

COMP3000 Computing Project

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SafeGaze: Sports Facility Parent Observation System

Links

Source code: https://github.com/reecedavies/COMP3000-Assignment-Reece_Davies

Backlog: https://tasks.office.com/live.plymouth.ac.uk/Home/PlanViews/JNqu-aRC_EO6WCJ5BCHNP5YACHzR?Type=PlanLink&Channel=Link&CreatedTime=637386988045710000

Project Vision

The name of this project is **SafeGaze** and is directed towards the physical and cybersecurity of sports clubs and facilities. It specifically relates to the ethical issue of stalking or harassment of strangers and a sports facility's members, especially when the participants are children. Due to the current status of the COVID-19 pandemic, there are certain restrictions of how many people can be within a given building, especially those intended for sport. This creates a complication for sports facilities where the participants are of a younger age, thus when separated from their parents, both may feel somewhat anxious. Notwithstanding, parents may potentially be given the opportunity to watch their child from outside or a designated viewing area. This therefore creates a security threat of strangers watching the children perform, and such incidences would be particularly troublesome for sports involving tight clothing, such as swimming or gymnastics. This system will benefit both sport facilities, the participants involved, and parents of participants who are of a younger age.

The project would be implemented as two separate platforms. Firstly, parents would have access to a website and or mobile application that allows them to watch their children via a livestream, thus eliminating the need for designated viewing areas. The second platform would be specifically made as an administrator tool for the sports facility via a desktop application. From within this application, the business would be able to manage their club members and livestream, as well as issue important notifications or messages to parents signed up on the mobile app. Additionally, if the sports club needed to send an urgent message to all parents, users would be notified directly through the app. Furthermore, the mobile app would also contain important pages relating to the sports club, such as contact information, social media links, etc. In conclusion, this project aims to improve the communication between sports facilities and their members, alongside with improving the wellbeing of those who have children taking part in sport.

Risk Plan

Risk	Likelihood	Impact	Solution
Poor estimation and scheduling per functional requirement	Low	Medium	When creating the Kanban board, provide adequate times per task by accounting for anomalies or time consuming incidences. This therefore means each task will be achievable within the given time frame.
Poor time management due to other commitments outside university	Medium	Medium	Organise tasks into designated working days and weeks, making sure to account for potential changes in the project scope and possibility of outside university events which may affect time management.
Lack of frequent backups or potential loss of data	Low	High	Ensure there are regular git requests to the GitHub repository after making any significant changes to the project. Potentially have a second backup of the project in case of any Git failures.
Loss of valuable time due to obsessive use of "gold plating"	Low	Medium	Prevent use of adding unnecessary features until primary objectives have been reached. Prioritise the functional requirements set, as opposed to adding visually pleasing features that do not contribute to the end goal.
Technical difficulties with related software or hardware resources used in presentations and showcases	Medium	Medium	Thoroughly test available resources in different environments to guarantee a successful delivery in showcases made on personal or public hardware.
Lack of knowledge or experience within specific programming languages, frameworks, or software	Medium	Low	Properly research available resources required for production, as well as potential software resources which may prove to be beneficial.
Poor code quality	Low	Medium	Plan ahead of how the code will be structured to ensure it is properly organised in the different directories or files. When a functional requirement has been met, perform specific test cases to validate that it is working effectively.

Livestream(s) open to all users, therefore creating the potential risk of stalking or harassment from strangers	Low	High	Users require verification to sign up, alongside with proof of being involved in the sports club. Additionally, users will only be able to partake in livestreams at a given time when their child is participating in such activities. Due to how sports clubs are often run, the participant would be given a specific timeslot in a weekly timetable, and thus the parent would only have access to the livestream within this allocated time.
Breach of users' personal data due to software hack or weak security	Medium	High	Ensure all users' personal data is fully encrypted and highly secure within the app and database. Extra steps need to be taken into consideration with the security the mobile app and website. This includes, but not limited to: SQL injection, cross site scripting (XSS), sensitive data exposure, and global variables.
Software efficiency degradation	Low	High	Structure code in the most efficient way possible; prevent use of unnecessary tasks which are CPU intensive.

Keywords

- SafeGaze
- Safe
- Gaze
- Sports
- Club
- Facility
- Parent
- Guardian
- Observation
- System
- Security
- Livestream
- Live
- Stream
- Surveillance
- Broadcast
- Mobile
- Desktop
- App
- Website