



# X Marks the Spot

Gargi Tawde, Areebah Iqbal, Fariha Ahmed

# X MARKS THE SPOT


- Geography learning game site
- Users can participate in or start a multiplayer quiz game session to learn new geography concepts
  - Earn points based on accuracy, speed, and question difficulty
  - A bonus is awarded to the game winner
  - Questions are randomized
- User's points at the end of the game go towards their account total
  - Earn tokens for every milestone they pass based on points accumulated in their account and can view their collection in their user dashboard

# Job Assignments

- Gargi: Frontend + User dashboard + User Auth + Backend
- Areebah: Frontend + Backend + Database + Game Logic
- Fariha: Frontend + Backend + User Auth + Database + Game Logic



# Milestones with Deadlines

- M1 (2/5 - 2/13): Finalize Design + Features + General UI
  - M2 (2/14 - 2/29): Database Setup + User Authentication
  - M3 (3/1 - 4/5): Game Implementation
  - M4 (4/6 - 4/20): User Engagement Features
  - M5 (4/20 - 4/25): Internal Testing
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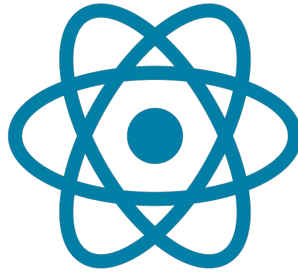
# Technologies

- **Frontend:**

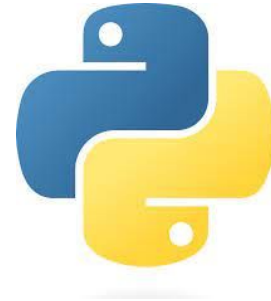
- HTML
- CSS
- React
- Tailwind

- **Backend:**

- Flask
- Python
- MySQL



Flask



# Algorithms Used in Core Engine

- The algorithm will determine how many points a player earns per question based on:
  - A base number of points the player will get per question
  - The correctness of the player's answer
  - The speed at which the question is answered
  - The difficulty of the question
- $c * (b/t * d)$
- Time Complexity:  $O(1)$



# Market Space

- Geared towards users who are interested in learning geography
- “According to the Nation’s Report Card, the largest continuing and nationally representative assessment of academic performance in the U.S., only 25% of American students in the eighth grade scored at or above NAEP (National Assessment of Educational Progress) proficient in geography.”
  - Helps improve student proficiency
- Helps users remember geography facts in a fun and interactive manner
  - Game and site is focused towards the type of content being learned
  - Multiplayer allows users to learn with others
- Users can earn tokens as performance overall improves, which provides incentive to learning



# What's Been Accomplished

- Creating a timeline with milestones
- Brushing up and familiarizing ourselves with the technologies
- Started working on the diagrams needed for the Project Design Specification:
  - Wireframes
  - Database ERD
- Finalized our features, such as the login and logout feature, the token collection feature, the quiz game features, and more





# What We're Looking Forward To This Semester

- Creating a project where I will be able to apply the coding skills I've learned
- Reinforcing skills required to be successful on a programming project/team
- Strengthening my technical skills by applying my coding skills and learning new technologies, and strengthening my teamwork skills by working and communicating with a team



# Partner Team's Feedback

- Partner Team: Byte Squad (Chore Tracker project)
  - Feedback for us:
    - Consider incorporating a notification system to remind users of upcoming multiplayer games, milestones achieved, or new features.
    - Introduce a leaderboard that displays top players, encouraging healthy competition among users.
    - Allow users to use earned tokens to unlock new game features, customize their profiles, or access premium content.
    - Implement a variety of collectibles as rewards, not just flags, to keep the user's interest and make their dashboard more visually appealing.
    - Include a variety of question types (multiple-choice, true/false, fill in the blanks) to make the quiz more diverse and engaging.
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