Developing Web Applications for N.I.H.L.

Team IPRO 308
Introduction

• Sponsor: Northern Illinois Hockey League
• Scheduling Process
• Statistics Management
Project History

• Previous work
  - Began Fall ‘09
  - Website was created
    i. Basic website layout
    ii. Preliminary match making algorithm
Objectives

• Complete match-making algorithm
• Conduct usability testing
• Update/improve user interface
• Packaging and Deployment
Team Development and Performance

- Team composed of various majors
- SubTeams
  - Coding
  - User Interface
  - Usability
Usability Team
Accomplishments

• Conducted audience analysis
• Developed test procedures
• Recruited end users
• Conducted usability tests
Findings

• Confusion with inconsistent date and telephone number formats
• Poor team filtering
• Dropdown boxes were found useful
# Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Complete scheduling functionality</td>
<td>High</td>
</tr>
<tr>
<td>2. Add confirmation page after data entry to verify input</td>
<td>High</td>
</tr>
<tr>
<td>3. Switch login to the left side of the screen</td>
<td>Medium</td>
</tr>
<tr>
<td>4. Fix inconsistent formats of phone numbers</td>
<td>Medium</td>
</tr>
<tr>
<td>5. Fix inconsistent formats of dates</td>
<td>Medium</td>
</tr>
<tr>
<td>6. Remove or edit the active checkbox</td>
<td>Low</td>
</tr>
</tbody>
</table>
User Interface Accomplishments

• Improved design layout
• Dropdown lists
  – Multiple navigation menus to-
  – Single consistent navigation menu
• Sorting fields
• Team details page
Before: Design Layout
After: Design Layout

NIHL Season Scheduling and Statistics

Reminders
- Username
- Password
- Lost your password?

Login

Season Information
- 2009 Season is currently in Preparation phase.
- 233 teams registered.
- 1 game played.

Quick Links
- View match ups and schedule games
- View team statistics
- Browse upcoming games
- Browse recent games
- Read help pages

Recent Games

<table>
<thead>
<tr>
<th>Game</th>
<th>Date and Time</th>
<th>Rink</th>
<th>Status</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Squirts Gold] Ice Dogs #1 v. [Mite Gold] Jets #1</td>
<td>Sep 30, 2009 09:20 PM</td>
<td>Glacier Ice Arena</td>
<td>Completed</td>
<td>2:1</td>
</tr>
</tbody>
</table>

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Help | Frequently Asked Questions | Contact League Administrators
Before: Sorting Fields

### Team Statistics

<table>
<thead>
<tr>
<th>Team</th>
<th>Level</th>
<th>Division</th>
<th>GP</th>
<th>Wins</th>
<th>Losses</th>
<th>Ties</th>
<th>PTS</th>
<th>GF</th>
<th>GA</th>
<th>+/-</th>
<th>SOG</th>
<th>TPM</th>
<th>GFA</th>
<th>AVG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falcons #1</td>
<td>Elite</td>
<td>Mite</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>48</td>
<td>2.0</td>
<td>4.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Blues #1</td>
<td>Elite</td>
<td>Mite</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Sabres #1</td>
<td>Elite</td>
<td>Mite</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Huskies #1</td>
<td>Elite</td>
<td>Mite</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>Glenview #1</td>
<td>Elite</td>
<td>Mite</td>
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<td>0</td>
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<td>0.0</td>
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<tr>
<td>Wilmette #1</td>
<td>Elite</td>
<td>Mite</td>
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<td>Ice Dogs #1</td>
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<td>Elite</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Falcons #2</td>
<td>Silver T2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Falcons #3</td>
<td>Bronze T2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Falcons #1</td>
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<tr>
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<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
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<td>Bronze T2</td>
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</table>

The image shows a screenshot of a user interface for sorting teams by division, level, and club, with corresponding tables for different hockey clubs.
Before: Team Details

### Team Detail: Falcons #1

<table>
<thead>
<tr>
<th>Team Detail</th>
<th>Falcons #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division:</td>
<td>Mite</td>
</tr>
<tr>
<td>Skill Level:</td>
<td>Elite</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Season &amp; Club</th>
<th>2009 Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>Club:</td>
<td>Falcons Hockey Club</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Team Manager</th>
<th>Robb Kremkow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager Name:</td>
<td></td>
</tr>
<tr>
<td>Manager Email:</td>
<td><a href="mailto:rkremkow22@yahoo.com">rkremkow22@yahoo.com</a></td>
</tr>
<tr>
<td>Manager Phone:</td>
<td></td>
</tr>
</tbody>
</table>
After: Team Details

Team Detail: Ice Dogs #1

Win/Loss
- Games Won: 1
- Games Lost: 0

Recent Games
Date: 09/30/2009 06:20 PM
- Winner: Ice Dogs #1
- Loser: Jets #1

Upcoming Schedule
Date: 2009-09-30 18:20:00
Type: Seeding Game
Rink: Glacier Ice Arena
Opponent: [Mite Gold] Jets #1

Date: 2009-10-04 11:40:00
Type: Seeding Game
Rink: Glacier Ice Arena
Opponent: [Mite Gold] Redwings #1

Date: 2009-10-21 18:20:00

Team Detail
- Team Name: Ice Dogs #1
- Division: Squirts
- Skill Level: Gold

Season & Club
- Season: Ice Dogs #1
- Club: Ice Dogs Hockey

Team Manager
- Manager Name: Lessa Drazner
- Manager Email: nihlapp@gmail.com
- Manager Phone:

Team Coach
- Coach Name: Steve Dubinsky
- Coach Email: sdubinsky@glacierhockeyzone.com
- Coach Phone:

Create Team | Update Team | List Teams
Coding Team Accomplishments

- Completed match making algorithm
- Fix system’s logic errors
  - Was not tested when system had little/no data
  - Creating new season -> system fails
  - Added logic so that system could handle minimal data
Challenges Encountered

• Emulating stages of the hockey season
  – Unable to rollback to scheduling stage
• Usability tests
  – Attaining suitable number of testers
  – Varying locations
• Preparing website for deployment
Ethical Issues

• Usability testing
  – Disclosing information obtained from test
  – Did not gather any identifying information

• Misrepresentation of final product to NIHL
Future of Project

- Continue testing
- Package and deployment of final product
- System maintenance
- Customer service
Questions?