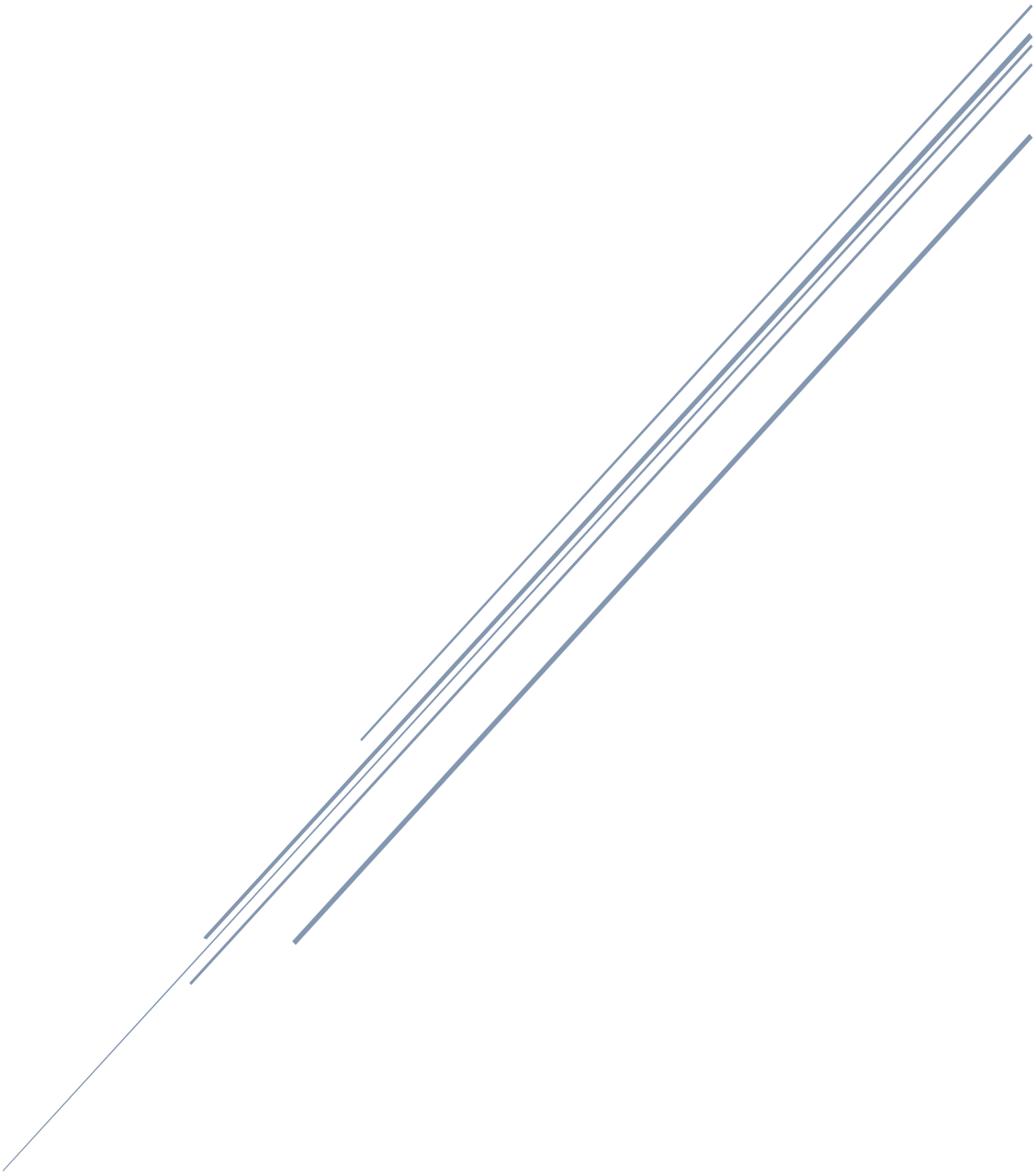
WINNING EDGE

G.A.A. Statistics Analyzer



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Research Document

Detailed Discussion

Modern G.A.A. has seen the introduction of statistical analysis as a way of adapting and improving a team's game. Inter-County sides use it as a vital part of building their strategy and tactics. It has had proven effect and soon club sides all over the country began to employ it to try gain an edge in matches. However, at inter-county level the funds available are far higher and the technology and experts which they have access to simply cannot be matched at club level. So most club sides who can afford to have an analyst as part of their coaching staff aren't doing any ground breaking analysis. As for the vast majority of clubs who may have a manager recording a few statistics, or just a volunteer from within the club, they simply don't have the resources to invoke such analysis. The Winning Edge Application is aimed at addressing this. The idea is to make a good standard of statistical analysis available for all clubs who which to introduce it.

Winning Edge is an application that will allow users to easily record G.A.A. match statistics and then view and analyse the data in an easy and presentable manner. The application will run on both mobile and web. The mobile application will be developed on the Android platform and the web application will run on a Bootstrap framework using HTML and JavaScript. Both these application will be linked together using a cloud backend. Microsoft Azure Cloud Services will provide this cloud platform.

Users will create an account which can be used to access both the web and mobile application. The mobile application will be used to record and then store data. The data they record will be stored to their account within the cloud infrastructure. This data can then be viewed using the web application.

The mobile application will be used to record the statistics with a well laid out and attractive user interface. This can be done while watching a game or afterwards if they have recorded the game. The user will first choose either hurling or football as the options will vary slightly for both sports. They then choose whether to do an individual player analysis or a team analysis. The application allows the user to record a variety of statistics. These statistics are then stored to their account using the cloud backend.

The web application will give the user allow the user to view recorded stats and compare them with previous matches to see how any changes they've made are working. All the information will be displayed in a presentable and easily interpreted manner meaning it makes giving feedback to the players much easier than just a spreadsheet of numbers. This information will allow managers to alter their tactics and perfect ways of playing. It also gives players an opportunity to see what they are doing right and what they are doing wrong.

The application can identify areas of a team's game in which they are struggling and provide feedback and suggested ways in which they can improve.

Existing Applications

	StatsCool GAA Football Stats	StatsCool GAA Hurling Stats	Sports Stats Recorder	GAA Football Stats Recorder
Both Hurling and Football included	No	No	Yes	No
Mobile App	Yes	Yes	Yes	Yes
Web App	No	No	No	No
Amount of Recordable Stats	Medium Level	Medium Level	Customizable – Ability to choose your wanted stats	Low Level
Adjustable Stats – Ability to remove data	No	No	No	No
Team and Player Stat Options	Yes	Yes	Yes	No
Visualization of Data	No	No	No	Yes, Basic graph can be viewed on mobile app
Tactical Feedback	No	No	No	No
Statistics Comparison	No	No	No	No
Free to download	No - €0.99	No - €0.99	Yes	Yes

Proposed Technologies

Android (Java)

The mobile application will be developed for the Android Operating System. The application will be developed in Java incorporating the Android SDK using the Android Studio IDE.

XML

Used in android development for the User Interface and declaration of String objects.

Microsoft Azure

The backend of the applications will be cloud based and hosted by Azure. Azure provides a vast variety of services which could be very useful including web deployment, database storage, notification hub and API management. Azure also has the benefit of being compatible with Scripting languages like Ruby and Python.

Bootstrap Framework

The web application will use the Bootstrap framework. Bootstrap allows for quick and attractive development.

HTML

Web application will be developed using HTML which is hugely versatile.

JavaScript

JavaScript will provide extra functionality within the HTML. Its extensive catalogue of libraries is also extremely useful and can be used for the visual presentation of data.

Ruby/Python

Ruby or Python will be used as the scripting language. Both come with a variety of useful libraries and support HTML.

Ruby on Rails/Django

Rails will provide the framework if Ruby is chosen as my scripting language. Rails provides a gem which allows the use of Bootstrap within a Rails environment. Django will be used if Python is chosen. It also has features to incorporate Bootstrap in development.

Potential Risks

- The need to create an account could discourage potential users from using the application.
- Limited to G.A.A. which means a smaller target audience. In the future could be updated to incorporate more sports.
- As this is a multi-platform system, which plans to use both a web and mobile application, there is a high-level of importance placed on having a functional system in place within the time frame.
- Due to a few competitor applications in the market, additional features must work well to improve on what is already in place. An attractive and easy to use user interface will also be vital.
- Ensuring the system can cope with the data being uploaded and downloaded from Azure while maintaining a quick and fluid application.