Poster

SMART AQUARIUM MANAGEMENT SYSTEM

PROBLEM STATEMENT

Traditional aquarium management methods are outdated, relying on manual monitoring and prone to errors. Current sensor systems lack integration, leading to fragmented data access and complex management. There's a pressing need for a unified solution integrating temperature, water level and turbidity sensors into a single platform for real-time monitoring, alerts, and proactive management.

IMPLEMENTATION PLAN

The smart IoT aquarium plan involves sensor selection, installation, and data integration with a microcontroller. Communication systems allow real-time monitoring, while alerts and remote access enhance management capabilities. Data analytics and automation aid in proactive maintenance. Thorough testing, training, and ongoing maintenance ensure system reliability.

FEASIBILITY ANALYSIS

The feasibility analysis for a smart IoT aquarium involves evaluating technical aspects, such as sensor integration and data transmission, along with financial considerations and operational practicality. Legal compliance and market demand are also critical factors, alongside risk assessment and mitigation strategies.

APPLICATION AREAS

Smart IoT aquariums have wide applications in home and commercial setups, aquaculture, research, education, conservation, industries, tourism, and environmental monitoring. Specialized software ensures efficient operations and animal welfare.

FUTURE SCOPE

Global Implementation: Develop international standards and protocols to ensure consistent deployment and interoperability of smart IoT aquarium systems across different countries and regions.

Smart Sensor Integration: Explore novel sensor technologies capable of monitoring a diverse range of parameters crucial for aquarium health and management, enhancing the capabilities of smart IoT aquarium systems.

RAHGUL M S (URK23CS7016)
GLADWIN JHENO S J (URK23CS7014)
STAFIN J R SHEBU (URK23CS7021)