PC to Scoreboard Integration
Team Scoreboard

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Organization

- Messiah College
- Women’s Volleyball Team
  - Require Software
  - Run Scoreboard
  - Keep Statistics
Purpose and Objectives

Project Overview
- What they do now
- Graphical User Interface Design
- Initial Database Design

Final Design
- Final Database Design
- Data Manipulation Forms
- Final Application Implementation
- User Manual

Success of Project
- Within the Scope of the Objectives
- Within the Overall Purpose

Strengths/Weaknesses

Demonstration

Questions
Purpose

- Decrease Manpower
- Decrease Cost
- Efficiency and Simplicity
Objectives

- Record Statistics
  - Wrestling
  - Volleyball (Only Concern)
  - Basketball

- Testing: Hardware & Software

- User Manual
Project Overview

- What They Do Now
  - Keep stats on paper
  - Wait for game completion
  - Input game into computer

- Scoreboard Operator
Graphical User Interface Design:

- For the user: Fast and Efficient
- Easy to Understand
- Account for all Possibilities
- Prints Out Statistics for an Event
Volleyball GUI

- Player Names
- Statistical Readout
- Scoreboard Emulator
- Statistical Entry Buttons
- Game Score

The image illustrates a volleyball GUI interface with sections for player names, statistical readout, scoreboard emulator, and buttons for statistical entry.
Initial Database Design

- MySQL: Open Source = Free
  - MS Visual Basic 6.0
  - ODBC
  - MyODBC

- Multiple Team Capability

- Database Administration Skills Unnecessary

- Data ➝ Database
  - Automatic Storage and Retrieval

- Explained in User Manual
Database Tables

- Season
  - Location, Year
- Team
  - Name
- Player
  - Number
- Match
  - Match ID
- Game
  - Game ID
- Stats
  - Stats ID
Initial Problems

- No Foreign Key Support
- Primary Keys Not Working
  - Too many duplicates
Final Database Design

Main Season Table
- Season Location, Year, Team Name, Player Number

Table For Each Player
- Stats
- Unique Name
Software Application Functions

- **Data Manipulation Forms**
  - Create
  - Delete
  - Edit
  - Load

- **Statistical Form Functions**
  - Save
  - Load
  - Text File

- **Sorting Data**
Final Application Implementation
S.A.U.S.A.G.E.
(Scoreboard and Unified Statistical Automated Graphical Environment)

- All Data Manipulation Forms
- Statistical Form Functions
  - Import/Export
  - Save/Load
  - (NCAA) Text File
- Scoreboard Output
User Manual

Goals of User Manual

- Learn Scoring
- Learn Data Manipulation
- Explain installation

Scoreboard Statistical Program

User Manual

Cover Art for User Manual
Completed Objectives

- Record Statistics for Three Sports – Completed as planned with the GUI
- Write a User Manual – Completed thoroughly and in full color; index included
- All for less than $500 – Completed with room to spare
Partially Completed Objectives

- **Develop a Testing Procedure** – Extensive testing completed; no in-game testing

- **Error Free Reliability** – Battery backup of laptop; periodic saving of statistics a possible expansion topic
Success of Project: Purpose

With respect to the stated purpose, the project was a success:

- Convenient and Easy GUI
- All Scoreboard Aspects Under Control
- Easily Accessible Statistics
- Text File Print Out of Statistics
- Condensed a Multiple Person Job Down to a One Person Job
Strengths

- Learning New Technology
  - MySQL
  - ODBC
- Structured Programming
- Milestone Increments
Weaknesses

- Learning New Technology
  - Time Consuming
  - Frustrating

- Waiting to Implement Application

- Bad Table Structure
  - Long Search Time
  - No Sorting
Demonstration