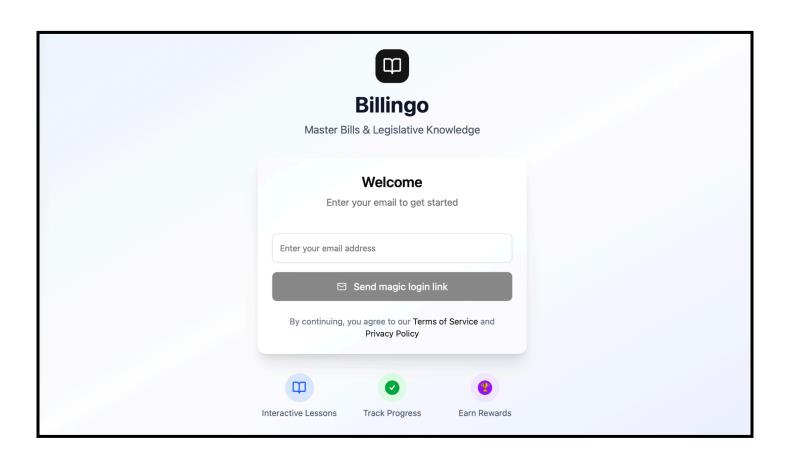
# Billingo

Bills and civics literacy made accessible to all, with Al

Final Report for Al4Legislation hosted by Silicon Valley Chinese Association Foundation (SVCAF)

Project Owner: lan Lee



# π Billingo!



### Problem Statement & Motivation

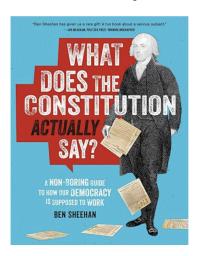
Recently, I have been picking up Swedish on Duolingo. As I tried keeping up with my daily streaks to make Duo and myself happy, I began to realize by how effective these interactive, bite-sized games are for learning hard things, like Swedish! Around the same time, I rented a book titled What Does the Constitution Actually Say?: A Non-Boring Guide to How Our Democracy Is Supposed to Work—hoping to finally understand the U.S. Constitution and legislative system in a way that actually sticks. That's when it hit me: we don't really spend a lot of time learning about bills and law jargons properly in school, and even when we try as adults, who would have time to learn? Most of us are juggling school, work, family, or personal projects—there's no time to sit down with a 400-page history book or decode legal jargon after a 9-to-5 shift or back-to-back college lectures.

So this idea really came naturally to me: What if civic literacy (learning about bills, law jargons, and how government work) were as fun and accessible as learning a language on Duolingo?

Billingo was built to answer that. It leverages AI to generate curricula for learning (for all ages!) that teaches how bills become laws, how government functions, and what the Constitution actually says—using flashcards, interactive analogies, and gamified lessons. By combining an intuitive UI with AI-generated content and spaced learning principles, Billingo makes it possible to build real civic understanding in just a few minutes a day.

I started this project two days ago with my best faith efforts, and I am happy to share what I have accomplished so far!

[N.B The book I read:]



What Does the Constitution Actually Say?: A Non-Boring Guide to How Our Democracy Is Supposed to Work Paperback – July 9, 2024



by Ben Sheehan (Author)

See all formats and editions

Do you know what the Constitution actually says?

This witty, highly relevant annotation is your go-to guide to how the U.S. government works (or is supposed to work).

Written by political savant Ben Sheehan, and vetted for accuracy by experts in the field of constitutional law, What Does the Constitution Actually Say? is an entertaining and accessible primer on what our Constitution actually lays out.

With clear notes and graphics on everything from presidential powers to Supreme Court nominations to hidden loopholes, Sheehan walks us through the entire Constitution (with a bonus section on the Declaration of Independence). Besides putting the Constitution in modern-day English (so that it can be understood), What Does the Constitution Actually Say? gives you everything you need to be an effective voter and citizen in the November elections and beyond.

Report an issue with this product or seller

# **Approach and Al Methods**

Billingo is a web interface where people of all ages can learn in two ways: interactive, game-like lessons, and the traditional, tried-and-tested Quizlet way with flashcards for law terms!

#### Tech Stack

- Frontend: React (with TypeScript) + Vite
- Backend & Auth: Supabase (magic link authentication)
- Al Integration: OpenAl APIs (GPT models) and Claude for content generation. Prompts were written by myself.

#### Method

#### 1. Al-Generated Lessons & Flashcards

- Civic concepts are broken down using GPT-powered generation for:
- Bite-sized flashcards
- Simplified analogies
- Interactive mini-lessons

#### 2. Engagement By Interaction - Immersive is the key!

- Kahoot-style guizzes
- Earnable points for completing lessons
- Gamified vocabulary builder

#### 3. Personalization

(Planned) Adaptive learning paths based on user progress and quiz results.

#### 4. Multi-lingual & Accessibility-friendly

- To really push on the accessibility front, the plan is to integrate multiple languages (Spanish, Chinese, Portuguese, etc.) spoken by majority immigrants to really break the barrier of learning.
- o Integrate audio in the future to "sound out" the cards and lessons!

## **Results, Evaluation & Key Findings**

### **Strengths**

- Al-generated content allows rapid scalability of new topics.
- Interactive analogies improved user understanding in testing.
- Vocabulary builder successfully reinforced new terms.
- Users appreciated the passwordless authentication and clean mobile experience.

# **Ethical Considerations & Potential Impact**

#### **Ethical Considerations**

- **Bias in Al Content**: Legislative interpretations vary by region and ideology. Al-generated explanations were reviewed manually to avoid bias but future automation requires stricter moderation.
- Data Privacy: Supabase ensures secure authentication, and no sensitive user data is collected or stored beyond the learning context.

#### **Potential Impact**

#### Billingo can:

- Democratize access to civic education
- Empower first-time voters
- Serve as a supplemental classroom tool
- Support NGOs and educational orgs targeting youth literacy in governance

# **Future Improvements & Scalability**

- 1. Better Progress Tracking
  - Intelligent goal-setting & feedback based on learning pace
- 2. Multiplayer Quizzes / Live Competitions
  - Gamify learning like Kahoot to boost engagement
- 3. Localization & Regional Laws
  - Al-generated content can be adapted for different legal systems
- 4. Educator Dashboard
  - Allow teachers to assign lessons, track student progress
- 5. More Al Features
  - Chatbot for Q&A on legislative topics
  - Scenario-based simulations (e.g., "Pass a Bill" roleplay)

## Conclusion

Billingo simplifies civic learning using modern web technologies and generative AI. It bridges the gap between complex legislative content and learners through interactive, personalized, and engaging experiences. With further improvements, it holds potential as a cornerstone civic education tool in classrooms and communities.