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AI for Bharat Hackathon

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Team Name : Coding Beasts

Team Leader Name : Arjun Kumar

Problem Statement : Design an AI-powered solution that improves efficiency and reduces operational burden within healthcare ecosystems by assisting clinicians with time-consuming clinical documentation tasks.

MedScript AI – Idea Overview

- MedScript AI is an AI-powered clinical documentation assistant that reduces the time doctors spend on manual note-taking during patient consultations. It helps improve efficiency and allows doctors to focus more on patient care.
- The system converts natural doctor–patient conversations into structured SOAP notes, which doctors review and approve before saving. AI acts only as a support tool, ensuring accuracy, safety, and doctor control.

How it is differ from existing one??

- MedScript AI stands apart from existing documentation tools by focusing on natural doctor–patient conversations rather than rigid templates.
- Unlike heavy EHR-integrated platforms, it is lightweight, browser-based, and accessible in low-resource settings. Its human-in-the-loop design ensures doctors remain in control, while productivity metrics provide measurable impact.
- This combination of accessibility, safety, and innovation makes MedScript AI uniquely practical for real-world healthcare.

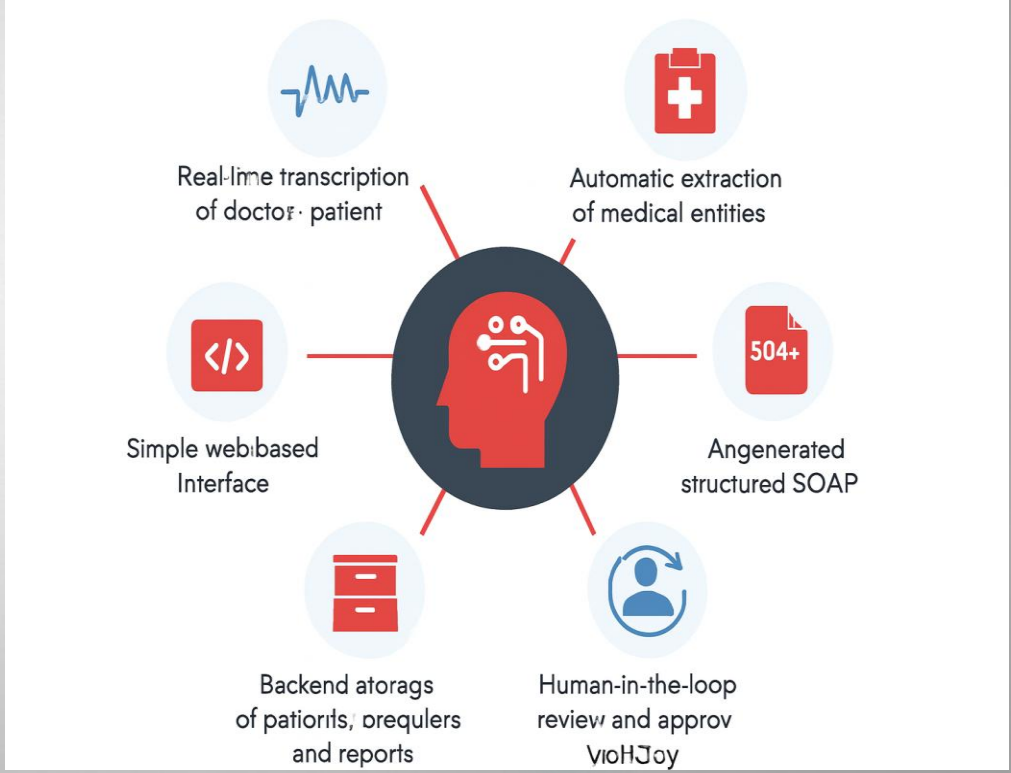
Feature	Competitors	MedScript AI
Medical Understanding	General transcription	Clinical NLP with context
Specialty	Support One-size-fits-all	15+ specialties
Training Data	Often requires patient data	100% synthetic + public data
EHR Integration	Standalone	Seamless direct integration
Learning	Static	Adaptive to physician reference

How will it solve the problem & USP

- MedScript AI solves the documentation burden by converting natural doctor–patient conversations into structured SOAP notes in real time, eliminating repetitive manual note-taking. Doctors review and approve every note, ensuring accuracy, safety, and full clinical control.
- Turning conversations into accurate notes, freeing doctors to focus on patients."
- **USP:** MedScript AI uniquely combines real-time conversational understanding with a human-in-the-loop workflow, enabling faster, more accurate clinical documentation without disrupting existing medical practices—freeing doctors to focus on patient care.
- Revolutionizing medical documentation to empower doctors and enhance patient care.

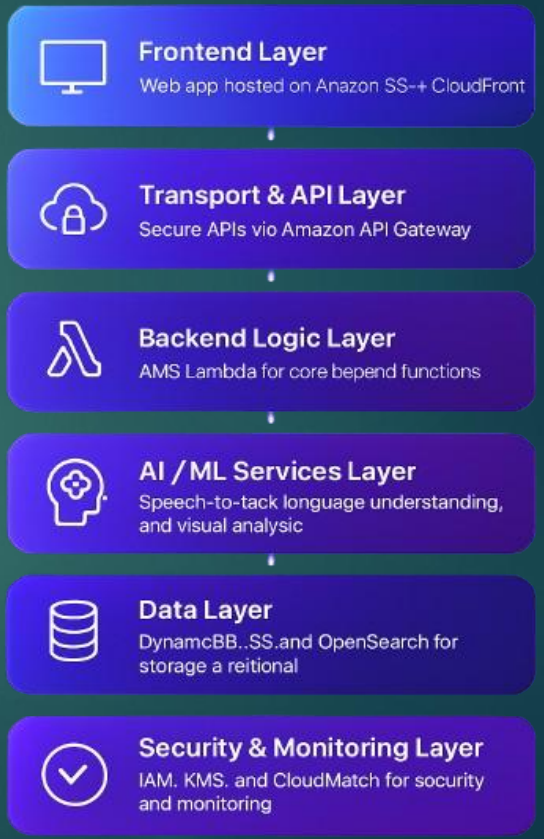
Keys features of MedScript AI

- Natural Conversation Understanding
- Structured SOAP Note Generation
- Patient Intake & Context Integration
- Multimodal Symptom Support (Optional)
- Human-in-the-Loop Workflow
- Dashboard & Productivity Analytics
- Lightweight & Accessible Design



System Architecture Overview Flowchart

- **Frontend Layer:** Web app hosted on Amazon S3 + CloudFront.
- **Transport & API Layer:** Secure APIs via Amazon API Gateway.
- **Backend Logic Layer:** AWS Lambda for core backend functions.
- **AI / ML Services Layer:** Speech-to-text, language understanding, and visual analysis.
- **Data Layer:** DynamoDB, S3, and OpenSearch for storage and retrieval.
- **Security & Monitoring Layer:** IAM, KMS, and CloudWatch for security and monitoring.
- **External Integrations Layer:** EHR and medical coding system integrations.
- **Workflow Completion:** Doctor approval and EHR auto-population.



Technologies to be used in the solution:

- **Frontend:** React.js, React Native, TypeScript, Tailwind CSS
- **Backend:** Node.js/Express, Python FastAPI, Java Spring Boot
- **AI/ML:**
  - **Speech :** Amazon Transcribe Medical / Whisper (medical ASR)
  - **NLP:** BioClinicalBERT , SciBERT , Custom Medical NER
  - **Generation:** Foundation Models via Amazon Bedrock (GPT-based medical models)
  - **Multimodal Analysis:** Amazon Rekognition for consent-based facial/body cues
- **Data:** PostgreSQL, MongoDB, Redis, AWS S3, Pinecone
- **Infrastructure:** AWS/Azure, Docker, Kubernetes
- **Security:** AWS KMS, Auth0, HIPAA Compliance Tools
- **Integration:** HL7 FHIR R4, SMART on FHIR

Phase-1

MVP(1-3 Months)

Build the Foundation

- Core AI platform development
- HIPAA-compliant architecture
- Secure infrastructure & APIs
- Synthetic data + licensing

💰 **Investment: ₹8–10 Lakhs**

Phase-2

PILOT(4-6 Months)

Validate in Real Clinics

- Pilot deployment (3 clinics)
- Product refinement & QA
- Clinical feedback loop
- Independent security audit

💰 **Investment: ₹12-15 Lakhs**

Phase-3

Launch(7-12 month)

Scale & Go-to-Market

- Scalable product expansion
- Marketing & sales execution
- Production-grade infrastructure
- Enterprise support & ops

💰 **Investment: ₹12-15 Lakhs**

Phase-4

Outcome-1year Impact

Revenue & Growth

- SaaS Model: ₹1500- ₹2000/ physician / month
- 200 physicians by Month 12
- ~ ₹30-40 lakh Year 1 Revenue
- High-margin, recurring growth

ATLAST

₹40–45 Lakhs investment

↓

Market-ready, compliant, revenue-generating platform in 12 months

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Thank You