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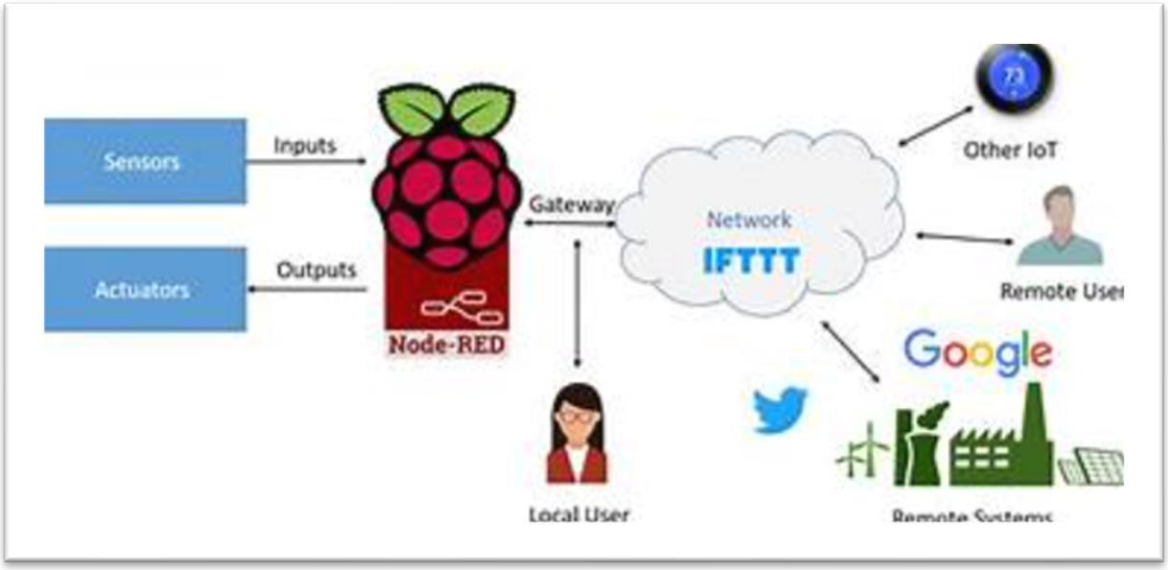
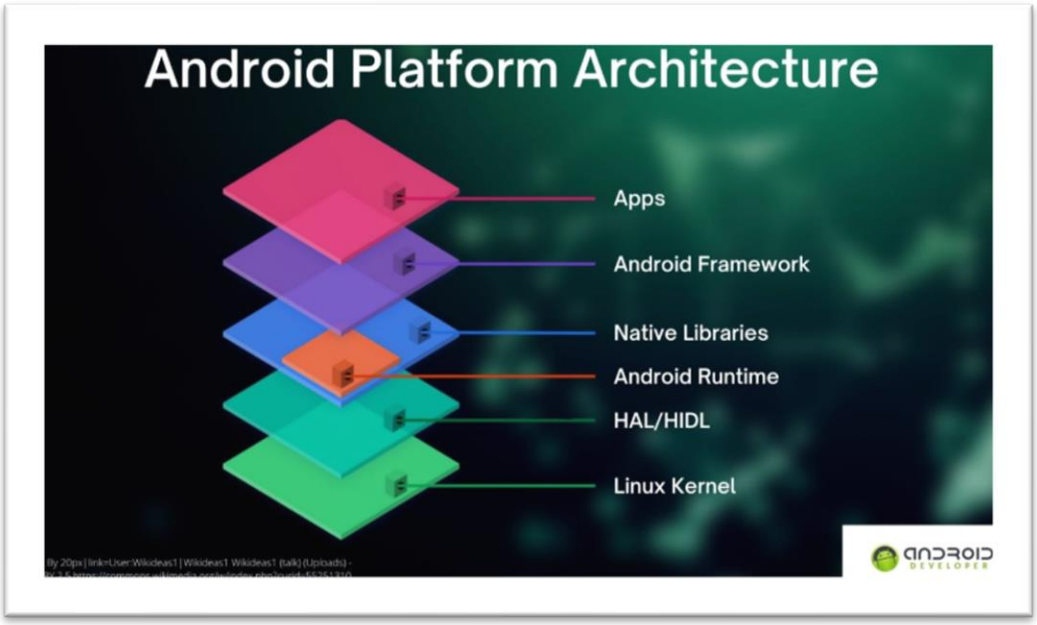
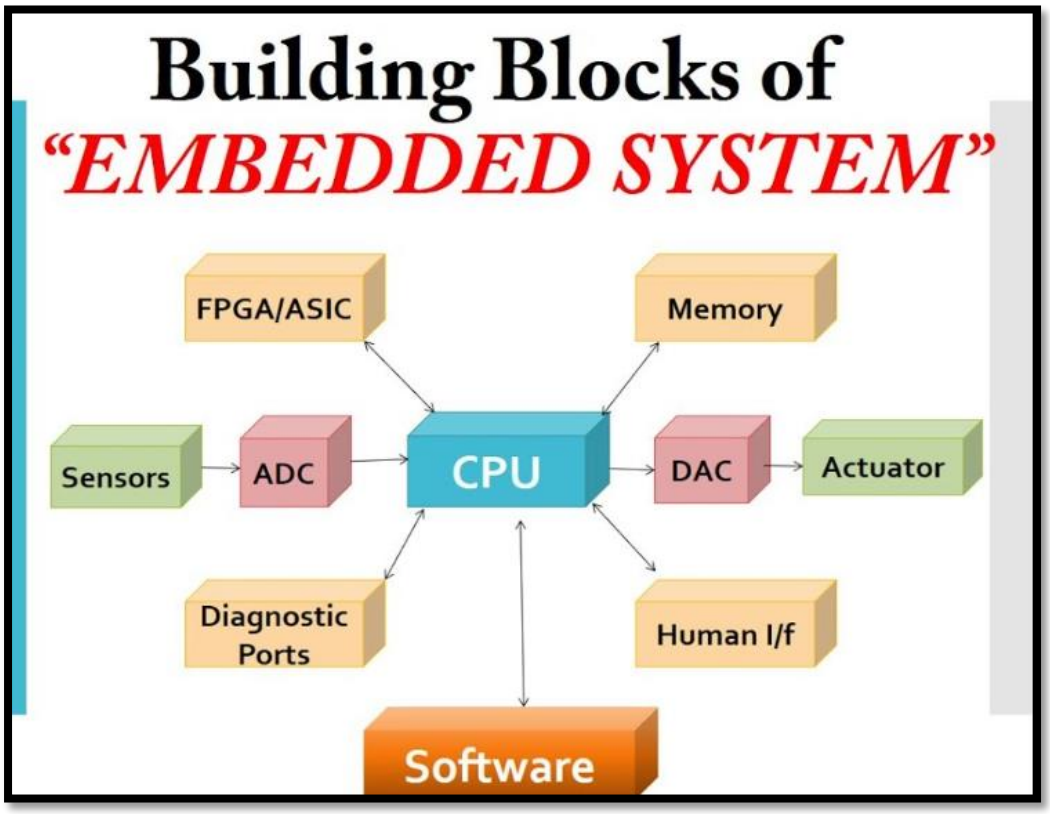
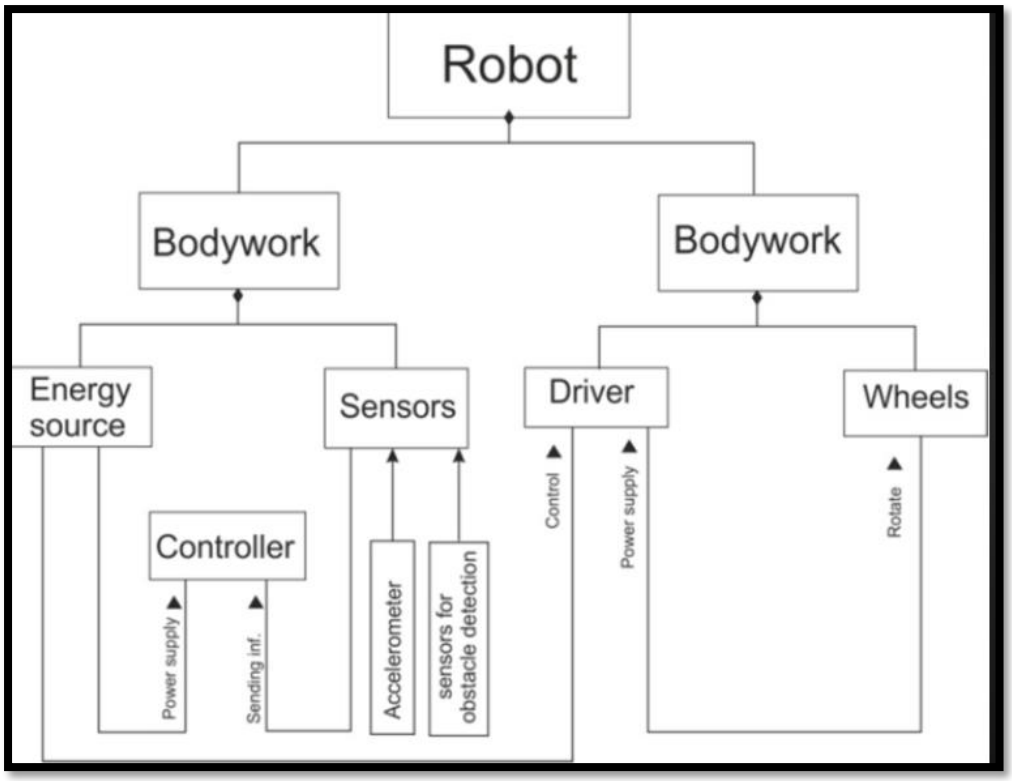
Business Model- Vertices

1. **IoT**: Create smart ecosystems to collect and analyse real-time data for optimized operations. Focus on connected devices, automation, and predictive insights.
2. **Robotics**: Innovate in robotics to enhance automation, safety, and efficiency in industries. Deliver intelligent solutions for manufacturing, healthcare, and services.
3. **Embedded Systems**: Design integrated hardware-software systems for efficient, high-performance applications. Target key sectors like automotive, electronics, and defence.
4. **Android**: Develop scalable Android apps with user-centric designs and seamless integrations. Focus on IoT, mobile innovation, and connected technologies.
5. **AI**: Deliver AI-powered solutions for automation, analytics, and decision-making. Enhance user experiences and optimize business processes across industries.




Android Platform Architecture
Apps
Android Framework
Native Libraries
Android Runtime
HAL/HIDL
Linux Kernel
ANDROID DEVELOPER


Building Blocks of
"EMBEDDED SYSTEM"
FPGA/ASIC
Memory
Sensors
ADC
CPU
DAC
Actuator
Diagnostic Ports
Human I/f
Software


Robot
Bodywork
Bodywork
Energy source
Sensors
Driver
Wheels
Controller
Power supply
Sending inf.
Accelerometer
sensors for obstacle detection
Control
Power supply
Rotate


Hyper-Personalization
Recognition
Patterns & Anomalies
The Seven Patterns of AI
Conversation & Human Interaction
Autonomous Systems
Goal-Driven Systems
Predictive Analytics & Decisions

Services Under Each Vertex

IoT:

- **Internal Training**: Equip teams with IoT expertise, focusing on device integration, data analytics, and network protocols.
- **Customized Workshop**: Offer tailored sessions on IoT technologies, smart devices, and real-world applications.
- **Engg Student Projects**: Guide students in designing IoT-based projects like smart homes, wearables, or industrial automation.
- **Customer-Driven Projects**: Develop bespoke IoT solutions for automation, monitoring, and predictive maintenance needs.

Robotics:

- **Internal Training**: Provide hands-on training in robotics programming, design, and automation workflows.
- **Customized Workshop**: Conduct workshops on robotics, covering sensors, actuators, and AI integration.
- **Engg Student Projects**: Mentor students in building robotic systems for manufacturing, healthcare, or research.
- **Customer-Driven Projects**: Deliver tailored robotic solutions for industry-specific challenges and efficiency.

Embedded Systems:

- **Internal Training**: Train teams in embedded systems design, including microcontroller programming and real-time OS.
- **Customized Workshop**: Facilitate workshops on embedded systems for targeted industry applications.
- **Engg Student Projects**: Support students in developing embedded projects like wearable tech or automotive solutions.
- **Customer-Driven Projects**: Create embedded solutions for industries like IoT, automotive, and consumer electronics.

Android:

- **Internal Training**: Offer training on Android app development, UI/UX, and integration with other technologies.
- **Customized Workshop**: Design workshops on Android development for specific use cases, such as IoT or business apps.
- **Engg Student Projects**: Assist students in building innovative Android applications for real-world problems.
- **Customer-Driven Projects**: Develop custom Android apps tailored to customer requirements and business goals.

AI:

- **Internal Training**: Provide training on AI concepts, tools, and frameworks for team upskilling.
- **Customized Workshop**: Deliver workshops on AI, covering machine learning, deep learning, and practical use cases.
- **Engg Student Projects**: Guide students in developing AI projects like chatbots, predictive models, or computer vision systems.
- **Customer-Driven Projects**: Design AI-driven solutions for automation, decision-making, and personalized user experiences.

IoT Services

Service	Scope	Objective	Outcome/Expectations
Internal Training	Train teams on IoT concepts, device integration, and data analytics.	Build in-house expertise to manage IoT systems.	Skilled workforce capable of deploying and maintaining IoT solutions.
Customized Workshop	Deliver tailored workshops on IoT use cases and technologies.	Equip participants with practical IoT implementation skills.	Enhanced knowledge of IoT applications specific to industries.
Engg Student Projects	Guide students in IoT-based project development.	Foster innovation and understanding of IoT systems.	Student projects demonstrating real-world IoT applications.
Customer Projects	Develop customized IoT systems for specific business needs.	Solve customer-specific challenges using IoT solutions.	Tailored IoT deployments enhancing productivity and monitoring.

Robotics Services

Service	Scope	Objective	Outcome/Expectations
Internal Training	Train teams in robotic programming, design, and AI integration.	Build internal robotics expertise for automation tasks.	Skilled teams proficient in robotics technology.

Customized Workshop	Conduct workshops on robotics design and industry applications.	Enhance understanding of robotics for specific uses.	Participants adept at leveraging robotics in operations.
Engg Student Projects	Mentor students in creating functional robotics projects.	Encourage hands-on learning in robotics engineering.	Innovative student-led robotic solutions.
Customer Projects	Deliver robotics solutions for automation and precision tasks.	Meet industry-specific automation and safety needs.	Intelligent robotic systems solving real-world problems.

Embedded Systems Services

Service	Scope	Objective	Outcome/Expectations
Internal Training	Train teams on embedded systems design and real-time OS usage.	Build internal expertise in embedded technologies.	Teams capable of creating efficient embedded systems.
Customized Workshop	Host workshops on embedded systems applications.	Equip participants with the knowledge to build embedded solutions.	Enhanced industry-specific embedded systems knowledge.
Engg Student Projects	Support students in developing projects like smart wearables.	Foster innovation in embedded system designs.	Functional student projects showcasing embedded technology.
Customer Projects	Develop custom embedded solutions for industrial applications.	Solve unique customer challenges with tailored systems.	Reliable embedded systems meeting business demands.

Android Services

Service	Scope	Objective	Outcome/Expectations
Internal Training	Train teams on Android development and IoT integration.	Build skills in Android app development.	Teams capable of creating robust Android applications.
Customized Workshop	Conduct workshops on Android use cases and development.	Enhance knowledge of Android tools and techniques.	Participants skilled in creating effective mobile apps.
Engg Student Projects	Mentor students in developing Android-based innovative apps.	Encourage practical learning in mobile development.	Innovative student projects solving real-world problems.
Customer Projects	Develop tailored Android apps for specific customer needs.	Address unique business challenges through mobility.	User-friendly apps improving business operations.

AI Services

Service	Scope	Objective	Outcome/Expectations
Internal Training	Train teams on AI tools, frameworks, and applications.	Build in-house AI expertise for business innovation.	Skilled teams capable of leveraging AI for problem-solving.
Customized Workshop	Deliver workshops on machine learning, deep learning, and AI.	Provide hands-on training in AI techniques.	Participants skilled in applying AI to diverse challenges.
Engg Student Projects	Guide students in AI-based projects like chatbots and models.	Promote innovation and learning in artificial intelligence.	Functional projects demonstrating AI potential.
Customer Projects	Develop AI-driven solutions tailored to customer requirements.	Enable automation, analytics, and smart decision-making.	AI systems providing competitive business advantages.

Resources Required for Each Vertex

Vertex	Hardware (HW)	Software (SW)	Skill Set	Number of People
IoT	IoT devices, sensors, microcontrollers, gateways, network hardware.	IoT platforms, data analytics tools, cloud services.	IoT developers, network engineers, data analysts.	2-4
Robotics	Robotic kits, actuators, sensors, control systems.	Robotics programming tools, AI integration platforms.	Robotics engineers, AI specialists, mechanical designers.	2-4
Embedded	Microcontrollers, development boards, oscilloscopes, testers.	Embedded IDEs (e.g., Keil, MPLAB), real-time OS.	Embedded system developers, firmware engineers, hardware testers.	2-4
Android	Mobile devices, testing hardware, deployment infrastructure.	Android Studio, version control systems, APIs.	Android developers, UI/UX designers, testers.	2-4
AI	High-performance GPUs, servers, cloud computing infrastructure.	AI frameworks (TensorFlow, PyTorch), data pipelines, analytics tools.	Data scientists, AI engineers, ML model trainers, software engineers.	2-4