event checklist will be verified as complete. (30 min)
2. Opening (18 min)
  - a. LTU remarks by video
  - b. Judge's oath; Introduction of Location Judges and general rules
  - c. Announcements such as presentation order
  - d. Contestant pledge
3. Team & robot introduction (Max. 1 min per team,  $1.5 \times 40 = 60$  min)
4. Unveiling unknown task to start (5 min)
5. Check Playing Fields during the 30 min work-time
6. 1st Round after rechecking robot size and weight by Location Judge. Bottles will be placed after the robot is set (10 min)
7. 2nd Round (*New*) without a break. Bottles will be placed after the robot is set (10 min)
8. Closing (2 min) [Total: 2 hr 45 min]

# Awards & Awards Ceremonies

- All the winners will be announced on Sat. Oct 17th
- 20% teams will be recognized as winners for each category
- Special awards
  - Team Spirit Awards decided by Robofest Office staff
  - Innovative Design Awards decided by LTU Judges
  - Team photo Awards decided by Robofest Office staff
  - ...
- Individual Winner Team Pages on Robofest site will be set up after
- PDF Certificate of Participation can be downloaded from Robofest system
- Participants may receive scholarships if they come to LTU

# Registration Fees

- \$10 USD per team for each category. Credit card via PayPal is only accepted.
- Since this fee will help get commitment, every team **MUST** pay when **registered**. If 2019-2020 team registration fee (\$50) was paid to LTU, then the \$10 will be refunded if the team does not drop out.
- Teams can *order* the following items
  - Paper Certificates
  - Paper Award Certificates
  - Participation Medals
  - Winner Trophies
  - Some Robofest promotional items



# Other Issues

- School grade of team members: not current, but in Spring 2020
- Detailed rules for each category will be available before registration begins in late July
- ...

# Robofest Contestant Pledge

*As a Robofest team member, I understand that the focus of Robofest is about learning through competition.*

*My team and I will show integrity by doing our own work and by following all the rules.*

*I promise to do my best to uphold the Robofest Spirit.*

# Video of the Mock Competitions

Mock Online “GolfBowl” Game Competition Videos:

- 12 min version
- 29 min version

Mock Online Exhibition Competition Videos:

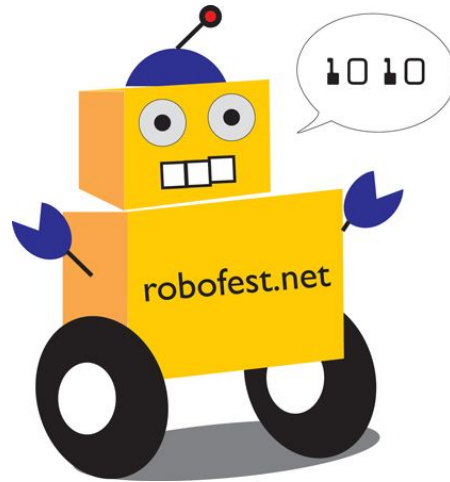
- 9 min version
- 32 min version

Mock Online BottleSumo Time Trial Competition Videos:

- 9 min version
- 29 min version

# Questions?

[robofest@LTU.edu](mailto:robofest@LTU.edu)



Stay safe, Stay healthy,  
and Stay learning