Duolingo should enhance learner decision-making by introducing AI-powered revision and continuation suggestions, helping users build stronger retention while preserving engagement.

Contributors: Ritika Jain

[Problem Alignment](#)
- [High-Level Approach](#)
- [Why This Problem?](#)
- [Goals](#)
- [Non-goals](#)

[Solution Alignment](#)
- [Key Features](#)
- [Key Flows](#)

[Appendix](#)
- [A: Identifying Important and Underserved Needs](#)
- [B: Value Proposition](#)
- [C: Defining a Minimum Viable Product](#)
- [D. Potential Other Opportunities](#)
- [E. Success Metrics](#)

Problem Alignment

> Despite Duolingo's success in motivating users through gamified streaks and lessons, many learners eventually experience boredom and disengagement. The core learning activity remains highly repetitive often revolving around matching, translating, or speaking in similar formats. As a result, even motivated users report streak fatigue, making them prone to burnout or dropout.
>
> Through user interviews and persona research, we found that learners lack a personalized revision experience that adapts to their needs over time. Instead of

helping users strengthen old concepts efficiently, Duolingo continues with linear progression. Users who want to revisit specific grammar areas or vocabulary groups must manually find lessons, and even then, there's no way to track what has been revised or what needs refreshing.

Additionally, Duolingo remains a largely solo experience, despite language learning being inherently social. Many users wanted to engage with friends, compare progress, and challenge each other, something not natively supported on the platform.

This creates gaps across the revision and retention phases of the user journey, weakening Duolingo's potential to support lifelong language learners and social motivation.

High-Level Approach

We approach the problem by focusing on reducing revision fatigue, improving retention, and increasing user satisfaction through smart revision and social reinforcement.
Instead of adding more content or gamification, the solution lies in:

- Intelligent revision paths based on user's past progress and memory decay,
- Customizable daily revision goals, and
- Lightweight social integrations like Instagram-based friend discovery, leaderboards, and challenges.

By making revision feel fresh, rewarding, and personalized while also introducing subtle social nudges we help users stay engaged and build long-term habits.

Why This Problem?

Solving this problem helps Duolingo evolve from a gamified starter platform to a true long-term language companion.

1. **Combat Streak Fatigue**: Giving users variety and control over how they revise reduces the boredom that leads to burnout.

2. **Retain High-Intent Users**: Many learners are committed but feel frustrated by not being able to do revision of their previously learnt sections. Smart revision gives them a reason to return every day.

3. **Make Duolingo More Social**: For teen learners, being able to learn alongside friends, track streaks, and challenge each other adds powerful motivation.

4. **Differentiate from Competitors**: Other apps like Babbel and Rosetta Stone focus on structured learning. Duolingo can win on personalized engagement and lightweight social learning.

Goals

1. Enable effective revision by generating personalized review paths based on user progress, memory gaps, and core grammar or vocabulary clusters.
2. Break monotony in learning by integrating fresh activity types, spaced repetition cues, and quick review prompts that offer meaningful variety.
3. Introduce social motivation by allowing users to discover and engage with friends through platforms like Instagram or Twitter, promoting friendly competition and shared progress.
4. Boost retention by giving learners more control over how and when they revise, turning passive repetition into active, self-directed review.
5. Reinforce learning habits through smart nudges like streak-friendly revision zones, XP multipliers for timely refreshes, and visual tracking of reviewed concepts.

Non-goals

1. Redesigning the core lesson structure or introducing new types of primary learning content.
2. Focusing on initial user acquisition or onboarding of completely new learners.
3. Building complex community features like group chats, forums, or live classes.

Solution Alignment

Key Features

1. **Smart Revision Paths**
   Generate 3–5 minute personalized revision paths based on user's completed lessons, grammar or vocabulary themes, and spaced repetition signals. Users can also choose specific categories to revise, like "Past Tense" or "Food Vocabulary,"

giving them more control over their review.

2. **“Refresh Zone” Nudges**
   Introduce gentle reminders like “It’s been 10 days since you practiced Adjectives – Want to review now for bonus XP?” to prompt timely revisions and reinforce long-term retention without disrupting the user’s streak.

3. **Visual Revision Tracker**
   Show users which concepts have been recently refreshed and which are due for review again, making the revision journey feel intentional and progress-driven.

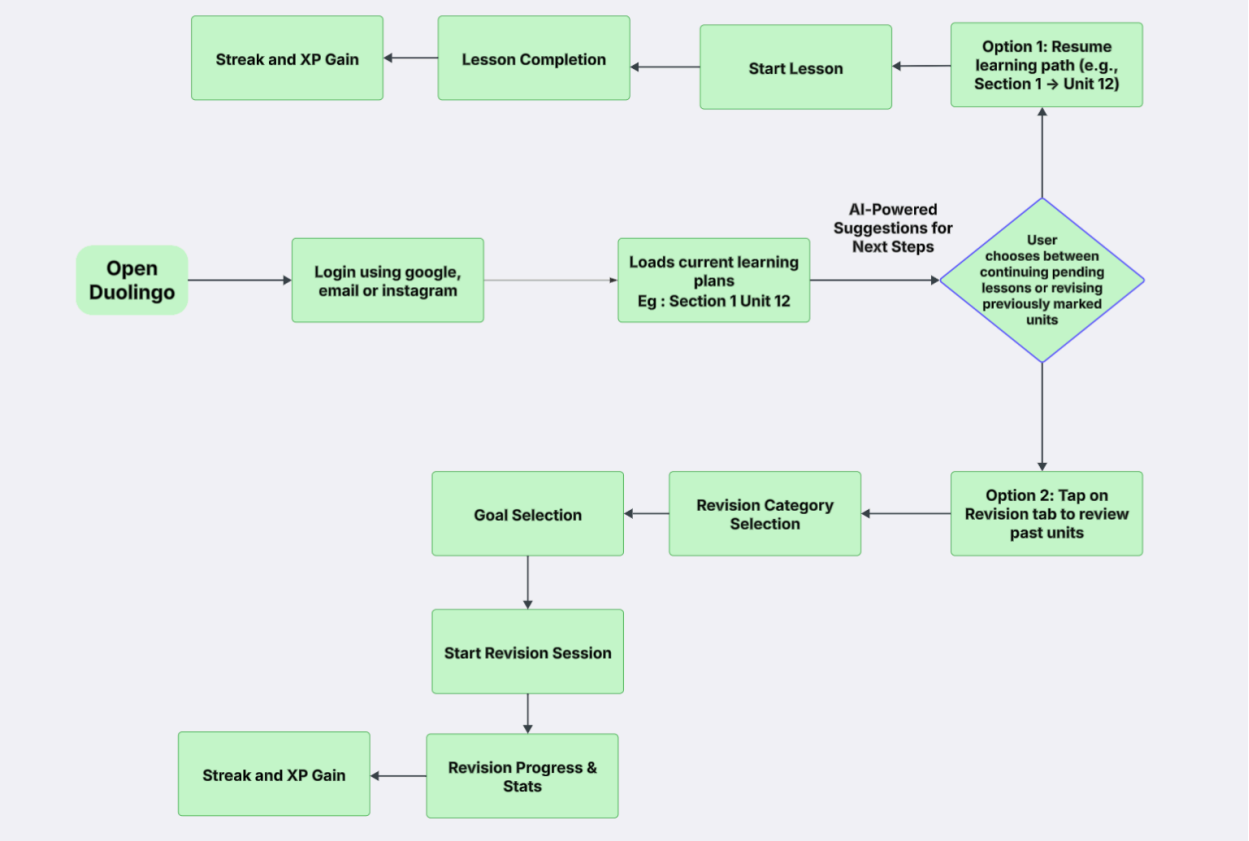
4. **Social Discovery via Instagram or Twitter**
   Let users connect Duolingo with Instagram or Twitter to discover friends learning similar languages. This allows for in-app follows, viewing streaks, shared challenges, and creating light social accountability.

Future considerations

1. **Profile-Level Social Interactions:** Add optional public learner profiles showcasing streak stats, completed topics, and most-revised skills, with reactions and comments from friends.
2. **Collaborative Duo Challenges:** Enable 2–3 friends to complete daily or weekly revision missions together for shared XP bonuses and streak boosts.

Key Flows

User Flow



Appendix

A: Identifying Important and Underserved Needs

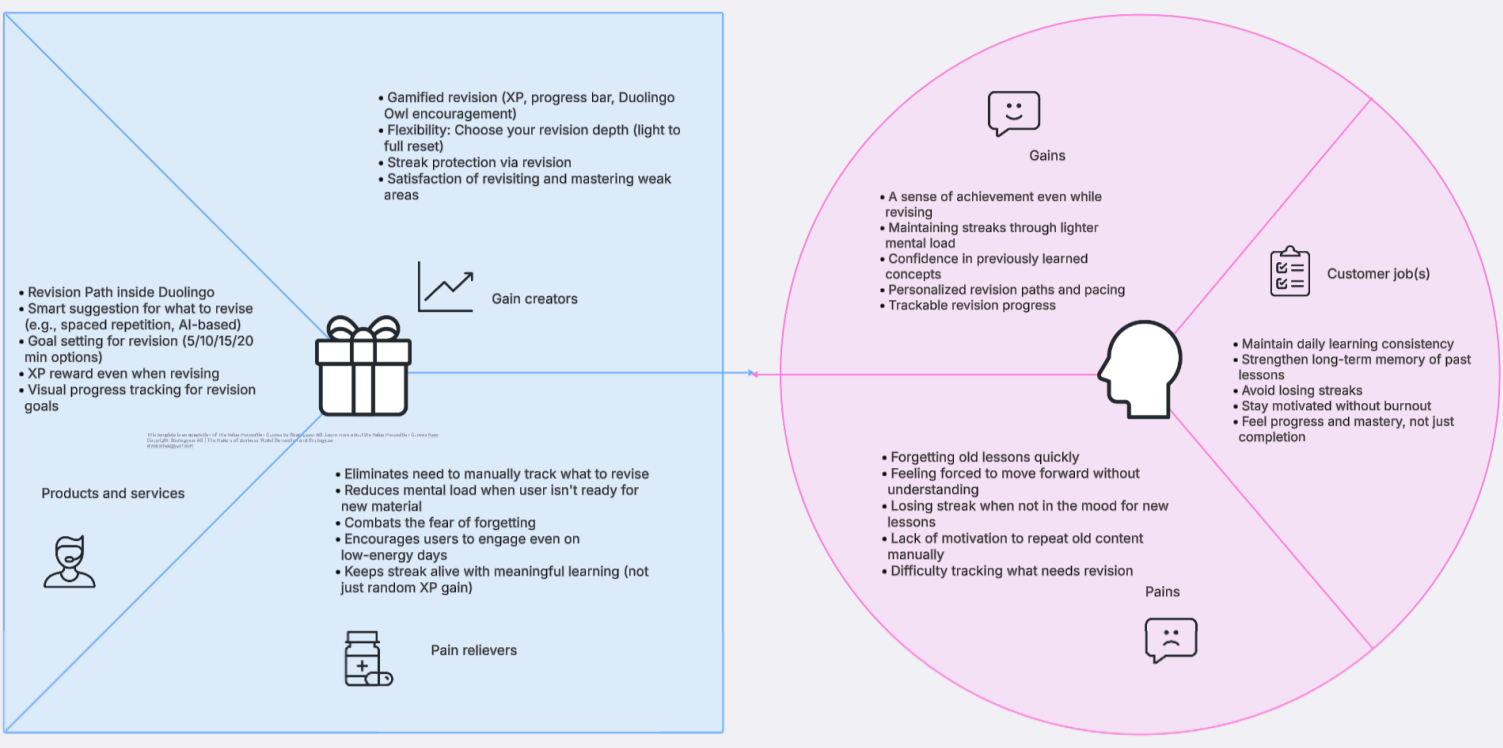
Need	Importance	Satisfaction	Conclusion
Learning Experience & Motivation			
Help me revise past topics	High	Low	Opportunity
Make revision less boring	Medium	High	Opportunity
Let me compete with friends	Low	High	Some Opportunity
Show me what I forgot	High	Low	Opportunity
Engagement & Social Layer			
Help me stay engaged after completing lessons (post-lesson interaction, meaningful revision)	High	Medium	Some Opportunity

Let me engage with friends outside the app (e.g., Instagram, Twitter)	Medium	Low	Some Opportunity
Help me decide what to revise next (intelligent suggestions, streak-friendly reviews)	High	Low	Opportunity
Create a sense of community or friendly competition	Medium	Medium	Some Opportunity
Interaction & Features			
Generate personalized revision paths using progress, memory decay, and grammar/vocab clusters	High	Low	Opportunity
Add revision-specific filters (topic, part of speech, error type)	Medium	Low	Competitive
Introduce lightweight social features (view friends' streaks, revision challenges)	High	Medium	Not Worth Going After
Let users log in or connect via Instagram or Twitter	Low	Low	Not Worth Going After
Create streak-friendly revision zones to gamify review moments	Medium	Medium	Competitive
Recommend revision lists based on community patterns (future consideration)	Medium	Medium	Some Opportunity

It can be concluded that the most important and underserved needs are the following:

- Maximize user engagement on the platform
- Increase content curation capabilities
- Implement social features

B: Value Proposition



C: Defining a Minimum Viable Product

Need: Allow users to easily curate and engage with content

STAGE	FEATURE IDEAS
Discovery	• Add a “Smart Review” tab on the home screen that highlights personalized revision suggestions based on recent performance and memory decay.
Onboarding	• Prompt users to select revision goals (5/10/15 mins) and topics they feel weak in during first launch of the feature. Offer examples of how it helps.
Task In Progress	• Generate revision paths using completed lessons, weak areas, and spaced repetition • Allow users to choose revision depth (quick review vs. full refresh). • Show gamified elements like XP boosts and progress tracking.
Order Completed	• XP earned

	• Revision summary (topics covered, weak areas improved) • Option to bookmark/repeat • Encouragement to set a goal for the next revision session • Option to share achievement or streak milestone

D. Potential Other Opportunities

These are ideas that are **not part of the MVP** but could add **future value** and align with user needs:

1. **Group Revision Mode**
   Enable users to revise together in real-time with friends via scheduled "revision rooms" add social motivation and accountability.

2. **AI-Powered Mistake Spotting**
   Suggest revision topics not just based on memory decay, but also on patterns in recent errors made by the user.

3. **Voice-Based Revision**
   Introduce smart speaking-based revision activities, especially useful for auditory learners and practicing pronunciation.

4. **Weekly Revision Reports**
   Send users personalized revision summaries with areas of strength, concepts forgotten most, and suggested focus for the coming week.

5. **Daily Streak Challenges with Friends**
   Add collaborative streak goals — e.g., revise 3x this week with 2 friends to earn a group badge.

E. Success Metrics

Metrics are listed in order of priority within each grouping.

Root Goal Being Addressed:

1. Average Number of Smart Revision Sessions Completed per Duolingo User
    a. How many Smart Revision sessions users complete on average (weekly/monthly), regardless of lesson progress.

Feature Adoption:

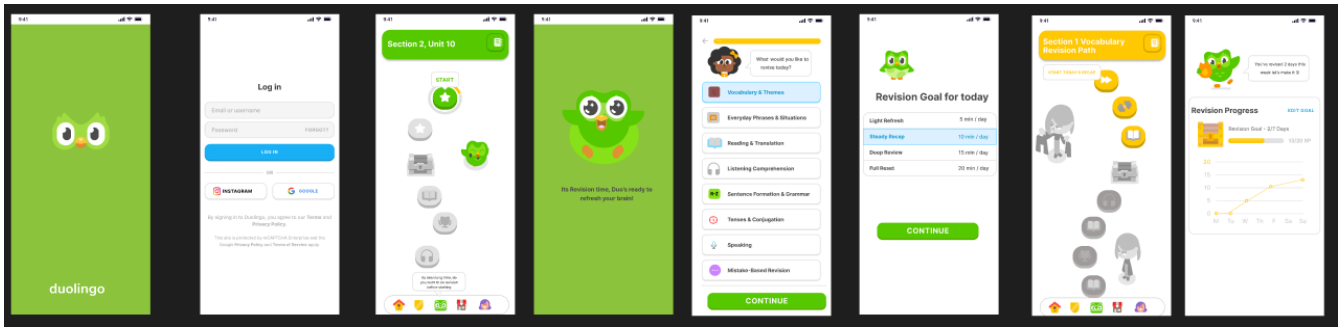
1. Revision Session Click-Through Rate
    a. What percent of all active learners use Smart Revision at least once each week.
2. Percentage of Active Users Using Smart Revision Weekly
    a. What percent of all active learners use Smart Revision at least once each week.
3. Average Number of XP Earned via Revision per User
    a. How much XP users earn from Smart Revision as a share of their total XP, reflecting engagement depth.

Feature Use Retention:

1. Average Number of Smart Revision Sessions per Returning User
    a. How many Smart Revision sessions are completed on average by users who've used the feature at least once.
2. Percentage of Users Who Set Revision Goals More Than Once
    a. How often users return to adjust/set their revision timer goals (e.g., 5/10/15 mins), indicating ongoing interest in tailored review.

Feature Abandonment:

1. Revision Prompt Ignored Rate
    a. How often users ignore Smart Revision prompts/suggestions (e.g., homepage banners, owl nudge, or lesson-end prompts). A high skip rate signals low perceived value.
2. Drop-Off Rate During Smart Revision Sessions
    a. Percentage of users who begin but do not complete Smart Revision sessions.
3. Decline in XP Earned from Revision Over Time
    a. A steady drop in revision-related XP could signal user fatigue or disinterest.

F: Prototype & Product Review Presentation

Prototype: Link to Figma || Community Profile Link