Design Oriented Research: Plan

The Problem

The problem that I'm having to solve is how you can generate a crossword with multiple alphabets.

This is something I want to solve because it shows how you can handle multiple languages and alphabets.

Furthermore because not everybody uses latin characters it can be used by more people and can create culture connections due to it in the sense of solving crosswords made by people from that culture can help you understand it better.

An example of this is `sushi`, you can write in hiragana as すし in katakana it's スシ and kanji as 寿司 or 鮨, these are quite the few ways to write `sushi`[2].

Research Questions

How can a crossword generation system be designed to effectively support multiple alphabets, enhancing language learning and cultural exchange?

1. What kinds of alphabets are there and which do I want to support
2. How does a program/website handle multiple alphabets
3. What design considerations do I need to keep in mind
4. What are the potential benefits of using crosswords as a tool for language learning and cultural exchange?
5. How can data be stored and processed to accommodate multiple alphabets?

Methods to use

Some of the methods[1] I need will be written down under the pattern that I will follow.
With under that for what research question (globally) I plan to use it for.
The numbers under the explanation are the sub questions that will be solved by it.

- Realize as an expert
  - Literature study
    - Will be used to find alphabets and with it I focus it based on where it's used, is it still used and how many people use it.
    - For design it will be used to find what kind of considerations I need to take in mind with designing
    - I will look for basic information and consideration that are available
    - 1, 2, 3, 4, 5
  - Community research

- I search around the community which alphabets are most commonly accepted and which not.
- Furthermore I will search how crosswords can benefit culture, learning and thinking skills.
- In this I will look at community forums/website on what others did and why they did these things
- 2, 3, 4, 5
  - Brainstorm
    - With this method I will think of things that I can try to make and need to solve my problem.
    - 1, 3, 4, 5
  - Prototyping
    - With this is actually trying to do the things I did with Brainstorm and study/research that I did.
    - 2, 3, 5
  - Ethical Check
    - The point for this one is to make sure that I don't make any mistake with cultural considerations that I implemented.
    - The cultural consideration come from both the study and research besides what is commonly known for these cultures.
    - 3, 4
  - Guideline conformity analysis
    - Following a guideline on the best practices and laws and standards that come with making a multi-lingual website.
    - 1, 2, 3, 5

Delivery and Estimation

I will deliver a document with my findings of the research I did and ideas I generated from the brainstorming while the prototypes will be either refined into the main project or will be kept separated and organized in a separate folder to make it easier to find.

With my estimation it will take with a minimal amount of work:

- 3 hours for the literature study and community research
- 0.5 hour for reviewing and rewriting findings if necessary to make it a more smooth storytelling experience.
- 1 hour for brainstorming with writing down the ideas I came up with.
- 8 hours for prototyping
- 4 hours for executing the ethical and guideline checks
- 2 hour for writing down the findings of the checks

Links

1: [Methods](#)
2: [Sushi](#)