Project Plan Presentation
Machine Learning for Numeracy Training

The Capstone Experience

Team Anthropocene

Xukai Fang
Ricky Horan
Daniel Passos
Christian Vaughan
Matthew McDerment
Phumapiwat Chanyutthagorn

Department of Computer Science and Engineering
Michigan State University

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Anthropocene Institute

• Working towards the mission of solving the climate dilemma
• Partners with educational institutions and companies to advance necessary technologies
• Comprised of people with different backgrounds working together
• Wish to give the world a baseline of knowledge to enable more critical thinking
Project Functional Specifications

- Critical thinking is a key tool
- Many people lack numeracy skills
- Make the content easy to digest
- Gamify the learning process
- Retain users
- Help create a better informed public
Project Design Specifications

• Guided learning to provide users a basic foundation
• Engaging Games to reinforce learning and provide a fun experience.
• Two main game modes following unique ideas
Screen Mockup: Activities

**Numeracy Activities**
The following are all the activities available for your education and enjoyment!

**Estimates**
Do your best to make educated guesses and build an intuition for estimating numbers.
You can either test your skills alone or challenge someone else!

**Metric Hangman**
Familiarize yourself with the metric system and its prefixes through the power of hangman.
You can either test your skills alone or challenge someone else!

**Learn**
Not sure where to start or what Numeracy here is a quick introduction into the world of numbers.
Engage with our complete course on Numeracy! From understanding big numbers to scientific notation we'll teach you all you need to know!
With the freedom to take each module at your own pace and pick the topics you find most interesting.

**Top Tens**
How aware are you when it comes to numbers and the world?
In this family feud style activity, check if you have the intuition for how impactful different situations are and see if you have a good grasp of the world's numbers.
Screen Mockup: Learn Numeracy

Welcome Matthew! The world of numbers awaits!

- **Big Numbers**
  - Understanding The Scale of Big Numbers
  - Significant Figures
  - Adding And Subtracting Big Numbers

- **Scientific Notation**
  - Scientific Notation Intro
  - Conversions

- **Units Of Measurement**
  - Unit Conversions
The difficulty when understanding big numbers is that often times we lack the intuition to grasp their scale in a meaningful way. In order to remedy this issue let us begin by using a scale more easily understandable.

How many times larger is 1 billion to 1 million?
- 10 Times
- 2 Times
- 100 Times
- 1000 Times

Check Explanation

Ask AI
A billion is 1,000 times larger than a million. What is a different way if you had a dollar the difference?
Screen Mockup: Estimates

The F35 fighter jet proposal is set to cost 1.7 trillion dollars. Assuming there are Americans, how much is each American spending on this proposal?

4e3

Submit
Screen Mockup: Metric Hangman
Project Technical Specifications

• Front End: Javascript, HTML, and React

• Back End: SQL and Flask

• APIs: GPT-3
Project System Architecture
Project System Components

• Hardware Platforms
  ▪ iMac, PC, and mobile devices for testing

• Software Platforms / Technologies
  ▪ Front End
    o JavaScript, HTML, React
  ▪ Back End
    o MySQL, Python Flask
  ▪ GPT-3
  ▪ Docker Desktop
Project Risks

• Risk 1
  ▪ Creating sufficient designs and prototypes
  ▪ Provide many design iterations to the client
• Risk 2
  ▪ Properly processing data and ML models
  ▪ Use existing/handmade questions as a baseline for ML
• Risk 3
  ▪ Efficiently increasing the user’s numeracy skills
  ▪ Provide user with tutorials, and adapt the questions
• Risk 4
  ▪ Grab attention and entertain the user so they come back
  ▪ Use real-world stats and gamify the learning process
Questions?