SCOPE MANAGEMENT

SECTION	DETAILS
PROJECT OBJECTIVE	Develop an IoT-Based Safety Jacket for Mining Workers to enhance safety and mitigate risks in hazardous mining environments.
DELIVERABLES	1.Integrated hardware components including sensors (temperature, humidity, gas levels, proximity, impact), GPS tracking module, communication system, and LED indicators. 2.Software system for real-time data monitoring, analysis, and alert management. 3.Wearable safety jacket prototype with user-friendly interface for workers and supervisors. 4.Documentation including user manuals, technical specifications, and safety guidelines.
MILESTONES	1. Requirements Gathering and Design: 15/02/2024 2. Prototype Development and Testing: 30/04/2024 3. Integration of Sensors and Communication Module: 15/06/2024 4. User Acceptance Testing and Feedback: 30/07/2024 5. Optimization and Iteration: 15/09/2024 6. Regulatory Compliance Check: 30/10/2024 7. Deployment in Field Trials: 15/12/2024 8. Documentation and Project Closure: 31/01/2025
TECHNICAL REQUIREMENTS	1. Advanced sensors for monitoring environmental conditions, biometric data, and physical parameters relevant to mining work. 2. GPS tracking module for real-time location monitoring. 3. Communication system for data transmission and remote monitoring. 4. LED indicators for visual alerts and feedback mechanisms. 5. Power-efficient design for prolonged battery life. 6. Compliance with safety standards and regulations specific to the mining industry.
ASSUMPTIONS	1. Availability of necessary hardware components and resources for development. 2. Collaboration with mining companies for field trials and feedback. 3. Access to mining sites for testing and deployment.

	4. Adequate technical expertise for system integration and optimization.
LIMITS AND EXCLUSIONS (Constraints) =	1. Limitation to predefined safety features and functionalities within the scope of the project. 2. Reliability dependent on sensor accuracy and communication stability. 3. No structural modifications to the mining equipment or infrastructure beyond the safety jacket.

SCOPE MANAGEMENT

RISKS	1. Hardware or software failures: Potential malfunction of hardware components or software system may disrupt the functionality of the safety jacket. 2. Inaccuracies in weather monitoring: Incorrect readings from sensors may lead to inaccurate weather predictions and compromised safety. 3. Security vulnerabilities in communication: Vulnerabilities in the communication system may expose sensitive data to unauthorized access or manipulation.
ACCEPTANCE CRITERIA	1. Clothes moved to a safe location within 5 seconds of unfavorable weather conditions to ensure worker safety. 2. Accurate monitoring of environmental factors including temperature, humidity, gas levels, and physical parameters relevant to mining work. 3. Precise control of the DC Motor based on real-time weather data to optimize worker safety. 4. System failure rate to be less than 1% to ensure reliability in hazardous mining environments. 5. Secure communication protocols implemented to safeguard sensitive data transmitted by the safety jacket. 6. Rapid response time to weather changes and cloth movement to mitigate risks effectively. 7. Scalability for additional sensors/devices to accommodate future safety enhancements or requirements. 8. Power efficiency optimization to prolong battery life and ensure continuous operation during mining activities.
SIGNATURES	RAJA RAJESWARI R[Project Manager] RITHIKA S[System Administrator] HARINI S [End Users]