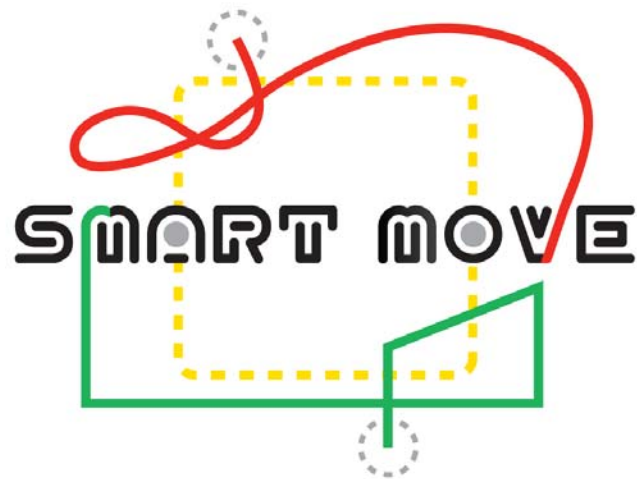




FIRST LEGO League 2009

Smart Move: Solving Transportation Issues



Steve Hinkley, Director of Education, Museum of Nature and Science



Kickoff Objectives

- **FLL – what is it?**
- **Season Timeline**
- **About the Competition**
- **Project Overview**
- **Field and Game Overview**
- **Roles of the Coaches and Mentors**
- **Resources**



What is FLL?

- **FIRST Started in 1989 by Dean Kamen**
- **FRC, FTC, FLL, Jr. FLL**
- **Teamwork**
- **Gracious Professionalism: how we should strive to act, whether we are being watched or not**



Why FLL?

- **Math / Science / Technology / Engineering integration**
- **Long-term dependence on yourself and your team**
- **Responsibility of budget, time, and materials**
- **How to cope with “disasters”**
- **Ability to confront and propose solution to a real-world problem**





Typical Timeline

- **Early September: Register for FLL (gofll.usfirst.org); FLL Kickoff**
 - Gather team members
- **Mid-September: Coaches' Clinic and Kickoff**
- **Early October: Register for NT Regional Championship Tournament**
 - Registration begins October 15, 2009: 214-428-5555 x 8
 - Provide team member names, team profile, logo (if available) and other requested materials to Steve Hinkley
- **November / December: scrimmages with other teams; polish research presentations and robot design**
- **Early January: Perfect Robot Game and Presentation**
 - Possible scrimmage at JCPenney FRC Kickoff
- **Late January: North Texas Regional FLL Championship**
 - January 23, 2010 at The Hockaday School
- **Spring: Clinics and Training for prospective coaches**



About the Competition

January 23, 2010 at The Hockaday School
8 a.m. to 5 p.m.

Four components, weighed equally:

1. Robot Game (the challenge)

- ∴ at least 3 rounds of 2.5-minute game
- ∴ Operated by students only – no coaches or mentors!
- ∴ Complete as many missions as possible

2. Project Judging (required)

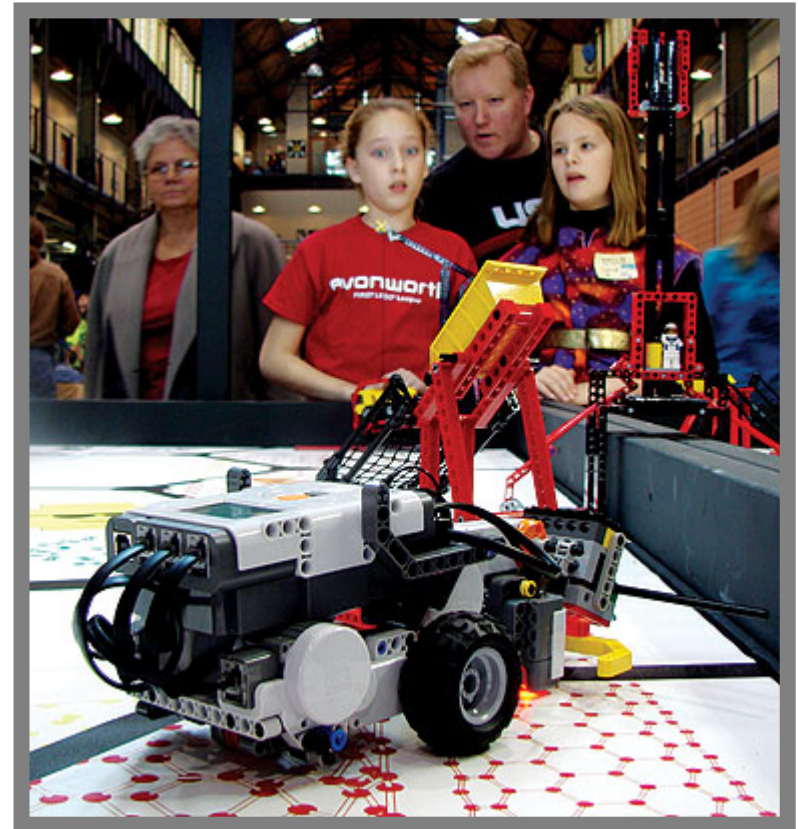
- ∴ Research project relating to the issue of transportation
- ∴ presentation can be a skit – have fun!
- ∴ students only, no coaches or mentors

3. Teamwork Judging

- ∴ how well do the kids interact?
- ∴ students only, no coaches or mentors

4. Technical Design Judging

- ∴ who built and programmed this thing?
- ∴ what strategies did they use?
- ∴ students only, no coaches or mentors





Game Strategy

1. Determine which missions to accomplish

∴ base this on what you can achieve, use the mission worksheet as a guide

2. Determine the order of the missions

∴ don't cluster too many missions in a program

Leave the most complex for the end

3. Determine what attachments to build and complete the missions

∴ changing attachments requires skill and communication; takes time

4. Practice!

∴ learn all about it: how it works, what it is used for, why it is used, what improvements can be made, etc.

5. At the competition:

∴ 3 rounds, only highest score counts, except in ties

∴ teams paired up randomly, compete side-by-side

∴ shared missions need to be completed by both teams

∴ two people allowed at table at any given time

∴ protect the robot – carry it in a separate case if needed

∴ can be reconfigured during match; reprogrammed between matches

∴ tweakings happen between matches in the pit area

∴ bring extra batteries

∴ robot should look presentable to judges – keep it “ clean”

∴ if it's not covered in the rules, it's LEGAL



About the Project

Research Project is required

1. Starting Point:

- ∴ FLL website > Challenge > Project
- ∴ read the project description

2. What is the community you are working with?

- ∴ Can be the school, neighborhood, town, state, country, or global

3. How do things move around?

- ∴ how do we move people, animals, supplies, resources, information

4. Choose a form of transportation

- ∴ learn all about it: how it works, what it is used for, why it is used, what improvements can be made, etc.

5. Resources of information

- ∴ books, web, experts/interviews, papers, etc.

6. Create an Innovative Solution

- ∴ what can fix the problem/make it more efficient? How does this help the community? How can it be implemented?

7. Share the solution

- ∴ videos, papers, presentations, skits, letters to officials



About the Project (cont'd)

8. Present your work at the competition:

- ∴ Describe your community, problem and solution
- ∴ Demonstrate the sources
- ∴ Demonstrate how you got your information

9. Presentation style:

- ∴ skit, PowerPoint...keep it entertaining for the judges, while fact-filled
- ∴ Practice!
- ∴ must be no more than 5 minutes, including set-up time

10. Scoring:

- ∴ rubric in the Coaches Handbook



Coach and Mentor Roles

- Keeping the team on schedule
- Managing team dynamics (forming, storming and “norming”)
- Keeping track of rules – Coaches Handbook
- Assisting with strategy, build and presentation **AS A RESOURCE, NOT A DIRECTOR OR PARTICIPANT**
- Managing the team during the competition
- Providing a successful environment where kids are encouraged to solve their own problems



Keep in Mind...

The Game is not the most important part of the competition

You need to model gracious professionalism and proper response to adversity – what you say and do has a ripple effect on the team

Kids need to support each other when problems arise

Coaches need to let kids fix their technical problems

ALL team members must participate in each aspect of the competition

Project Presentation is required for any award

Invite fans and friends to cheer on the teams!

Don't Panic!





Resources and Support

- **USFIRST: problems with your products, rules of the game or project (Coaches Handbook), other technical issues (problems with website)**
 - www.usfirst.org/roboticsprograms/fll
- **Steve Hinkley (MNS): season schedule, change in team, questions about the competition**
 - Email: shinkley@natureandscience.org
 - Phone: 972.201.0609
- **MNS website (www.natureandscience.org): Competition details / schedule, links to resources**
- **Ken Berry (UTD): technical programming questions, clinics**
- **Each other: scheduling scrimmages, team personality issues**

<http://www.usfirst.org/roboticsprograms/fll/Default.aspx>