Proof of Concept Plan

Application Summary
This application is designed to track a basketball as it is being shot into the basketball net. Following the tracking the program is to review the data is gathered and tell the user how to fix their shot form. When completing that task the program sends any information is gathered to the cloud so the user may access it later using the web interface.

Stakeholders
- The potential users of the product
- The management crew (The testers and developers)
- The project supervisor

Performance Metrics
Latency
- It will process the shot arc in a timely manner
- It should give the user feedback on their shot arc within 2-3 seconds

Throughput
- It will be analyzing one live video feed at a time in whatever quality the user sets their camera to

Accuracy
- The angle calculated should be accurate within a couple of degrees of the angle of the ball

Risks and Possible Solutions
The basketball could damage hardware present on the site.
Reposition hardware. Use ‘rigid’ hardware.

The software could begin tracking objects other than the ball.
Use many attributes to track the ball, eg. color, shape and size

Compatibility issues for different operating systems.
Compile code on unix and windows platforms and have different distributions.

Positive/Negative/Abnormal Scenarios
Positive Scenario:
1. User takes a shot
2. Program records the arch of the shot
3. Program gives the user feedback on how to fix their shot
4. Program uploads the data

Negative Scenario:

1. User takes a shot
2. Program records the arch of the shot
3. Program does not give the user feedback
4. Program fails to upload the data

Abnormal Scenario:

1. User takes a shot
2. Program records the arch of the shot
3. Program gives the user feedback on how to fix their shot
4. Program uploads the data to the server twice
5. User opens it later and only one copy opens
6. User finishes using the device