IULOGO

**Project Title:**

**Enhancing Airport Security Management Through Real-time Computer Vision: An AI-Powered Anomaly Detection System**

**Group Members:**

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**Use Case Narratives:**

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| **Use case Name** | Unattended Baggage Detection |
| **Use case ID** | UC001 |
| **Actor** | Unattended Baggage |
| **Description** | Detects unattended baggage within the airport premises using cameras. An alert is sent to the management personnel upon detection |
| **Pre-Condition** | The camera surveillance system is operational and calibrated to detect anomalies related to unattended baggage. |
| **Post Condition** | Unattended baggage is identified, and an alert is sent to the management personnel. |
| **Basic Flow** | The camera surveillance system continuously monitors the airport premises.  When anomalies related to unattended baggage are detected, an alert containing the location and details of the unattended baggage is sent to the management personnel. |

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| **Use case Name** | Unauthorized Person Detection |
| **Use case ID** | UC002 |
| **Actor** | Unauthorized Person |
| **Description** | Detect unauthorized persons in restricted areas within the airport premises using cameras. An alert is sent to the management personnel upon detection. |
| **Pre-Condition** | The camera surveillance system is operational and calibrated to detect anomalies related to unauthorized persons in restricted areas. |
| **Post Condition** | Unauthorized persons are identified, and an alert is sent to the management personnel. |
| **Basic Flow** | The camera surveillance system continuously monitors the airport premises.  When unauthorized persons are detected, an alert containing the location and details of the unauthorized persons is sent to the management personnel. |

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| **Use case Name** | Wet Carpets Detection |
| **Use case ID** | UC003 |
| **Actor** | Wet Carpets |
| **Description** | Detects wet carpets within the airport premises using cameras. An alert is sent to the management personnel upon detection. |
| **Pre-Condition** | The camera surveillance system is operational and calibrated to detect anomalies related to the condition of carpets. |
| **Post Condition** | Wet carpets are identified, and an alert is sent to the management personnel. |
| **Basic Flow** | The camera surveillance system continuously monitors the airport premises.  When anomalies related to carpets are detected, an alert containing the location of the wet carpets is sent to the management personnel. |

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| **Use case Name** | Broken Tiles Detection |
| **Use case ID** | UC004 |
| **Actor** | Broken Tiles |
| **Description** | Detects anomalies related to broken tiles within the airport premises using local cameras. An alert is sent to the management personnel upon detection. |
| **Pre-Condition** | The camera surveillance system is operational and calibrated to detect anomalies related to the condition of tiles. |
| **Post Condition** | Broken tiles are identified, and an alert is sent to the management personnel. |
| **Basic Flow** | The camera surveillance system continuously monitors the airport premises. When anomalies related to tiles are detected, an alert containing the location and details of the broken tiles is sent to the management personnel. |

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| **Use case Name** | Variation in Light Intensity Detection |
| **Use case ID** | UC005 |
| **Actor** | Variation in Light Intensity |
| **Description** | Detect variation in light intensity within the airport premises using cameras. An alert is sent to the management personnel upon detection. |
| **Pre-Condition** | The camera surveillance system is operational and calibrated to detect anomalies related to light intensity. |
| **Post Condition** | Variation in light intensity is identified, and an alert is sent to the management personnel. |
| **Basic Flow** | The camera surveillance system continuously monitors the airport premises.  When anomalies related to variation in light intensity are detection, an alert containing the location and details of the variation in light intensity is sent to the management personnel. |

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| **Use case Name** | Traffic in Boarding Lanes Detection |
| **Use case ID** | UC006 |
| **Actor** | Traffic in Boarding Lanes |
| **Description** | Detect traffic congestion in boarding lanes within the airport premises using cameras. An alert is sent to the management personnel upon detection. |
| **Pre-Condition** | The camera surveillance system is operational and calibrated to detect anomalies related to traffic congestion in boarding lanes. |
| **Post Condition** | Traffic congestion in boarding lanes is identified, and an alert is sent to the management personnel. |
| **Basic Flow** | The camera surveillance system continuously monitors the airport premises.  When anomalies related to traffic congestion are detected, an alert containing the location and details of the traffic congestion is sent to the management personnel. |

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| **Use case Name** | Filled Garbage Cans Detection |
| **Use case ID** | UC007 |
| **Actor** | Filled Garbage Cans |
| **Description** | Detect filled garbage cans within the airport premises using cameras. An alert is sent to the management personnel upon detection. |
| **Pre-Condition** | The camera surveillance system is operational and calibrated to detect anomalies related to the state of garbage cans. |
| **Post Condition** | Filled garbage cans are identified, and an alert is sent to the management personnel. |
| **Basic Flow** | The camera surveillance system continuously monitors the airport premises.  When anomalies related to garbage cans are detected, an alert containing the location and details of the filled garbage cans is sent to the management personnel. |