

LT3 - User Needs and Requirements



Softball Team 2 - Pitch Perfect

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Project Overview

Pitch Perfect is a device/app designed to track softball pitches and determine their legality based on height, ensuring fair play, safety, and aiding player development.



Objectives:

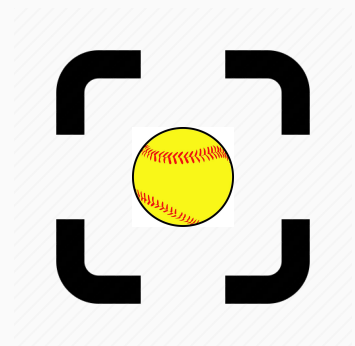
- Improve communication of pitch legality to players and coaches.
- Provide umpires with reliable data for consistent decision-making.
- Enhance overall player experience and development in slow-pitch softball.

The Problem

Many players and coaches face challenges in understanding the legality of pitches, particularly regarding height, leading to confusion and inconsistent rulings.

Impact:

- Inconsistent pitch rulings can affect game outcomes.
- Players may struggle to improve their pitching skills without clear feedback.
- Coaches lack reliable tools to evaluate and guide their players effectively.
- Frustration among umpires due to ambiguous pitch calls.



User Needs

- A way to accurately and quickly detect pitches
- An audible signal when an illegal pitch is detected
- A device to take out human subjectivity in pitch calling
- The device should not need to be user provided

Requirements

Technical:

- Must accurately detect pitches below 6ft and above 10ft
- Must make an audible signal
- Must be as fast or faster than an umpire call
- Must be simple to set up and configure

Non-Technical:

- Must not interfere with the game
- Must be portable
- Must be usable in a location where it will not be harmed

Engineering Standards

- **ICS 17.020:** Metrology and measurement in general
 - Our project will use a lot of measuring, so a standard we should follow outlined here is having clear units, labeling, and following preferred numbers
- **ISO 17450-1:2011:** Model for geometrical specification and verification
 - Similar to above, we should follow geometric specifications when using geometry and trigonometry for our mathematical and distance measurements, which this standard outlines.
- **IEEE 1448a-1996:** Standard for Information Technology - Software Life Cycle Processes
 - We will be following a software life cycle of research, prototyping, developing, and testing, so this standard helps outline how we can best be following that process.

Conclusion

- A device is needed that fulfills the needs of its potential users and the previous technical and non-technical requirements
- By ensuring all needs are met, this project will help improve the standard of play for slow-pitch softball games

