**SG/MMP/5CS024/Open Day KIOSK**

**Date:** Tuesday April 29, 2025

**Location:** University of Wolverhampton

**Tested By:** Satish Desurkar

**Risk Assessment Report**

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| **Risk** | **Description** | **Likelihood** | **Impact** | **Mitigation Strategy** |
| Button Failure | Button becomes physically stuck, unresponsive, or require excessive force to activate. | Low | Minor | Use high-quality, durable buttons; Implement regular physical checks; have spares available for quick replacement. |
| Unintended Button Press | Users accidentally press the wrong button, leading to unintended actions. | Medium | Minor | Clear and intuitive button labelling; adequate spacing between buttons; consider recessed or guarded button designs. |
| Confusion Over Button Function | Users misunderstand what a particular button does, leading to incorrect interactions. | Medium | Minor | Clear and concise button labelling with text and/or icons; provide on-screen instructions or tooltips if applicable. |
| Button Spamming | Rapid, repeated button presses cause the KIOSK software to become unresponsive or lag. | Low | Minor | Implement button press debouncing in the software; limit the rate at which actions can be triggered by a button press; optimise software performance. |
| Multiple Actions Triggered | A single intended button press registers multiple times, leading to unintended multiple actions. | Low | Minor | Implement proper button press detection and handling in the software to ensure a single action per intended press. |
| Button Damage | Buttons are intentionally damaged or broken | Very Low | Moderate | Use robust, vandal-resistant buttons; consider location and supervision of the KIOSK. |
| Distance Sensor Failure | Sensor gives incorrect or no readings. | Medium | Medium | Implement error handling in code, display default message, test sensor thoroughly. |
| Temperature Sensor Failure | Sensor gives incorrect or no readings | Medium | Low | Implement error handling in code, display default message, test sensor thoroughly. |
| LCD Display Error | Display shows incorrect characters or freezes | Low | Medium | Use reliable LCD libraries, test display with various inputs, check wiring. |
| Arduino Code Error | Program crashes or displays incorrect information | Medium | High | Thoroughly test code, implement error handling, use clear comments. |
| Wiring Issues | Loose connections or incorrect wiring. | Low | Medium | Double-check wiring, use secure connections. |
| Incorrect Information Displayed | Open day schedule is incorrect | Low | High | Double check the information being displayed. |
| System Freeze/Crash | Arduino stops responding | Low | Medium | Implement code stability measures, monitor system behaviour during testing. |
| User Confusion | Visitors don’t understand the kiosk | Low | Low | Clear and simple LCD messages, intuitive design. |
| Extreme Simulated Temperatures | Temperature sensor returns unreasonable values. | Low | Low | Limit the range of accepted temperature values. |
| Rapid Simulated Distance Changes | Distance sensor produces unstable readings | Low | Low | Implement smoothing or filtering in code. |