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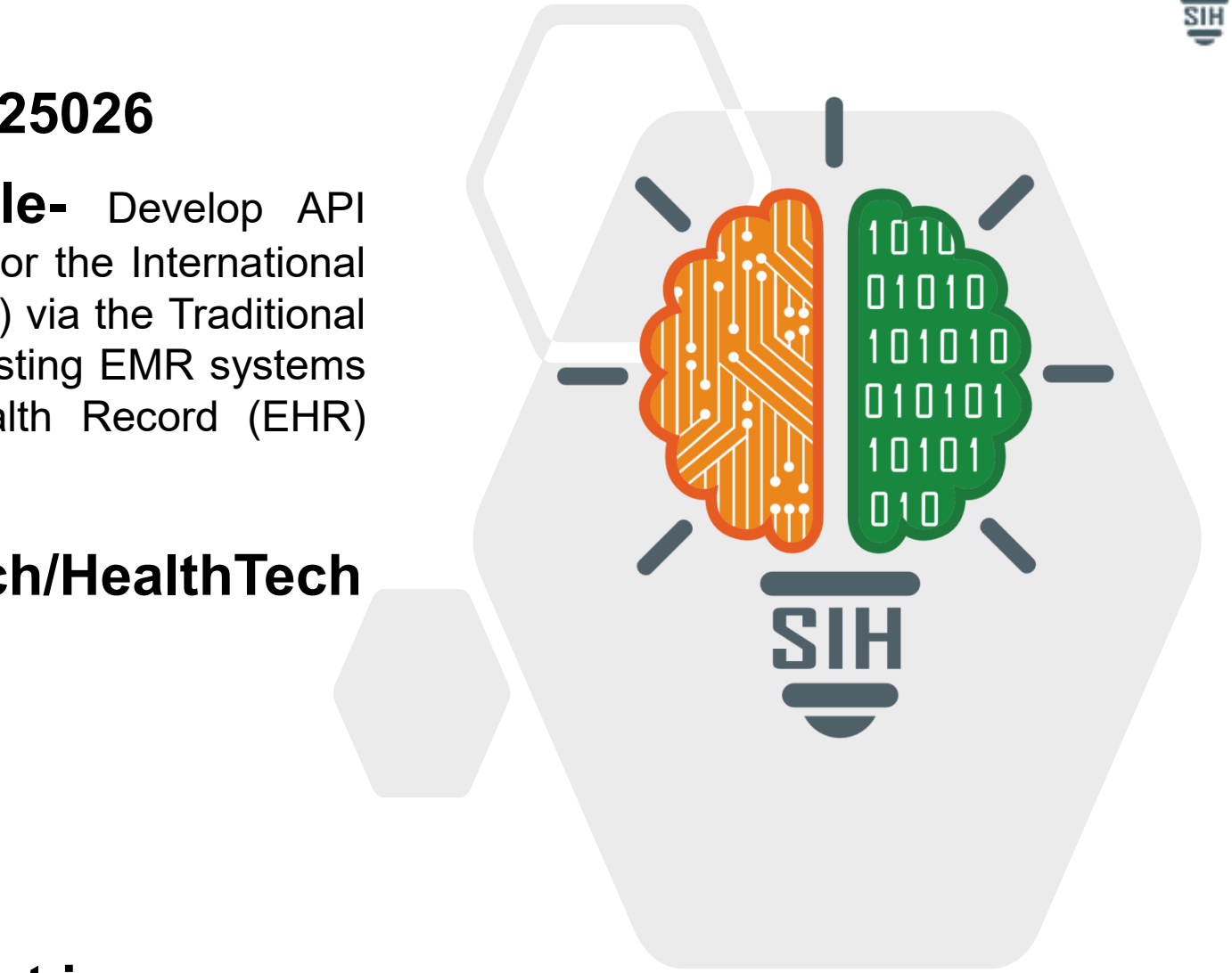
- **Problem Statement ID –25026**
- **Problem Statement Title-** Develop API code to integrate NAMASTE and or the International Classification of Diseases (ICD-11) via the Traditional Medicine Module 2 (TM2) into existing EMR systems that comply with Electronic Health Record (EHR) Standards for India.
- **Theme- MedTech/BioTech/HealthTech**
- **PS Category- Software**
- **Team ID- SIH2025134**
- **Team Name: Commitment issues**



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IDEA TITLE

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Detailed explanation

- Unified digital bridge between NAMASTE Ayurveda codes & WHO ICD-11 standards
- Store mappings in MongoDB ConceptMap collection
- Support forward lookup (Ayurveda to ICD-11) & reverse lookup (ICD to Ayurveda / synonyms)
- Automated updates via API + CSV sync

How it addresses the problem

- Eliminates manual mapping errors
- Enables interoperability between Ayush hospitals and mainstream EHRs
- Supports clinical coding for insurance & global reporting

Innovation & uniqueness

- First structured bi-directional mapping of Ayurveda with ICD-11 TM2 & MMS
- Synonym resolution: supports doctor-friendly terms like “GERD” or “Amlapitta”
- Scalable, API-driven design which leads to easy integration with hospital’s EMR

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TECHNICAL APPROACH

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Frameworks & Tools

- FastAPI: lightweight backend for query + APIs
- MongoDB: concept map + patient entries

Flow of Logic

- Doctor starts typing a diagnosis(Ayurveda term, ICD code, or synonym)
- Autocomplete GET API suggests possible terms in real-time after verifying the user's bearer token and logs the action
- API query searches MongoDB: indexed fields source, targets, synonyms
- Matching records are resolved and linked codes (NAMASTE + ICD-11 TM2/MMS) are returned
- Doctor selects appropriate record/code and confirmed selection is stored in patient entry collection
- Entry logged with terminology version, consent metadata, and audit trail
- Data available for analytics, reporting, and insurance claims

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FEASIBILITY AND VIABILITY

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Feasibility

- Uses existing open datasets (NAMASTE, WHO ICD-11)
- Cloud-ready tech stack (FastAPI + Mongo)
- Easily extensible for other traditional systems (Siddha, Unani, TCM)

Challenges

- Frequent updates in NAMASTE/ICD datasets
- Synonym mismatches
- Need for secure patient data handling

Mitigation Strategies

- Periodic checking of updates in datasets
- Curated concept map validation
- OAuth-based secure API access for hospitals/clinics

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IMPACT AND BENEFITS

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Target audience: Ayush doctors, hospitals, insurers, researchers

Benefits

- Interoperability between Ayurveda & mainstream medicine
- Insurance claims enabled for Ayush treatments using ICD-11 coding
- Supports national digital health mission (NDHM)
- Better public health reporting & research
- Facilitates global recognition and potential market growth for Ayurvedic treatments
- Reduces administrative workload in hospitals and clinics

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RESEARCH AND REFERENCES

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- NAMASTE Export: Ministry of Ayush (CSV mappings)
- WHO ICD-11 API: https://icd.who.int/icdapi
- WHO International Terminologies for Ayurveda: https://apps.who.int/iris/handle/10665/274456
- HL7 FHIR Standards for Interoperability: https://hl7.org/fhir/
- Electronic Health Records Standards for India (MoHFW): https://main.mohfw.gov.in/