**Samsung Care+ AI – Autonomous Device Health & Support Ecosystem**

**Team Name: CodeGalaxy**

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**Institution: VIT Vellore**

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**Executive Summary**

Samsung Care+ AI is an always-on device health companion that continuously monitors Samsung devices such as smartphones, TVs, appliances, and wearables.  
Using multimodal AI, it predicts failures, applies remote fixes, and coordinates service without human intervention.

The system is powered by a multi-agent AI architecture that delivers proactive support, reducing downtime and enhancing device reliability.

**Problem Statement**

* Users often face unexpected device breakdowns, leading to inconvenience and downtime.
* Manual troubleshooting requires technical expertise or service center visits.
* Most existing support systems are reactive rather than predictive, resulting in higher repair costs and shorter device lifespans.

**Proposed Solution**

Samsung Care+ AI leverages a **multi-agent AI ecosystem** to provide proactive support.

* Specialized agents handle diagnostics, predictive maintenance, user interaction, and service coordination.
* The system detects potential issues before they occur, applies fixes remotely, and seamlessly coordinates repair services.

**System Architecture**

**Perception Layer**

* Vision AI → Detects physical damage
* Voice AI → Conversational diagnostics
* Text AI → Log & error code analysis

**Reasoning & Prediction Layer**

* Health Monitor Agent → Real-time diagnostics
* Predictive Maintenance Agent → Failure forecasting
* Service Coordination Agent → Repair logistics
* User Interaction Agent → Communication with users

**Action Layer**

* Applies patches and optimizations
* Prevents future damage with predictive adjustments
* Prepares repair reports for engineers

**Technology Stack**

* **AI Frameworks:** TensorFlow, PyTorch
* **NLP:** BERT, Rasa NLU
* **Computer Vision:** OpenCV, Samsung Vision AI APIs
* **Cloud & Storage:** Samsung Cloud, AWS S3
* **Security:** Samsung Knox
* **IoT Integration:** SmartThings API
* **Mobile & Wearables:** Android SDK, Tizen SDK

**Setup & Usage**

1. Clone the repository and navigate to the project folder.
2. Create a virtual environment and install dependencies using requirements.txt.
3. Configure environment variables (API keys for Samsung Vision AI, Knox, AWS S3, SmartThings).
4. Run the application using Python.

**Future Scope**

* Expand predictive maintenance models for more device categories.
* Integrate deeper service center workflows for automated repair scheduling.
* Enhance multimodal interaction with advanced voice and vision AI capabilities.
* Scale globally across Samsung’s device ecosystem.

**Resources & Links**

* **GitHub Repository:** [Add your repository link here]
* **Demo Video:** [Add your demo link here]

**Acknowledgments**

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