# 🌍 Module: Multilingual + Localization System

## 🎯 Purpose

To make the SaaS platform natively multilingual, enabling brands to: - Auto-translate blogs, campaigns, captions, and replies - Localize product descriptions and internal messages - Reach customers in their native language across SAARC (e.g., Bangla, Hindi, Urdu, Tamil)

This enhances reach, accessibility, and engagement—especially in regional markets.

## 🧩 Core Features

### 1. Brand Language Settings

* Default language selector for brand (e.g., Bangla)
* Option to enable multiple output languages
* Preferred language order for multilingual audiences
* Override language per campaign or post

### 2. Auto-Translation Engine

* Powered by GPT-4 + Google Translate hybrid
* Use Google Translate for first-pass translation
* Refine tone with GPT for:
  + Campaign captions
  + Blog intros
  + Product use instructions
* Tone & brand voice preserved with language-specific tuning

### 3. Multilingual Content Versions

* For every blog/post/product/caption:
  + Store multiple language versions
  + Enable user to switch language on frontend
* Serve based on browser language or user profile

### 4. Language Preference Detection (End Users)

* Detect from:
  + Browser language
  + Past interaction language (e.g., DM in Hindi)
  + Location/IP-based heuristic
  + Profile settings (if user signed in)

### 5. Human Approval Mode (Optional)

* Brands can enable “Assisted Mode”
  + Auto-translate with GPT, wait for manual approval
  + In-place editing UI with language toggle

### 6. Caption / Comment / Inbox Reply Localization

* Auto-translate replies in DM/comments to user’s detected language
* Toggle on/off per brand
* Store both original and localized reply in logs

### 7. Campaign Localization Intelligence

* Suggest local festival/seasonal tie-ins:
  + e.g., “Pohela Boishakh Gift Guide” (Bangla), “Diwali Skincare Combo” (Hindi)
* GPT-based prompt enhancer for region-based themes

### 8. Multilingual SEO Optimizer

* Rewrite meta title + description in all selected languages
* Adjust slugs, titles, and internal links per language
* Submit multilingual sitemaps

## 🛠️ How to Build It

### Stack

* Translation: Google Translate API + GPT-4
* Language routing: i18next + custom fallback engine
* Frontend: Next.js dynamic language switching
* Backend: Node.js, Redis cache for translated strings

### DB Schema

* localized\_content table
  + id, entity\_type (blog/product/caption), entity\_id
  + language\_code
  + translated\_text, manual\_override (bool), approved\_by
* brand\_language\_settings
  + brand\_id, default\_language, supported\_languages

### API Endpoints

* POST /translate → Translate content with fallback strategy
* GET /content/:id/lang/:lang\_code → Fetch translated content
* POST /set-user-language → Update profile language

### GPT Prompt Template

“Translate the following product description to [LANGUAGE], keeping tone consistent with a [BRAND\_VOICE] for a beauty brand targeting [REGION]. Use natural idioms and culturally appropriate expressions.”

## 🔐 Admin + Superadmin Controls

* Enable/disable multilingual feature per brand
* Set max languages per plan
* Monitor language-specific performance (CTR, likes, shares)
* Track translation costs (GPT token usage, Translate API)

## 🔗 Connected Modules

* Blog Engine → Multilingual blogs
* Caption Generator → Captions in regional languages
* Inbox/Messenger Replies → Auto-replies based on detected language
* Email/SMS Campaigns → Message in local language
* UGC Campaigns → Instructions in native language
* AI SEO Engine → Localized meta content and URLs

## 📈 Benefits

* Reach more users in Bangladesh, India, Pakistan, and Sri Lanka
* Create culturally relevant, local-first marketing
* Improve engagement, CTR, and brand trust
* Make every module natively accessible in multiple languages

✅ This module will be part of the mid-tier and above plans, with GPT translation usage limits configured per plan.