Japanese Learning Web App

Business Plan

Contents

[Executive Summary 2](#_Toc185895971)

[Market Research 3](#_Toc185895972)

[Project Objectives 4](#_Toc185895973)

[Features and Functionalities 5](#_Toc185895974)

[User Flow and Experience 6](#_Toc185895975)

[Technical Specifications 6](#_Toc185895976)

[Subscription Model and Monetisation 7](#_Toc185895977)

[Timeline 7](#_Toc185895978)

[Risk Assessment 8](#_Toc185895979)

[Marketing Plan 8](#_Toc185895980)

[Cost Estimation 9](#_Toc185895981)

# Executive Summary

Problem:

Japanese learners…

* Don’t have an instant feedback method for their sentence corrections (ChatGPT is available but requires continuous prompting).
* Don’t have access to personalised feedback on their most common mistakes.
* Don’t have access to short placement tests that measure their Japanese level/progress with feedback.
* Don’t have an idea of what to study, i.e. lack structure.
* Struggle to incorporate what they have learnt practically.

Solution:

A structured app that provides…

* Grammar/Vocab/Kanji lessons.
* Opportunity to practice learnt content using fill in the gaps and sentence rearrangement.
* AI corrections that breakdown your mistakes.
* Flashcards with a spaced-repetition-system.

Target Audience:

* Serious Japanese learners who at the minimum already know hiragana, katakana and basic phrases.

Revenue Target:

* $10,000/month from 1,000 paying users at around $10 a month.

# Market Research

Overview:

* There are over 1 million people who take the JLPT exam annually. Additionally, this is an underestimate due to the number of people who are not JLPT test takers and simply learn as a hobby. By aiming to capture just 1,000 paying users for our first milestone, we are aiming to capture at most 0.1% of the market. Popular resources that current Japanese users use include: Duolingo, Bunpro, WaniKani and LingoDeer.

USP:

* **Personalised AI Feedback:** Real-time, context-specific sentence corrections with detailed explanations.
* **Structured Learning Path:** A guided JLPT N5–N1 path with daily lessons and practice sessions.
* **Comprehensive Approach:** Combines flashcards, practice tasks, AI corrections and SRS, making it a convenient solution for serious learners.
* **Practicality:** Practice features (sentence rearrangement, fill-in-the-gap…) that focus on applying what users learn.

Competitors:

* Duolingo:
* **Strengths**:
  + Gamified approach keeps learners motivated.
  + Large user base and engaging UI.
  + Broad accessibility with a free version.
* **Weaknesses**:
  + Lacks depth for advanced learners.
  + Limited focus on grammar and practical application.
  + **Our USP vs Duolingo**:
  + Offers deeper content for serious learners and personalised AI feedback, unlike Duolingo’s broad but shallow gamification.
* Bunpro:
* **Strengths**:
  + Grammar focused with clear JLPT structure.
  + Affordable pricing.
* **Weaknesses**:
  + Minimal interactivity beyond grammar.
  + No AI sentence correction or kanji integration.
  + **Our USP vs Bunpro**:
  + More interactive with kanji SRS, practical exercises and AI corrections, while Bunpro just revolves around grammar.
* WaniKani:
* **Strengths**:
  + Highly effective SRS for kanji and vocabulary.
  + User-friendly interface.
* **Weaknesses**:
  + Limited to kanji and vocabulary, lacks grammar and practice features.
  + No AI sentence correction.
  + **Our USP vs WaniKani**:
  + Combines kanji, vocabulary and grammar with AI-powered explanations and practice, offering more breadth and integration.
* LingoDeer:
* **Strengths**:
  + Emphasises grammar and vocabulary.
  + Interactive and beginner friendly.
* **Weaknesses**:
  + Limited customisation and advanced level content.
  + No AI-powered features for error analysis.
  + **Our USP vs LingoDeer**:
  + Adds AI-powered feedback and practical tasks, catering to learners’ need for error analysis and sentence-level corrections.

# Project Objectives

Core Objectives:

* Build an AI sentence corrector for Japanese learners.
* Provide a clear learning structure from JLPT N5-N1.
* Use flashcards and spaced repetition to aid memorisation.
* Create a revenue-generating subscription model.
* Reach 1,000 paying users within 12 months of launch.

# Features and Functionalities

Core features:

1. **Learning Path**: Users follow a structured path with 3 daily lessons to learn N5–N1 grammar, kanji and vocabulary using flashcards. (For MVP, just focus on N5).

**Kanji**:

* Contains a single kanji and its rough meaning.
* 5 words that contain the kanji are also shown below.
* The main onyomi (Chinese reading) and kunyomi (Japanese reading) are also displayed.
* Display options “I already know this kanji and its readings” and “I haven’t learnt this and kanji and its readings before” to allow users to skip a kanji if they already know it.

**Vocab**:

* Contains a single word or expression and its corresponding English meaning.
* If the vocab contains kanji, furigana is added to keep the focus on the vocab.
* Add an example sentence with the vocab. Make sure that the difficulty corresponds to their JLPT level.
* Add audio for the sentence.
* Add AI functionality to break down the example sentence if needed by the user.

**Grammar**:

* Displays the grammar point and it approximate English meaning.
* Give an example sentence that fits to the user’s JLPT level.
* Add AI functionality to break down the example sentence if needed by the user.

1. **Practice Sessions: In order to solidify the understanding of content from daily lessons, 4 tasks are given, these are used as a substitution to single flashcard reviews as a user becomes more comfortable with a flashcard (e.g. after 4 reviews).**

**Audio Transcribing:**

* **Users must write what they hear.**
* **This helps users with listening comprehension.**
* **AI functionality is also added for if the user gets it incorrect, an AI breakdown of the mistakes can be given.**

**Japanese Sentence Rearrangement:**

* **A Japanese sentence is jumbled and the user needs to rearrange it correctly.**
* **This helps users understand Japanese word order and structure.**
* **AI functionality is also added for if the user gets it incorrect, an AI breakdown of the mistakes can be given.**

**Fill in the Gap:**

* **A Japanese sentence is given according to the user’s difficulty and the user must fill in the gap with the correct vocab or grammar.**
* **If the user needs a hint, show the English translation.**
* **AI functionality is also added for if the user gets it incorrect, an AI breakdown of the mistakes can be given.**

1. **AI Sentence Corrector**: Users input sentences, and the AI corrects errors and explains why the changes were made.
2. **Flashcard Review**:

* Separate flashcard reviews are incorporated for each section (kanji, vocab, grammar and practice sessions).
* For kanji and vocab reviews, users must input both the English meaning and Japanese reading. And for grammar, users just need to input the English meaning.

1. **Spaced Repetition System (SRS)**: Flashcards are reviewed at optimal intervals to reinforce memory.
2. **Progress Tracking**: Users can see daily/weekly reports as well as do progress/placement tests.

# Site Map and Features List

Webpages:

* **Home Page (MVP)**
* **About/Help (MVP)**
* **Dashboard (MVP)**
* **Flashcard Review Page (MVP)**
* **Flashcard Learning Page (MVP)**
* **AI Sentence Corrector (MVP)**
* **Practice Session (MVP)**
* JLPT Level List Page (Future)
* **User Setting (MVP)**
* **Pricing Page (MVP)**

Webpage Details:

**Home Page**:

* Navbar to different pages
* Login / Signup button
* Daily lessons / Reviews / AI Sentence Corrector / Mini Dashboard
* Review forecast
* Basic stats: Username / number of flashcards a user has learnt / JLPT progress

**About/Help Page**:

* Learning methodology and how to use the web app

**Dashboard**:

* Number of flashcards a user has on each level and flashcard type
* JLPT progress
* Longest streak and current streak
* Graphs showing learning rate (flashcards over time for kanji, vocab, grammar and total)
* Display forecast graph using learning rate (e.g. “at this rate you will reach n4 in 2 months”)
* Total accuracy and accuracy for of each section as well top 5 least accurate flashcards

**Flashcard Review Page**:

* Flashcard with its example sentence and its audio
* Answer box for user

**Flashcard Learning Page**:

* Flashcard and all its details
* Option to skip flashcard if already known

**AI Sentence Corrector**:

* Input box for user to input sentence
* Correction space

**Practice Session**:

* Display fill in the gap, rearrange the sentence activity or translation into English
* Breakdown button to breakdown user mistake with AI

**User Setting**:

* Edit user details
* Logout option

**Pricing Page**:

* Display Pricing plan (free and premium)

# User Flow and Experience

1. **Sign Up / Log In**: User creates an account.
2. **Select Starting Level**: User either takes a placement test or selects their current level (N5 – N1).
3. **Select Study Plan**: User selects how many lessons per day they want to cover.
4. **Daily Lessons**: User is presented with 3 daily lessons of flashcards (kanji, grammar, vocab).
5. **Review**: Review learnt content using flashcards and practice sessions with spaced repetition.
6. **Progress Tracking**: Users can see their streak, progress within a level (e.g. N5 50% complete) and personal reports.

# Technical Specifications

Tech Stack:

* **Frontend**: Next.js, Tailwind CSS
* **Backend**: Node.js, AWS Lambda, API Gateway
* **Database**: AWS RDS (PostgreSQL)
* **AI/ML**: OpenAI API, Python, AWS SageMaker / EC2, call with Lambda
* **Hosting**: AWS Amplify / Vercel

# Subscription Model and Monetisation

Pricing Options:

Free Plan:

* 1 lesson/day (kanji, grammar, vocab).
* 5 sentence corrections/day using AI.
* 50 flashcard reviews/day.

Premium Plan:

* Unlimited lessons, flashcards and corrections.
* Progress reports and personalised study plans.

# Timeline

**Month 1 (January 2025)**: **Planning & Groundwork**

1. **Scope Definition & MVP Planning**
   * Finalise the exact features of MVP.
   * Priority features: AI corrections, daily lessons (N5 focus) and flashcard SRS.
   * Outline database schema (user accounts, lessons, flashcards, corrections).
2. **Content Sourcing (N5)**
   * Gather/create initial set of N5-level flashcards (kanji, vocab, grammar).
   * Research example sentences for daily lessons.
3. **Technical Setup**
   * Decide on overall architecture and stack: React for frontend, Node/Express for backend, PostgreSQL and AWS hosting.
   * Initialise projects (e.g. create a GitHub repo, set up basic file structure, etc.).
4. **Design & Wireframes**
   * Sketch out core user flows: sign-up process, lesson page, AI correction interface, flashcard review, etc.
   * Create simple wireframes or low-fidelity prototypes to visualise the UI/UX.
5. **Feasibility Checks**
   * Experiment with the OpenAI API for Japanese sentence correction to understand token usage and cost.
   * Test basic prompts to confirm GPT can handle typical mistakes at the N5 level.

**Month 2 (February 2025)**: **Core Backend & Early Frontend**

1. **Database & Backend Implementation**
   * Implement user authentication (sign up, log in, password reset).
   * Create CRUD endpoints for lessons, flashcards, and user progress.
   * Structure data in PostgreSQL: tables for users, lessons, flashcards, etc.
2. **AI Integration (Basic)**
   * Set up a basic endpoint for AI corrections with OpenAI (or another model).
   * Implement logic that takes in a Japanese sentence, calls the model, and returns corrections.
   * Start refining prompts for best results.
3. **Early Frontend**
   * Implement React components for sign-up/login and a simple dashboard.
   * Create a simple lesson page where you can display a lesson’s content (kanji, vocab, grammar).
4. **Internal Testing**
   * Manually test API routes and frontend pages.
   * Ensure the AI correction endpoint works in a basic sense.
5. **Content Input (N5)**
   * Begin populating the database with at least 1–2 weeks’ worth of N5 lessons (kanji, grammar, vocab).
   * Upload your example sentences, translations and any audio if available.

**Month 3 (March 2025)**: **Feature Building & SRS Implementation**

1. **SRS & Flashcards**
   * Implement the spaced repetition logic (e.g., algorithm to decide review intervals).
   * Build the flashcard UI.
   * Connect it to user progress data (e.g., updates in the database after each review).
2. **Daily Lessons + Practice Tasks**
   * Code the “daily lessons” flow: automatically serve 3 new lessons per day.
   * Implement practice tasks (sentence rearrangement, fill in the gap).
   * Integrate AI feedback for user mistakes (if they get it wrong, they can see an explanation).
3. **Placement Test / Level Selection**
   * Allow new users to either pick N5 or take a short quiz to confirm level.
   * Keep it simple for now (maybe just a 10-question quiz).
4. **AI Refinements**
   * Update prompt engineering to produce clearer corrections and explanations.
   * Test different scenarios (common grammar mistakes, casual vs. polite Japanese).
5. **Internal / Closed Beta Testing**
   * Invite a small group (friends, classmates, language learners) to try the app.
   * Collect feedback on AI accuracy, user flow and overall UX.

**Month 4 (April 2025)**: **UI Polish & Expanded Content**

1. **UI/UX Improvements**
   * Refine the design based on early beta feedback:
     + Add hints, progress bars or other helpful UI elements.
     + Improve layout and responsiveness for mobile devices.
2. **Progress Tracking & Reports**
   * Develop user dashboards showing streaks, progress, flashcard performance, etc.
   * Add a “reports” page or module where users can see recurring mistakes or grammar points they frequently miss.
3. **Payment & Subscription Setup**
   * Integrate a subscription model (Stripe, PayPal, etc.).
   * Implement usage limits for free vs. paid (e.g., 5 corrections/day for free users).
4. **Expand Content (N4)**
   * Start inputting some N4-level material (if time permits) or at least plan/outline it.
   * Continue to refine the N5 content with more example sentences, additional audio, or short explanations.
5. **Extended Beta & Bug Fixes**
   * Expand beta group slightly to more testers (maybe 30–50 people).
   * Collect detailed usage data and bug reports; fix priority issues.

**Month 5 (May 2025)**: **Public Beta Launch & Marketing**

1. **Public Beta Rollout**
   * Release a “beta” version to the public.
   * Invite communities on Reddit (r/LearnJapanese), Discord servers or Japanese-learning forums to test.
2. **Marketing**
   * Start building social media presence (YouTube, TikTok, Instagram) with short Japanese-learning tips or demos of your app.
   * Collaborate with small Japanese-learning influencers or bloggers who might review the app.
3. **Gather & Analyse User Feedback**
   * Use analytics tools (e.g., Google Analytics, Mixpanel) to see how people use your app.
   * Identify points of friction—e.g., do people drop off after sign-up, or do they quit after a few corrections?
4. **Performance Optimization & Scaling**
   * Monitor AWS costs, ensure Lambda or EC2 usage stays within manageable budgets.
   * Optimise AI calls to avoid unnecessary token usage (cache some frequent queries or implement daily correction limits).
5. **Refine Monetisation Strategy**
   * Evaluate whether $10/month is appealing based on early feedback.
   * Consider offering discount codes or referral programs to grow user numbers.

**Month 6 (June 2025)**: **Final Polish & Official Launch**

1. **Feature Finalisation**
   * Ensure key features (AI Correction, SRS, daily lessons, practice tasks) are stable and user-friendly.
   * Implement minor improvements suggested by beta testers (e.g., a “dark mode,” small UI changes, etc.).
2. **Add More Advanced Content**
   * Gradually add more N4-level content or refine the grammar points/lessons for N5.
   * Maybe also begin drafting N3 material if there is time.
3. **Official Launch + Marketing Push**
   * Announce official release (on Reddit, Product Hunt, Twitter, etc.).
   * Offer limited-time early-bird discounts to encourage people to upgrade to Premium.
4. **Analytics & Iteration**
   * Keep an eye on subscription rates, churn and overall usage metrics.
   * Tweak onboarding or lesson sequences if there is an early drop-off.
5. **Post-Launch Roadmap**
   * Outline future improvements: advanced grammar lessons, community features, more refined AI features.
   * Gather testimonials and success stories from early adopters to use in marketing.

# 

# Risk Assessment

Risks to Consider:

* **AI Accuracy**: How will you ensure that AI provides meaningful and accurate corrections/translations?
* **Churn**: How will you keep users subscribed for 6-12 months.
* **Competition**: How will you outshine resources such as WaniKani, BunPro or Duolingo.

Mitigation Plan:

* Use AI models (like OpenAI GPT) for better corrections.
* Gamify the app (streaks, flashcards) to increase retention.
* Offer unique features like **instant feedback** and **flashcard generation**.

# Marketing Plan

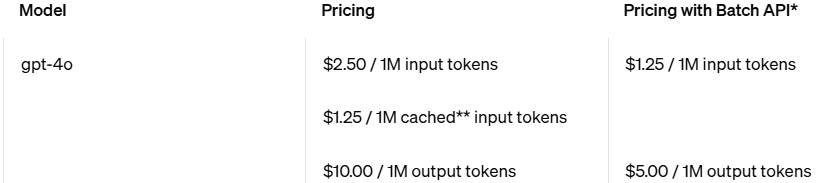
Acquisition Channels:

* **Reddit & Discord**: r/LearnJapanese, JLPT Discord group and student forums.
* **Content Marketing**: Create SEO content on YouTube, Tiktok or Instagram.
* **Influencers**: Partner with YouTubers who teach Japanese.
* **Launch Sites**: Use **Product Hunt, IndieHackers** and launch newsletters.

# Cost Estimation

Costs to Consider:

1. OpenAI API Usage:

* 1,000 tokens ≈ 750 words → 1M tokens ≈ 750,000 words.

1. Hosting Fees:
2. **AWS Lambda**:

* **Free Tier**:
* 1M requests + 400,000 GB-seconds compute/month.
* **Paid Tier**:
  + $0.20 per 1M requests.
  + $0.0000166667 per GB-second.

**$1–$5/month** for low usage (10,000 – 100,000 requests).

1. **AWS RDS**:

* **Free Tier**:
  + 20 GB storage.
* **Paid Tier**:
  + $15–$25/month for small storage and light traffic (e.g. db.t4g.micro, 20–30 GB).
  + $50/month for medium traffic (e.g., db.t3.small, 50–100 GB).

**$15–$50/month** depending on storage and instance size.

1. **Frontend Hosting with EC2**:

* **Small Instance (t4g.micro):** ~$9/month.
* **Medium Instance (t3.small):** ~$20/month.

**$9–$20/month** depending on instance size.

**Total**: **$25–75$/month**