**PROJECT TITLE:** Project **-** S.A.N.G.A.M. (Smart Assistant for Navigation, Guidance, And Management)

**TEAM ID:** TH12412

**Overview: S.A.N.G.A.M. is a pilgrim-centric digital companion that blends safety, cultural immersion, and seva engagement into one seamless experience.** It shifts the focus from “crowd control” to genuine “crowd care,” ensuring inclusivity through multilingual, offline, and voice-based access. With its phygital design and spiritually aligned gamification, it offers a **responsible, scalable, and human-centric model** for future smart pilgrimages.

**Problem statement:** Managing **public hygiene, health, and navigation** for lakhs of pilgrims at Ujjain Mahakumbh is a huge challenge. Overcrowding, sanitation strain, and lack of inclusive digital tools make the experience stressful, especially for elderly and rural pilgrims. Current solutions focus on **crowd control** but lack **pilgrim-centric care.**

**Solution**: **S.A.N.G.A.M.** is a **pilgrim-centric “phygital” ecosystem** that blends physical and digital experiences. It ensures **safety (Suraksha)** with crowd-aware navigation and SOS, **cultural immersion (Sanskriti)** through location-based storytelling and AR, and **engagement (Seva)** with seva quests and eco-awareness rewards. Its **non-intrusive, inclusive, and spiritually aligned design** transforms the journey into safer and more meaningful **crowd care**.

**Tech stack:** Flutter, Tailwind, flask, PostgreSQL, Firebase, google maps API, n8n, Render

**Future scope:** S.A.N.G.A.M. can scale beyond Ujjain to other **Kumbh Melas, yatras, and mega-events** with modular maps and content. With **AI-based predictive crowd management** and **blockchain-enabled transparency** in donations and seva, it ensures smarter, safer pilgrimages. Future additions like **wearables, drone monitoring, and AR/VR darshan** will make it more inclusive and globally adaptable.

**Logic and workflow:**

* **Data Collection:**
  + Real-time crowd density from user app locations
  + Inputs from pilgrims (navigation, SOS, seva participation)
  + Cultural content & alerts uploaded by admins
* **Processing:**
  + Backend microservices (FastAPI) analyze live data
  + AI/ML predicts congestion & suggests safe routes
  + Gamification engine assigns seva quests & rewards
* **Output:**
  + Real-time heatmaps, safety alerts, and route suggestions
  + AR overlays for facilities & cultural storytelling
  + Digital punya, badges, and personalized journey logs
* **User Side:**
  + Mobile app & web portal for navigation, culture, seva, and SOS
  + IVR support for non-smartphone users
  + Multilingual, offline-first access for inclusivity
* **Admin Side:**
  + Volunteer & seva management system
  + Tools for broadcasting verified alerts to pilgrims instantly