

FIRST LEGO League Scoring Software

Danny Diaz
National Instruments

FIRST LEGO League Scoring Software

Introduction

- Who am I?
 - Danny Diaz, National Instruments
 - Head Referee, Central Texas FLL
 - Wanted something “more robust” than Excel Sheet
 - FRC Mentor (418, Austin TX)
 - Volunteer developer, offering software for free
 - National Instruments providing LabVIEW for project
 - Not affiliated with *FIRST*



FIRST LEGO League Scoring Software

Introduction

- What is the FLL Scoring Software?
 - Application written using NI LabVIEW
 - LabVIEW chosen for determinism over web-based tools
 - Handles competition management duties
 - **Scorekeeping** – Easy to use score entry/validation
 - **Timing** – Functional timer for robot game
 - **Score Displays** – Display score results
 - Used in conjunction with other tools/apps

FIRST LEGO League Scoring Software

Introduction

- What does the FLL Scoring Software NOT do?
 - DOES NOT create competition schedules
 - Bryan Lee (BAE) provides Excel-based Schedule Generator, results used by software
 - DOES NOT do pre/post tournament slideshows
 - e.g. “Winners” slides, Skip Gridley’s solution does!
 - DOES NOT handle judging information
 - Skip Gridley provides different solution

FIRST LEGO League Scoring Software

Minimum Requirements

- Windows 2000, XP, Vista
 - Computer capable of running the OS
- Mac OS X 10.4 or better*
 - Computer capable of running the OS
 - Must be Intel-based Mac, No PowerPC support

FIRST LEGO League Scoring Software

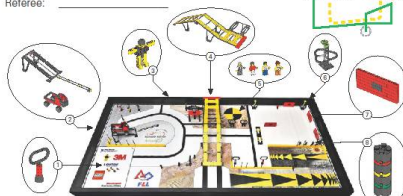
Minimum Technical Knowledge

- Single System (OS Independent)
 - Basic Administration knowledge
 - Admin User Privileges
 - Knowledge of how to use an extended desktop
 - Ability to run a software installer and launch programs
- Remote System (OS Independent)
 - Basic Administration knowledge
 - Basic Networking knowledge
 - Includes basic networking experience

Components

- Tournament Software Components
 - Score Sheets
 - Paper score sheets for Referees
 - Control Application
 - Provides Timer / Game Clock
 - Handles Score Tracking / Validation
 - Allows networked connectivity to multiple computers
 - Display Application
 - Provides Main/Pit Display of scores/schedule
 - Provides Sponsor Logo Display
 - Displays Timer / Game Clock
 - Bryan Lee's Excel Schedule Generator
 - Skip Gridley's Judging Software

Team #: _____
Round: _____
Referee: _____




START MOVE

(please circle all selections)

1	Loops	# loops in base:	0	1	2	3	4	5	6	7	8	9	10	11
2	Vehicle Impact Test	Truck touching ramp/red stopper beam?	Yes	No										
3	Crash Test Dummy	Figure aboard vehicle throughout match?	Yes	No										
4	Vehicle Location at End of Match	Parked on round Target Spot?	Yes	No										
		Parked on ONLY Yellow Bridge Decking?	Yes	No										
		Parked on ANY Red Bridge Decking & NOT on mat?	Yes	No										
5	Multiple Passenger Test	All four people sitting or standing in transport device?	Yes	No										
		Device touching round target area?	Yes	No										
6	Access Markers	# access markers in down position:	0	1	2	3	4							
7	Sensor Walls	# sensor walls upright:	0	1	2	3	4	5						
8	Warning Beacons	# beacons upright:	0	1	2	3	4	5	6	7	8			

Team Initials _____



FLL Tournament Software Control

System Profile
Functions
Score Table
Server Configuration
Schedule Config
Sound Config
Network Config
Screen Config

Team Selection: 8005, Alleskönner?!

Round Selector: Round 1

Automatic: 400


SUBMIT SCORE

Instructions: For each of the mission questions, please click on the appropriate field state observed at the END of the match. All questions must have an answer indicated, and the indicated answer will run GAMES. To change an answer, just click on the appropriate answer. To reset all selections, click on the Blue RESET All button below. The Team Score field will update each time a new selection is made (or changed).

1	Loops	# loops in base:	0	1	2	3	4	5	6	7	8	9	10	11
2	Vehicle Impact Test	Truck touching ramp/red stopper beam?	YES	NO										
3	Crash Test Dummy	Figure aboard vehicle throughout match?	YES	NO										
4	Vehicle Location at End of Match	Parked on round Target Spot?	YES	NO										
		Parked on ONLY Yellow Bridge Decking?	YES	NO										
		Parked on ANY Red Bridge Decking & NOT on mat?	YES	NO										
5	Multiple Passenger Test	All four people sitting or standing in transport device?	YES	NO										
		Device touching round target area?	YES	NO										
6	Access Markers	# access markers in down position:	0	1	2	3	4							
7	Sensor Walls	# sensor walls upright:	0	1	2	3	4	5						
8	Warning Beacons	# beacons upright:	0	1	2	3	4	5	6	7	8			

Team Score: 400

Team Initials _____



FIRST LEGO League Scoring Software

Configurations

- Multiple Configurations
 - Single Computer, Single Source
 - Computer Video Plugged Directly Into Projector
 - Only really viable for Laptop w/ exported display
 - Must freeze image on projector frequently



FIRST LEGO League Scoring Software

Configurations

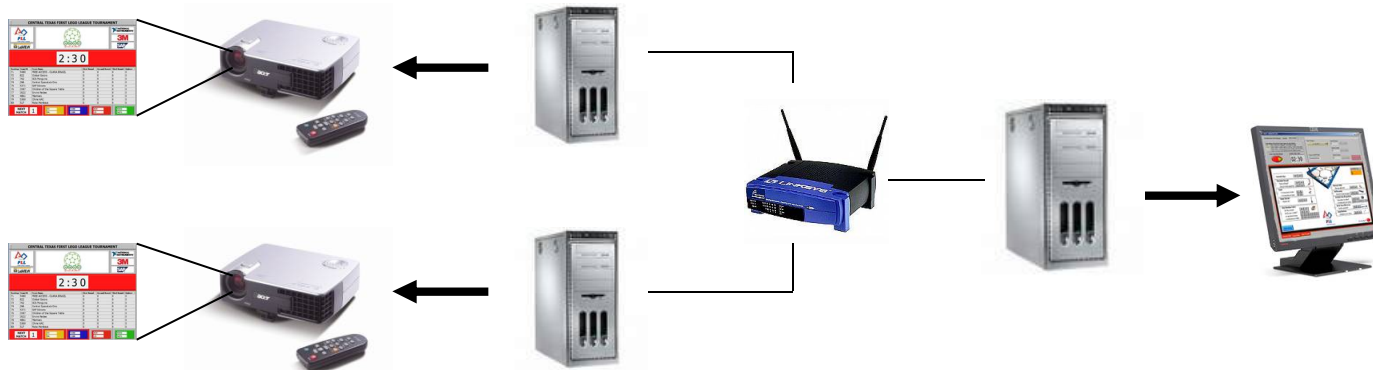
- Multiple Configurations
 - Single Computer, Multiple Sources
 - One Computer w/ Extended Desktop
 - Main Display Operating Control Application
 - Extended Display Operating Display Application



FIRST LEGO League Scoring Software

Configurations

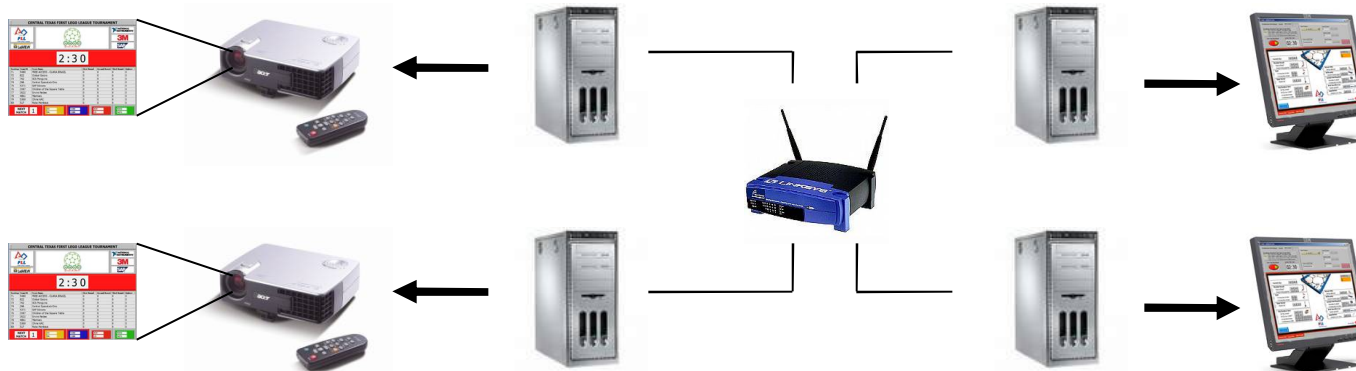
- Multiple Configurations
 - Remote Computers, Simple Configuration
 - Local System with Score Entry
 - One or more Networked Systems Using Display App



FIRST LEGO League Scoring Software

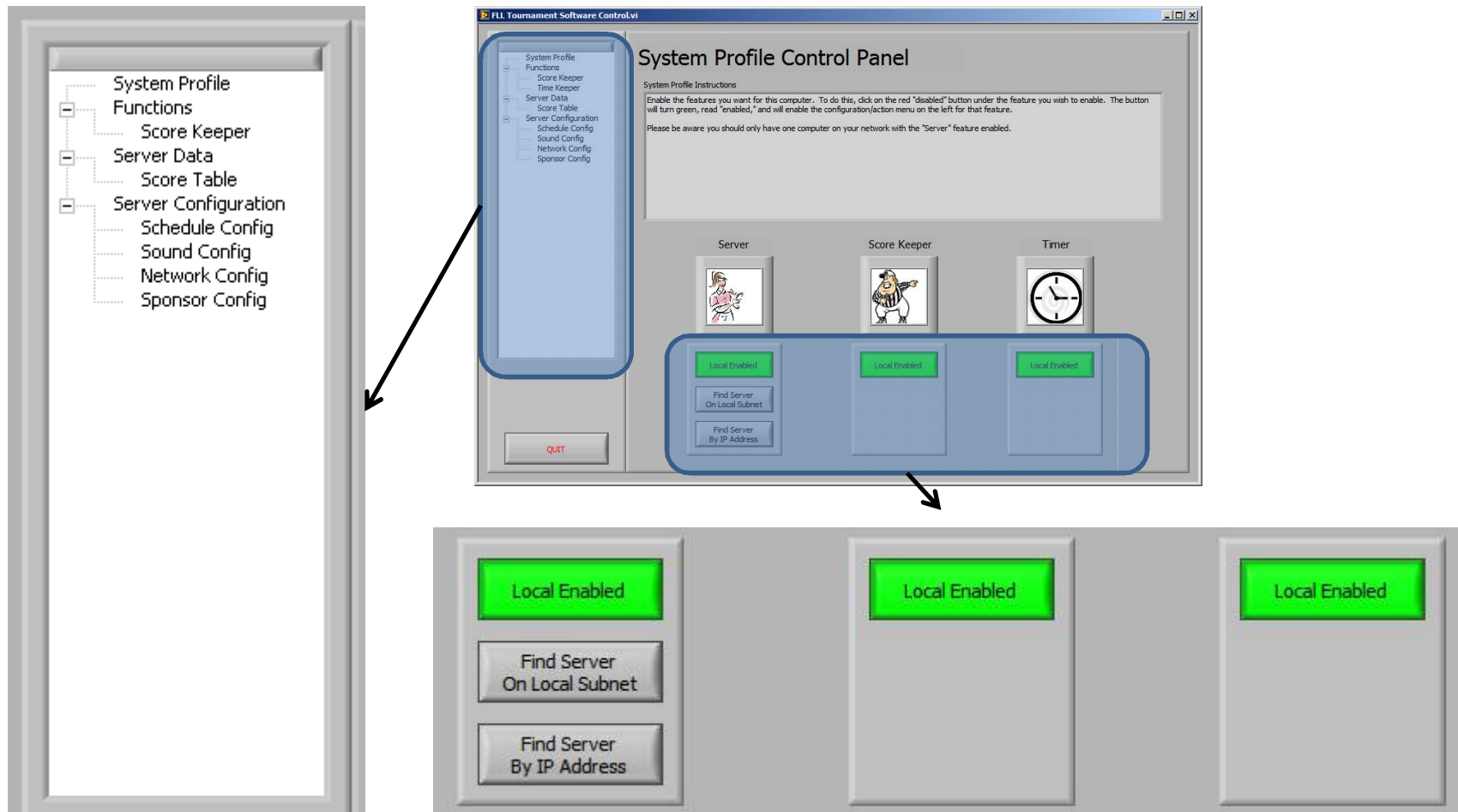
Configurations

- Multiple Configurations
 - Remote Computers, Advanced Configuration
 - One Networked System for Timer
 - One or More Networked Systems for Score Entry
 - One or More Networked Systems for Display



FIRST LEGO League Scoring Software

System Setup / Navigation



FIRST LEGO League Scoring Software

Score Entry

FLL Tournament Software Control.vi

System Profile
Functions
 Score Keeper
 Time Keeper
Server Data
Score Table
Server Configuration
 Schedule Config
 Sound Config
 Network Config
 Sponsor Config

Team Selection: 131, The Brainy Bunch

Round Selector: Round 1

Automatic: 400

SUBMIT SCORE

1 Loops
loops in base: 0 1 2 3 4 5 6 7 8 9 10 11

2 Vehicle Impact Test
Truck touching ramp red stopper beam? YES NO

3 Crash Test Dummy
Figure aboard vehicle throughout match? YES NO

Vehicle Location at End of Match
Parked on round Target Spot? YES NO
Parked on ONLY Yellow Bridge Decking? YES NO
Parked on ANY Red Bridge Decking & NOT on mat? YES NO

5 Multiple Passenger Test
All four people sitting or standing in transport device? YES NO
Device touching round target area? YES NO

6 Access Markers
access markers in down position: 0 1 2 3 4

7 Sensor Walls
sensor walls upright: 0 1 2 3 4 5


8 Warning Beacons
beacons upright: 0 1 2 3 4 5 6 7 8

Instructions:
For each of the mission questions, please click on the appropriate field state observed at the END of the match. ALL questions must have an answer indicated, and the indicated answer will turn GREEN. To change an answer, just click on the appropriate answer. To reset all selections, click on the blue RESET ALL button below. The Team Score field will update each time a new selection is made (or changed).

Team Score: 400

RESET ALL

Team Initials


FIRST LEGO League

QUIT

FIRST LEGO League Scoring Software

Display / Game Timer*

CENTRAL TEXAS FIRST LEGO LEAGUE TOURNAMENT



2:30

Ranking	Team ID	Team Name	First Round	Second Round	Third Round	Highest
71	5480	FREE ACCESS - CUARA BRASIL	0	0	0	0
72	822	Global Gators	0	0	0	0
73	752	SCS Penguins	0	0	0	0
74	266	Central SpaceLab One	0	0	0	0
75	5371	SAP Edisons	0	0	0	0
76	3187	Children of the Square Table	0	0	0	0
77	3622	Enviro Nodes	0	0	0	0
78	4861	Mariners	0	0	0	0
79	5360	China AAC	0	0	0	0
80	517	Robo Monkeys	0	0	0	0

NEXT MATCH **1**

74

96

5440

3188

439

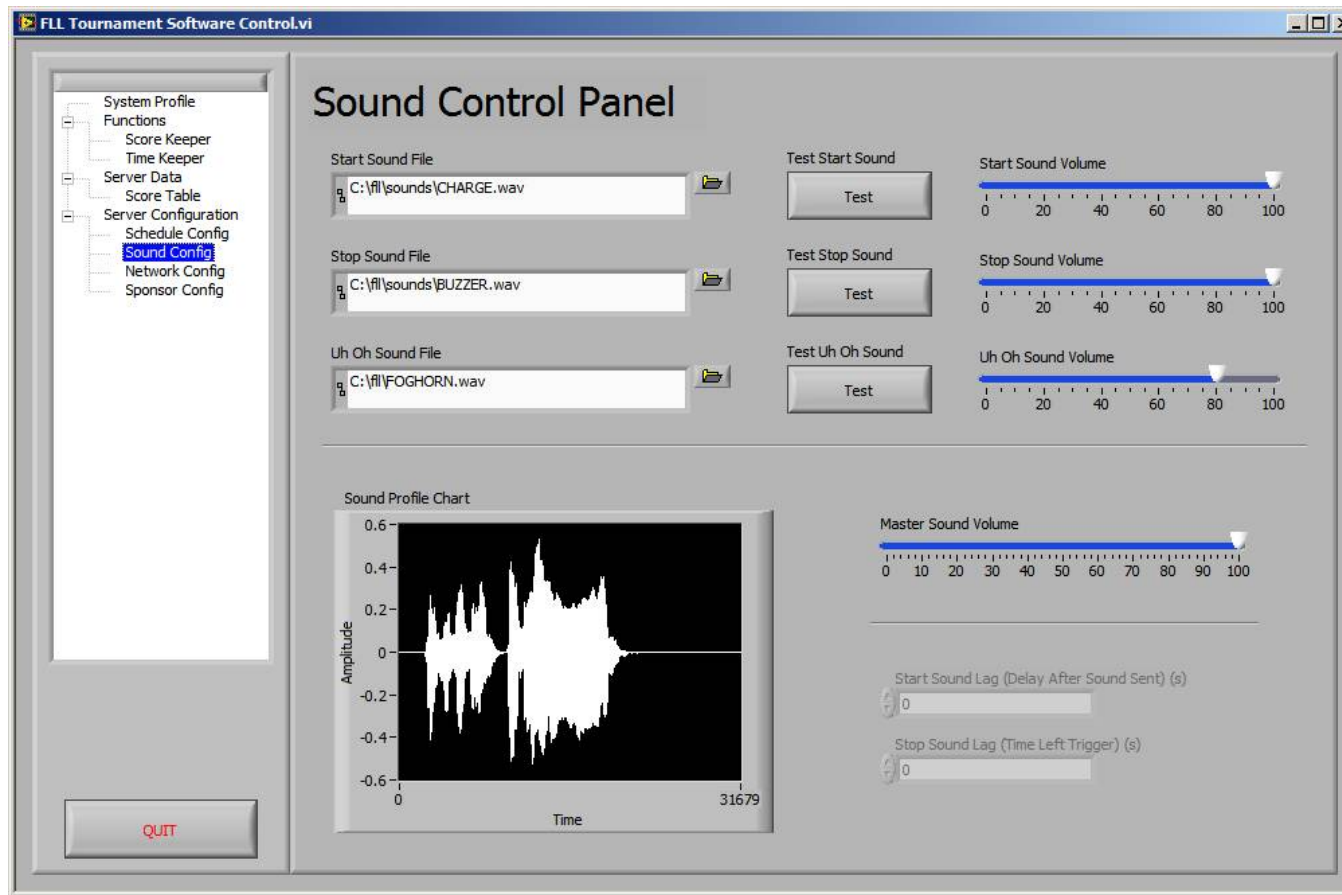
13

5410

5471

FIRST LEGO League Scoring Software

Sound Configuration



FIRST LEGO League Scoring Software

Software Features Not Implementing

- No “native” support of custom configurations
 - Only support 1x1, 2x2, 3x3, ... competition format
- No “Sound Lag” features
 - No timer start/stop before/after sounds

Schedules

- Mid October Initial Release
 - Schedules have shifted due to developer schedules and availability
- Updates through October
 - Adding “creature features”
 - Fixing bugs
- October 27th 7:00 PM EST Software Training
 - Web-enabled training for tournament coordinators
- Software will “freeze” in November unless bugs/issues are found.

FIRST LEGO League Scoring Software

Getting Critical Updates

- Notifications / Discussions / Resources
 - FLL Scoring Software YahooGroup E-Mail List
 - FLLTournamentSoftware-subscribe@yahoogroups.com
 - Distributed via FLL FTP Annex
 - <ftp://forums.usfirst.org>
 - User/pass available from *FIRST*
 - Paper Score Sheets Available Online
 - <http://www.centraltexasfll.org/software/2009/>

FIRST LEGO League Scoring Software

Getting Support

- Definite support for World Festival
- Definite support for Championship tournaments, pre-tournament help
 - Contact Danny, can provide cell phone number
- Limited support for Qualifiers
- Contact Danny for others
 - danny.diaz@ni.com

Questions

- Questions?