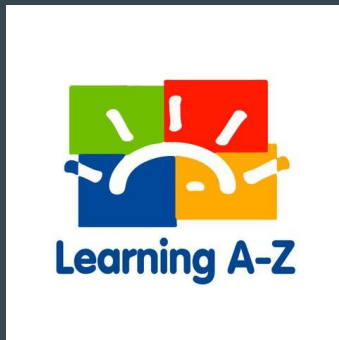# Letter Chase - An Interactive Spelling Game for K-5 Students

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By: Nathan Zika

Learning A-Z

Agenda

1. Overview of Letter Chase

2. Next Steps

3. Lessons Learned

4. Summary

Agenda

1. **Overview of Letter Chase**
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# This Project Gave Me an Opportunity to Help Young Students

- Tutoring has always been a passion of mine

- Prior experience with creating engineering modules for students

- Creating something that could make a difference in a young student's life

Learning A-Z is an Online Learning Platform for K-12 Students

- Allow **students** to **learn** or reinforce new **literacy skills** through **games** and **activities**

- Provide an extensive collection of **resources** and **tools** to make teaching easier

- Give teachers a way to incorporate **blended learning** into their curriculum
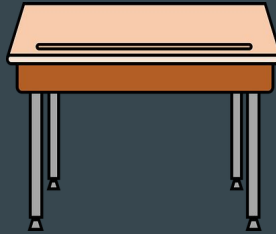
There are three main stakeholders of Letter Chase
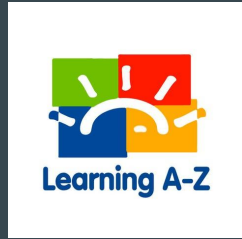
Learning A-Z

Wants an **end-to-end prototype** for an interactive spelling game that that serves as a proof of concept for **AngularJS** as a viable front-end framework

K-5 Students

Want a **fun and engaging** spelling game that challenges their personal vocabulary

Teachers/Caretakers

Need a way to **extend** their spelling and reading **curriculum** into an **online format** and want a way to **monitor** students' **performances**

Letter Chase will be Integrated into Existing Spelling Game Suite

- Letters of a word embedded within a grid of letters

- Keyboard input to detect player movement and selection of letters

- Allow student to **hear** the word and potentially **see** an image of the word

- New **grid generation** for each word

- **Timer** that determines success based on how fast the student spells the word

- **UI** that complies with **Learning A-Z brand standards**

- Use Learning A-Z's coding Stack - Proof of Concept for AngularJS

Letter Chase is web-based end-to-end prototype of a spelling game that will be intuitive and engaging for K-5 students

- Pirate themed spelling game

- Monster approaching treasure for timer

- Students find letters of the word in 2D grid

- A Text-to-Speech API announces the word

- Display an image of the word if it exists

- Retrieve words and definitions from Learning A-Z Database

- Student's performance is logged in a database

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Additional work is required before Letter Chase can be added to Learning A-Z's existing game suite

- Responsive, mobile-friendly design

- Background music, more engaging animations, and other UI elements

- Teacher/admin control over word lists and performance tracking

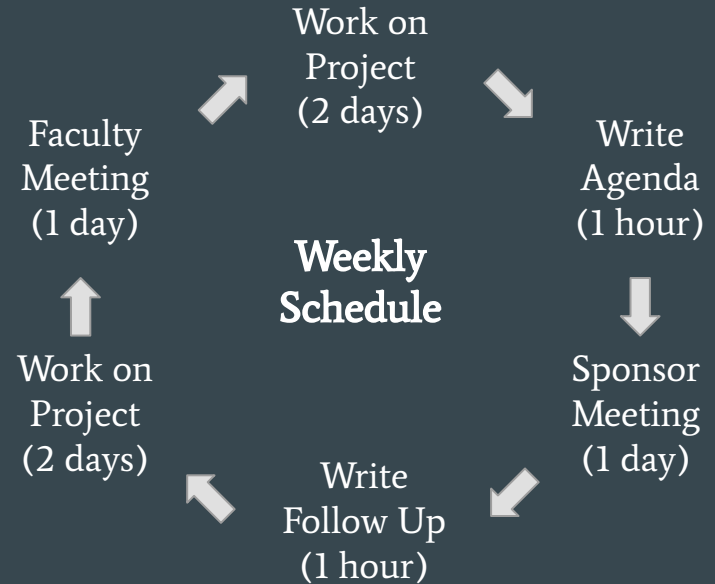- More substantial points system, possibly connected to student accounts

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A Year Long Project was Difficult to Manage

- Motivation came in waves

- Monotony

- The year-long Gantt was not accurate

- Maintaining deadlines was challenging

- Design Reviews and Executive Summaries

Work on Project (2 days)

Faculty Meeting (1 day)

Write Agenda (1 hour)

Weekly Schedule

Work on Project (2 days)

Sponsor Meeting (1 day)

Write Follow Up (1 hour)

Web Development is Tedious, but can be Rewarding

- First full-stack experience

- Gained exposure to Angularjs and PHP

- Creating an accessible user interface can be challenging

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Summary

- Letter Chase met the requirements given by Learning A-Z

- More development on game required before production

- Great improvement with my soft skills

- I enjoyed the project

Special Thanks

Sponsor: **Learning A-Z**

Sponsor Mentor: **Alexandra Brown**

MDP Faculty Mentor: **Amy Hortop**

Teammates: **Suraj Harjani, Ahree Hong, Bhargav Malladi, Dylan Rodriguez, Abigail Seguin**