

Smart Security Sign for Hospital UV Sanitization Robots: LiA in Ireland

Project Overview and Objectives

Hospital automation significantly enhances healthcare by making operations smoother, reducing mistakes, and allowing medical staff to focus more on patient care. My project is centered on creating a smart warning sign for a disinfection robot. It is designed to prevent it from activating its UV light when people are about to enter the room. While UV light is highly effective for disinfection, its exposure poses serious health risks, including skin and eye damage, premature aging, and a higher risk of skin cancer. Given these dangers, developing a safety system to ensure the robot remains inactive in the presence of people was crucial.

Challenges and Learning Experience

Taking full responsibility for this project, from its design and electronics to firmware development, was both challenging and rewarding. The task demanded that I became more decisive and focused on results, while being comfortable with some imperfections. Ensuring the device worked reliably under all conditions was a constant test of my problem-solving skills. Whenever issues arose, I had to quickly assess potential solutions and make choices without hesitation. This experience pushed me out of my comfort zone, teaching me the importance of resilience and adaptability in the face of unexpected challenges.

Impact on the Community

My primary goal was to contribute to the advancement of automation in hospitals, particularly in countries like Ireland and the UK, where long waiting lists often delay patient care. By easing the stress and workload on medical staff, even slightly, my work has the potential to significantly reduce these waiting times and improve patient outcomes. Coming from Eastern Europe, where healthcare is more readily available though sometimes of lower quality, it was eye-opening to see how long waiting periods in these regions can severely impact both patients and staff. These delays are partly due to inefficient patient flow, something that could be greatly improved by employing robots to handle more routine tasks, allowing medical staff to focus on more critical aspects of patient care.

Leadership Development

Leading this project provided me with a profound understanding of the weight of responsibility that leadership entails. It wasn't just about managing tasks—it was about being accountable for every outcome, whether good or bad. This experience significantly boosted my confidence in my own abilities, honed my communication skills, and taught me the importance of clear and effective teamwork. Through my interactions with team members, I learned the value of diverse perspectives in enhancing problem-solving and driving successful outcomes. This project not only improved my technical and leadership skills but also reinforced the importance of adaptability in achieving success.

Reflection and Growth

Overall, this experience was transformative. It taught me the critical role of clear communication, the importance of taking full responsibility for my actions, and the necessity of approaching every challenge with both a strategic mindset and a sense of humility. I am grateful for the guidance I received from Michael Cullinan and the team at Akara, which helped me navigate the complexities of the project. This experience has made me a better leader and a more confident and reflective individual, ready to take on new challenges with a greater sense of purpose and responsibility.