

EL DORADO COUNTY ROBOTICS PROJECT 2011-12

Presented By

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El Dorado County Youth Commissioner

And

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Team Nova, First Robotics

Project Goal



- Increase interest in Science, Technology, Engineering, and Math through robotics programs
- Keep school-aged kids engaged in productive activities (and out of trouble)

Plan

- Identify robotics programs for student participation
- Advertise learning opportunities
- Recruit local robotics teams to help train students
- Recruit adult volunteers for team formation
- Conduct training of adult volunteers (“Train the Trainer” program)

Execution

- Teamed up with 4-H to learn Lockheed Martin Robotics curriculum in Summer of 2011
- Recruited FTC Robotics Team Nova for training and mentoring
- Trained in Junk Drawer Robotics
- Advertized online and in other forums to gauge interest

Execution (continued)

- Held informational meeting at Intel in November, 2011 - over 70 attendees
- Recruited adult mentors for teams in January, 2012
- Training of the mentors with several meetings at Intel by Team Nova members Millun Atluri, Rohun Atluri, Nathan Somavarapu and coach Srini Atluri in March & April 2012
- Interest in forming four robotics team

Intel Presentation



Training of Coaches



Progress To Date

- Enough interest to form four robotics teams (each team with ten members and two adult mentors)
- Project delayed due to lack of availability of 4-H Robotics kits and funds
- Recently secured grants from University of California Cooperative Extension (UCCE) for starter kits for four teams

Next Steps

- Buying parts and putting together the junk drawer robotics kits for each of the teams
- Complete junk drawer robotics curriculum for all the teams in summer 2012
- Help teams interested in forming FIRST Robotics league teams in fall 2012

Goals for 2012/13

- Work with El Dorado County Education Department to gauge robotics interest in elementary, middle and high schools
- Recruit other interested kids and coaches
- Apply for grants to assist robotics teams

What can the County Do?

- Encourage activities that increase science, technology, engineering, and math
- Continue to Support Youth Commission
- Provide funding for robotics programs in schools

Junk Drawer Robotics

- Level 1 – Give Robot a Hand
 - ▣ Design a functioning robotic arm, gripper

- Level 2 – Robot on the Move
 - ▣ Build machines that slide, roll or draw

- Level 3 – Mechatronics
 - ▣ Making connections between mechanical and electronic connections

FIRST Robotics

- FIRST (For Inspiration and Recognition in Science and Technology) organization started by Dean Kamen (inventor of Segway) in 1992
- Teamed up with LEGO corporation
- Four levels of competitions
 - ▣ Junior First Lego League
 - ▣ First Lego League
 - ▣ First Tech Challenge
 - ▣ First Robotics Challenge

Objectives

- Foster interest in science and technology
- Instill gracious professionalism through “coopertition”
- Develop team work and problem solving skills
- Community connections

Junior First Lego League (Jr FLL)

- For Kids ages 6-9 (K-3)
- Team can have 2-6 kids
- Create a “Show Me Poster” for a project
- Create a Lego project model
- Relatively inexpensive (approx. \$500)
- Last season there were 2600 teams

First Lego League (FLL)

- Up to 10 kids aged 9-14
- Develop a solution for a problem (research and presentation)
- Share research with community
- Conduct outreach and help others
- Design a robot using Lego parts
- Annual cost around \$1000
- 19,800 teams from 30+ countries

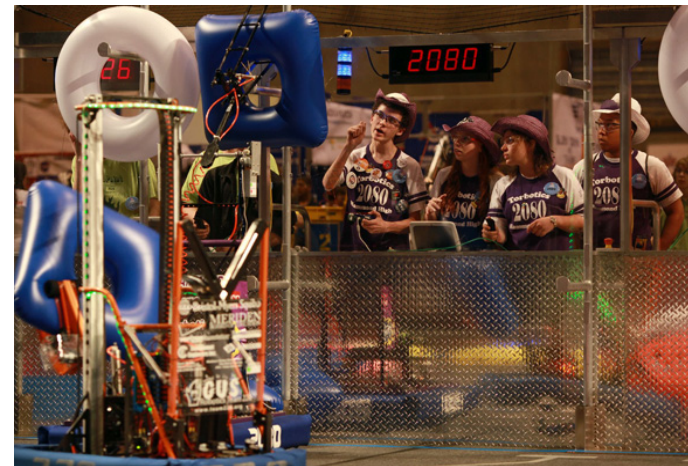
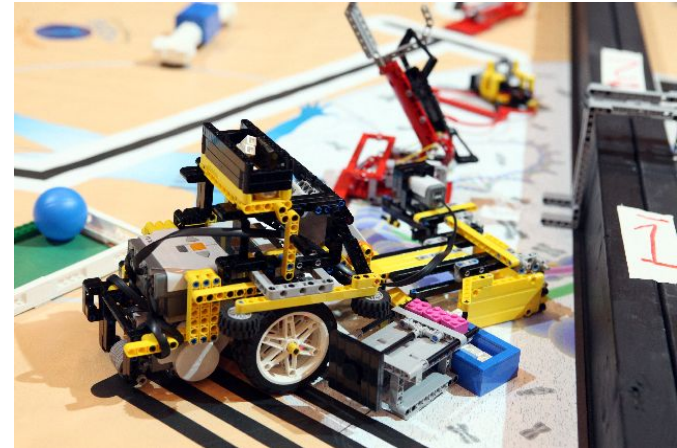
First Tech Challenge (FTC)

- Design robot
- Conduct outreach
- Mentor other teams
- Robot competition
- Up to 10 kids ages 14-18
- Annual cost around \$3000
- 2100 teams from 12+ countries

First Robotics Challenge (FRC)

- Design robot
- Conduct outreach
- Mentor other teams
- Robot competition
- Up to 100 kids ages 14-18
- Cost up to \$25,000
- 2433 teams from 10+ countries

First Pictures



QUESTIONS?

Team Nova Introduction & Robot Demo

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