Skillcourt Backend

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## Legal Notices

## Abstract

There is a lot involved with the training of soccer players. The current system for training is primitive usually involving an instructor and a physical field for playing. The primary objective is to produce a new, modern, and system for training soccer players. The system will be a program with features that will assist players for learning the skills required on their own.

Implementing this system is revolutionary to the way avid players train in the sport. With the functionality and portability that SkillCourt offers, the user can create a personalized regimen for improving skills; thus, SkillCourt offers an overall improvement to both the soccer training and playing experience for players.

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## **1. Introduction**

### 1.1 Problem Definition

As it stands, training for soccer can be a very cumbersome feat for the average person to endeavor unaided. Without proper guidance, progression dwindles and a person may not feel obliged to continue.

### Background

Very few platforms in existence that offer a similar experience to what SkillCourt will offer. Most of our research for the system comes from our Product Owner who is also a soccer coach.

### Definitions, Acronyms, and Abbreviations

#### 1.3.1. Acronyms

#### 1.3.2. Definitions

* Pad Simulator: An emulated device which will take the place of SkillCourt pads for testing showcasing purposes. This device will offer all of the features a SkillCourt Pad will offer.
* SkillCourt: A system which uses SkillCourt Pads and a player interface for training soccer.
* SkillCourt Arena: A 20’x40’ room with SkillCourt Pads on the walls used for soccer training.
* SkillCourt Pad: A physical device with a flat surface that can measure and transmit when and how much pressure it received.

### Overview of Document

## 2. Feasibility Study

### 2.1. Description of the Current System

Currently, soccer training involves a lot of on-field practice, but offers no physical way to track progress. In fact, most sports do not offer a guided methodology for tracking progress or attempts to offer skill specific training. This lack of guidance and visuals for improvement creates an environment which makes it hard to progress without professional help.

### 2.2. Purpose of New System

As an attempt to overhaul this outdated method, SkillCourt will create an environment which will monitor players’ progress and offer an arena for furthering their capabilities as soccer players. By adding features such as personalized progress analysis and specialized skill training along with the ease of access and the portability that SkillCourt pads offer, SkillCourt will bring a whole new level of training for soccer, and possibly even more sports.

SkillCourt saves data from a player’s interaction with the system and analyzes it to present a visual representation of a player’s strengths, weaknesses, and progress throughout their training. These allow a player to be able to focus on what they need to offering the conditioning required to become an overall better player.

Along with customized user-defined training, SkillCourt will also feature cognitive skill training. SkillCourt’s specialized skill training will offer users access to routines designed to train specific skills for soccer. Along with the analyzed data, a player can choose skills they feel they need to improve upon. Ranging from Accuracy to Speed, a user will find a plethora of cognitive skills related to soccer being offered by SkillCourt.

### 2.3. High Level Definition of User Requirements

For our program to function as intended, the system must meet certain requirements. These include a pad simulator, an interface for allowing users to connect to the pads, and a database for storing pre-defined routines and skills for the pads to use.

The pad simulator is an emulated device which will take the place of SkillCourt pads for testing showcasing purposes. When the time comes, the pad simulator will be replaced by physical pads

### 2.4. Alternative Solutions

#### 2.4.1. Description of Alternatives

#### 2.4.2. Selection Criteria

#### 2.4.3. Analysis of Alternatives

### 2.5. Recommendations

This project will consist of creating the back-end for SkillCourt, an activity which uses pressure sensitive pads to help create a measurement and a guide for soccer training. This includes developing an interface for accessing SkillCourt, creating programs that SkillCourt players will use for training, and parsing data from games to create visuals for player review. Also, since the pressure sensitive pads for SkillCourt are still in development, we will need to create a pad-simulator which will simulate the pads for testing and showcasing purposes.  
The Current Analysis-Currently, soccer training involves a lot of on-field practice, but offers no physical way to track progress. In fact, most sports do not offer a guided methodology for tracking progress or attempts to offer skill specific training. SkillCourt attempts to overhaul this outdated method by creating an environment which will monitor your progress and offer an arena for furthering your capabilities as a soccer player. In the future, SkillCourt may also provide this outlet for other sports as well, such as Tennis, Racquetball, and (IDK???).