# 🌍 Multilingual Engine + Festival Campaign System

## ✅ Module Overview

This module enables brands to engage multilingual audiences and tap into regional festivals through intelligent localization. The system supports automatic language detection, content translation, and festival-aware campaign generation tailored to specific cultural and regional events across South Asia (Bangladesh, India, Pakistan, Sri Lanka, Nepal).

It works across campaigns, inbox replies, blogs, auto-posts, and comments — offering native fluency, personalization, and cultural alignment. Brands can configure localization strategy via their admin panel.

## 🎯 Goals

* Boost engagement and relevance through native language content
* Increase festival-time conversions with localized campaigns
* Automate multilingual and seasonal content for lazy brands

## 🧠 Feature Set

### 1. **Multilingual Engine**

* **Supported Languages**: Bangla, Hindi, Urdu, Tamil, Sinhala, English
* **Language Detection**:
  + Auto-detect customer language from inbox/comment history
  + Manual override in admin panel
* **Translation Logic**:
  + AI-based context-aware translation (OpenAI/Gemini/Fine-tuned LLM)
  + Human override allowed for campaign creatives
* **Dynamic Content Translation**:
  + Auto-translate blogs, campaigns, post captions, comments
  + Maintain SEO tags, hashtags, and brand names without translation
* **Inbox Support**:
  + Reply in detected language (Facebook/Instagram Messenger)
* **Brand Settings**:
  + Default brand language
  + Enable/disable auto-translation per content type (blog, inbox, post)
  + Language priority stack (e.g., Bangla > English)

### 2. **Festival-Aware Campaign Builder**

* **Festival Database**:
  + Regional calendar (Eid, Puja, Holi, Diwali, Pohela Boishakh, etc.)
  + Country-wise triggers (BD, IN, PK, etc.)
* **Auto Campaigns**:
  + AI generates full campaign plan (caption, image prompts, blog, product bundle, hashtags) for upcoming festivals
  + Triggered 7–10 days before the event
  + Can be set to Auto / Assisted / Manual modes
* **Product Mapping**:
  + Suggests best-fit products for gifting / seasonal use
  + Prioritizes high inventory / seasonal tags
* **Tone Adjustment**:
  + Adjust language tone to suit occasion (formal, celebratory, spiritual)
* **Regional Varianting**:
  + Same base campaign, localized per language and region

## ⚙️ Technical Architecture

### Tables

* languages\_supported
* brand\_language\_settings
* festival\_calendar
* localized\_content
* campaign\_templates\_localized

### Services

* Translation Engine (OpenAI GPT + glossary + fallback to DeepL/Google Translate)
* Festival Scheduler Engine (cron-based)
* Locale Switcher Middleware (per customer interaction)
* Language Consistency Validator (checks tone, brand keywords, etc.)

### External APIs

* Google Calendar API (optional sync)
* Country IP Detection (optional for default locale)

## 🧩 Integrations

* Auto Poster / Post Manager: For localized visual captions
* AI Blog Generator: Translated blog variants per region
* Inbox AI: Smart reply in user language
* Campaign Builder: Seasonal triggers based on location

## 🎨 UI Components (Brand Panel)

* Language Settings Page
  + Default Language
  + Translation Toggle per Content Type
* Festival Campaign Calendar (List + Toggle View)
  + Upcoming Festivals + Auto Mode Switch
  + Preview Caption + Visual Plan (per locale)
* Translation Review Panel
  + Compare original vs AI vs human revised copy

## 🔐 Permissions

* Brand Admins:
  + Enable/disable languages
  + Manually edit AI translations
* Superadmin:
  + Add/edit festival database
  + Approve AI tone consistency rules

## 💡 AI Enhancements

* Auto-detect cultural mismatch in captions (e.g., wrong tone for spiritual events)
* Prioritize best-performing regional campaigns based on past CTR
* Auto-localize emojis, expressions, and festive terms

## 🧠 Benefits

* Hyper-personalized marketing with zero manual effort
* Helps lazy brands run culturally aligned, multilingual campaigns
* Lays foundation for cross-border scale into SAARC markets

✅ Ready for flowchart or code-level planning. Let me know the next module to document.