IPRO 330

Dynamic and Contemporary
Science Fair Projects

The Problem

"International and domestic comparison show that American students have not been succeeding in the mathematical part of their education at anything like a level expected of and international leader."

The Final Report of the National Mathematics Advisory Panel, U.S. Department of Education, Washington D.C., 2008

Previous Accomplishments

- Established a website with content that helps CPS students create and develop their science fair projects
- Established contacts with CPS personnel who gave feedback about the IPRO 330 project
- Visited Chicago Public Schools to promote the website
- Created many science fair projects, several of which are math-based
- Created essential guides to aid students with the analysis of their project data

The Plan

- Judge CPS science fairs to understand better the needs of the science fair program
- Develop more contemporary and dynamic science fair projects
- Create high-quality data analysis and presentation skills guides
- Revamp current science fair website to make it more user-friendly
- Establish more contacts with CPS personnel who can give feedback to improve IPRO 330

The Sub-team Plans

Projects/Guides Team

- Improve current projects and guides on the website
- Create more science fair projects
- Create more guides

Infrastructure Team

- Fix problems with current website
- Develop standards for website
- Update website to meet new standards
- Upload new project/guides

Communications Team

- Continue communication with current contacts
- Establish more contacts with CPS personnel
- Create promotional items for IPRO 330

The Difficulties

- Knowledge of precise needs of Chicago Public School science fair program
- Producing contemporary and dynamic science fair project ideas
- Copyright issues regarding material on the website
- Updating website without conflicting with current website

Revised Plan

- Establish contact with University of Chicago's Digital Library's science fair program
- Create a test website as a prototype for the new website, while keeping the old website "live"
- Create a guide based on the safety standards of the CPS science
- Add a quiz for students to narrow down projects based on interest

Code of Ethics

- Overarching Statement:

  "The Science Fair website will provide a quality service to all Chicago Public Schools students, as well as maintain the integrity of the science fair system and its affiliates."

- Pressures and Risks
  - Finding the right balance between giving too much and not enough information
  - Legalities of using copyrighted materials on the website

Allocation of Resources

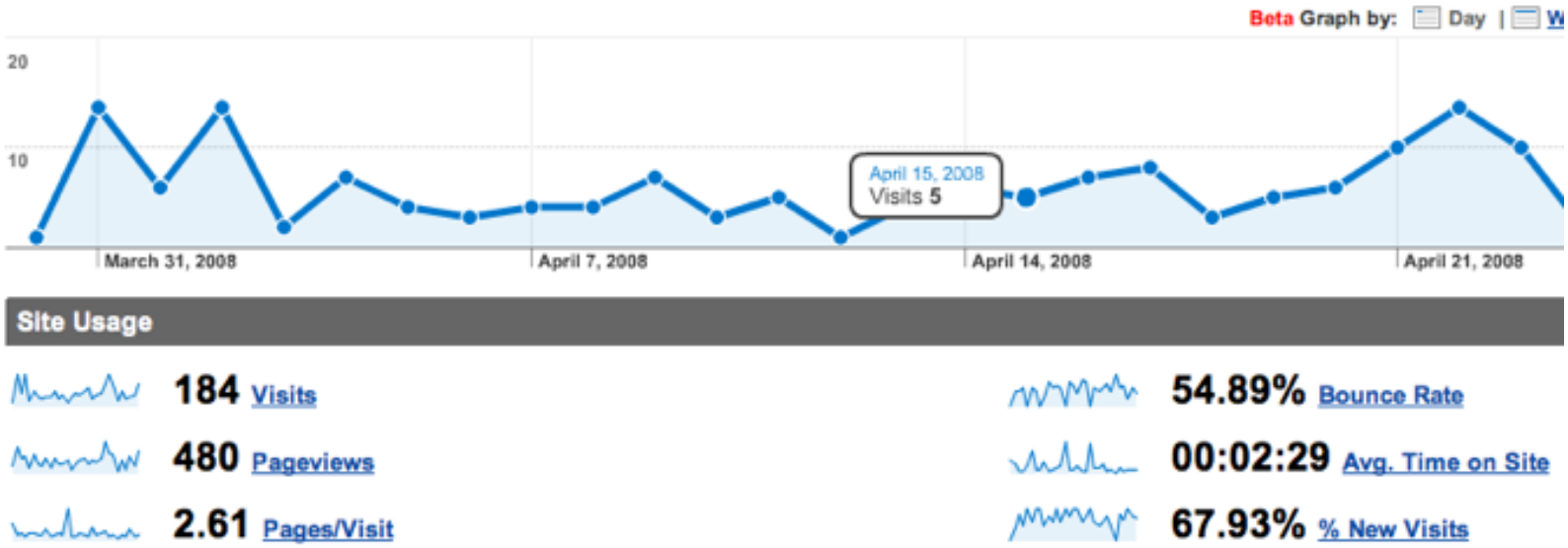
- Finances
- Task Delegation
  - Whole team tasks
  - Sub-teams tasks
  - Deliverables tasks
- Team hierarchy
  - Team Co-Leaders
  - Sub-team Leaders

Results

- 16 new projects added
- All guides revised based on feedback
- Created a new safety guide
- Created and online quiz to assist users in choosing a science fair topic

Results Continued

- Revamped the website using XHTML standards
- Redesigned website layout and aesthetics
- Website statistics, provided by Google Analytics



Main Page


Project Ideas
Safety
CAUTION!
Presentation
$a^2 + b^2 = c^2$
SCIENCE FAIR
EXTRAVAGANZA
ILLINOIS INSTITUTE OF TECHNOLOGY
Writing
Links
Data Analysis
Display

Sample Project

SCIENCE FAIR EXTRAVAGANZA

Navigation

- Home
- Project Ideas
- Safety
- Scientific Writing
- Data Analysis
- Display Tips
- Presentation Tips
- Links and Resources
- About
- Feedback

Play to Win

Objective

Analyze a game and develop a winning strategy.

Base Difficulty

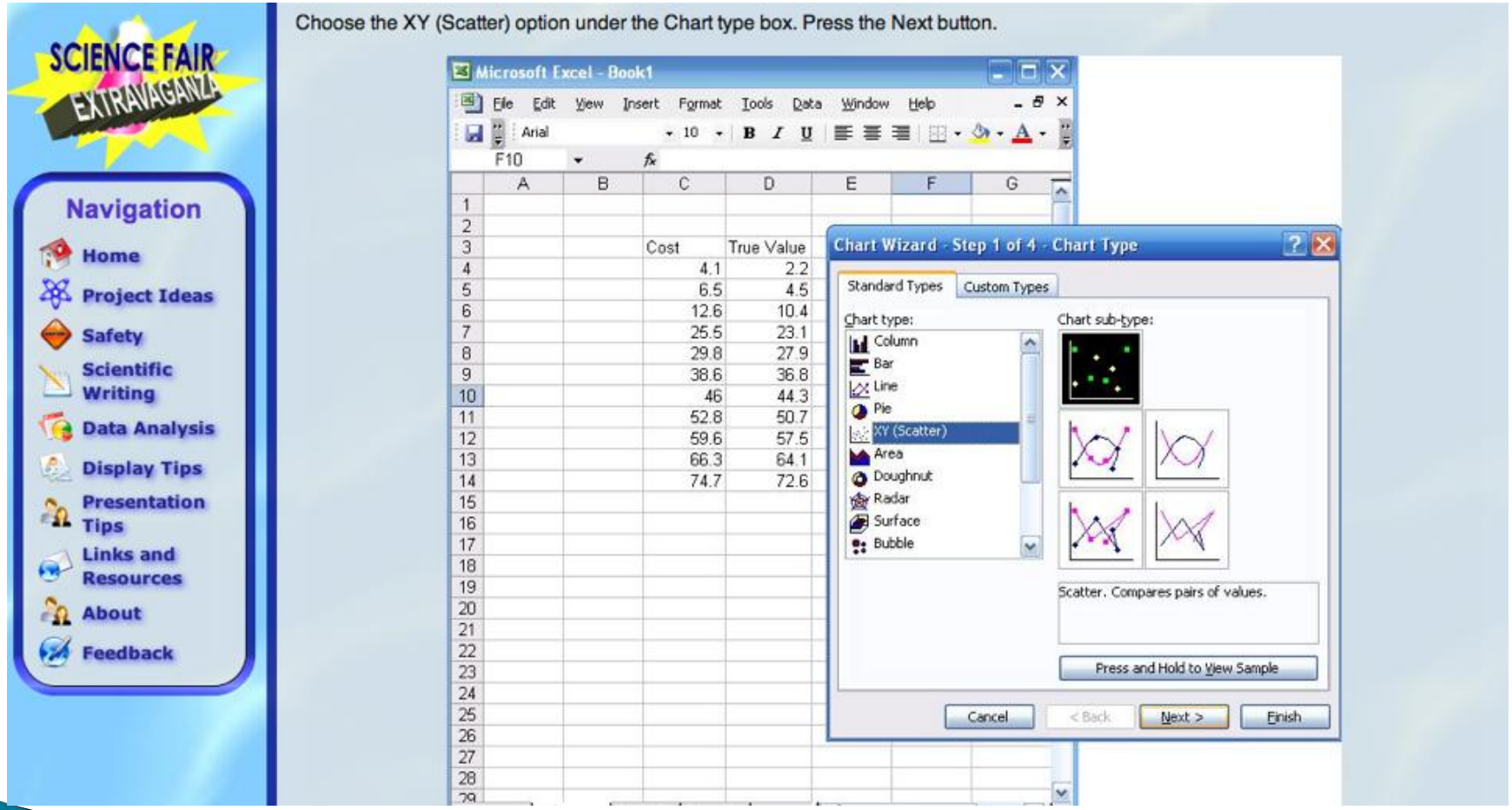
Easy

Concept

In this particular game, there are two players who take turns counting, starting at 1. A player may only count in increments of 1 or 2. The player who says 21 loses. Here are two possible outcomes demonstrating how the game is played.

	Outcome 1	Outcome 2
Player 1 says	1,2	1
Player 2 says	3	2
Player 1 says	4,5	3,4
Player 2 says	6,7	5,6
Player 1 says	8	7
Player 2 says	9	8
Player 1 says	10,11	9,10
Player 2 says	12	11,12
Player 1 says	13,14	13

Sample Guide



Questions…