**Circle the Wagons: Smart Basketball Tracking System**

**Problem Statement**

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# Executive Summary

This document is the outline of the project that we designed to help players keep track of their basketball statistics and suggest relevant workouts. This document contains an introduction to the project, a high-level summary, the project scope, the key stakeholders, the expected functionality, and an ER diagram.

There is nothing more frustrating to a basketball player than feeling like no progress is being made despite putting in the hours. Whether the player is struggling to make three-pointers or failing to catch a rebound, not seeing progress can be disheartening. That is why it is important to have a system to keep track of a player’s statistics [2] during their career. Without an accurate understanding of your performance, it can be difficult to figure out what areas you need to work on to improve your game. That is why we are developing a solution to keep track of players’ performance, and then give them feedback with drills [3] that will help them achieve their goals.

# Introduction

This is the first document related to our Circle the Wagons [1] basketball statistic tracking system. It includes our original ER Diagram and Relational Schema designs, as well as our goals for the final system. The document will be followed by a security and data integrity analysis which will address the constraints and security of our implementation, intermediate status reports to explain our progress, and a final problem statement, a final written report, and a final presentation which will explain the finished product.

# Main Contents

## High Level Problem Summary

### Elevator Statement

We are creating software to help players track their stats, to help coaches track their players, and to suggest drills to help players improve in specified areas. We aim to provide a tool that will resolve the problems of players who want to improve their stats but don’t know how, and the problems of coaches who are struggling to keep track of all their players.

### Primary Success Criteria

Our goal is to provide an easy way for players to track their stats and coaches to track their teams. We also aim to help users by suggesting drills based on the stats they want to improve. For this project to succeed, we will need to develop a system that can track each type of stat and clearly display drill suggestions associated with a particular stat to the user.

### Scope

#### Within Scope

* Basketball Players
* Basketball Teams (of different levels)
* Basketball Coaches
* Basketball Drills
* Basketball Stats associated with specific players
  + Free Throw
  + Field Goals
  + 3-pointer
  + Assists
  + Lay-up
  + Jump Shot
  + Steals
  + Defensive stop
  + Rebound
  + Travel

#### Outside of Scope

* Sports other than basketball
* Stats for individual games
* Calculated stats per team
* A player’s stats for a specific team
* Seasons

## Detailed Problem Statement

### Key Stakeholders

Who will be most affected by this system:

Sriram Mohan Project Advisor

Kaylee Lane Project Team

Ariadna Duvall Project Team

Keegan Vorhees Project Team

Basketball Players End User

### Expected Functionality

1. Ability for a coach to search for the stats of their players
2. Ability to track a large variety of basketball stats
3. Ability to search for a team’s roster
4. Ability to search for the teams for which a player has played or a coach has coached
5. Ability to present drill suggestions to users for specified stat type or name
6. Ability for users to login
7. Ability for different types of users to see different data

# References

i[1]Circle the Wagons: <http://www.fastmodelsports.com/library/basketball/fastdraw/290/play-Drill-of-the-Day-07-18-2011-Circle-the-Wagons>

[2]List of Basketball Stats:<https://www.rookieroad.com/basketball/list-basketball-statistics/>

[3]Basketball Drills:https://www.masterclass.com/articles/basketball-drill-guide

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# Glossary

Entity Relationship(ER) Diagram: A diagram that displays all entities and their relationships in a database.

Drills: exercises used by teams and individual players to improve their fundamental skills [3]

# Appendix

## ER Diagram

Diagram

Description automatically generated

## Relational Schema

Diagram

Description automatically generated