Ayvu Project Initiation Document

Objectives:

The main goal of this document is to formally authorize the existence of the **Ayvu Project** and also to provide the project manager Pedro Daniel Bomtempo Medeiros with the authority and limits he needs to apply, move and manage the organizational resources related to it.

In this document, the team has applied an adapted version of the methodology scripted by the Project Management Book of Knowledge (PMBOK) together with the SCRUM framework. Our main focus will remain on the topics about the project's **Description**, **Justification**, **Premisses**, **Requirements**, **Scope**, **Non-Scope** and **Functionalities Summary and Project Backlog**.

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The link to our GitHub is: https://github.com/Pedro-Daniel/Ayvu_app it was made public in 24/04/2025.

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Project Description:

The **Ayvu Project** consists of a set of tools that collect language data through audio recordings and a geographic reference of where the person acquired a particular accent. Available through a mobile application, enabling individuals with no prior technological knowledge to access and use these utilities. In addition, there is an online repository with the utilities themselves. The main goal of this project is to achieve an alpha version of this application. As a matter of fact “Ayvu” means “language” in Tupi Guarani, a language from the indigenous native Brazilians.

Project Justification:

What are the reasons for this project to exist? What makes it necessary or important? The reason for the **Ayvu Project** to exist is to support people who work in research and development of projects focused on the language area, through a set of utility softwares with the purpose of: collecting, cataloging, making accessible and georeferencing data. In addition, was identified the need for documentation of vulnerable languages, such as indigenous and african origin languages.

Project Premisses:

- The user must have access to a relatively modern cell phone;
- The user is literate;
- The user must have some knowledge of English or another common language to effectively use the platform;
- The user, at some point, must have access to the internet;
- As of this writing, the project is interpreted as non-profit. That is, it’s destined just to the academic field.

Project Requirements:

- The software must be a **mobile** application.
- The app must gather **geographic** information about where the data was collected. Therefore, the user must consent to this;
- The app must gather **date and time** information;
- The app must not work depending on the internet. Thus, some of its features, such as recording, **must work offline**;
- The app must collect some **background** information of the speakers, like: Who are they? Where are they exactly from? What are they speaking about? Where are they at the moment of that conversation?
- The app code must be **OpenSource**;
- The user must **register** to the platform to use it. So the app must be able to handle that process;
- The user's personal data must be used to **identify** any recording made by them;
- The recordings made by an user must be able to be **accessed** by the user itself or others users;

- Users must not be able to create, edit or delete other users' files. But, they can read or listen to them;
- The app *shall* have **multiple language** options.

Project Scope:

What will the dev-team do? For the scope of this project was configured work:

- Unit testing and integration testing (app - data bank) of the platform;
- The app must be installed in the PlayStore or/and the AppStore;
- The app repository must be in GitHub.
- The app must comply with at least **85%** of the requirements.

Project Non-Scope:

What will not be the responsibility of the dev-team? For the scope of this project was **not** configured work, or point of focus:

- Platform's marketing;
- Platform's design, including color palette, icons, typography, images, arrangement of elements, animations, etc;
- Advanced testing of the platform, such as end to end testing or manual testing;
- Patenting of the platform;
- Data encryption;
- AI data analysis or phonetic transcription;
- Direct connectivity with other Universities (for this moment);
- Development of any additional website for the platform besides its GitHub repository.

Sources of Inspiration:

Our main sources of inspiration were three well-known platforms in the market. The first one is a French project called Lingua Libre, a website where users can record single words or small phrases in their native languages and make them available to the rest of the world. The website also hosts a vast data bank that includes georeferencing.

The main drawback of this software is that it depends completely on the internet to work, as it is a web app. Additionally it is not possible to drag and drop a pre-recorded recording to the website. Then, the application would probably not work in remote regions where internet service is not available. Also, the small size audio limitation was also seen as a disadvantage.

Our second source of inspiration is a Brazilian batabank called NURC where the premise was to store recordings of a particular way of speaking from an ancient time, with the aim to keep these communications differences alive. The bank holds over 350 hours of recordings from 1922 in Rio de Janeiro. Yet, our team was unable to listen or access any recording due to some problem in the databank.

The last, and main one, is a prestigious project called Aikuma, a mobile application designed to assist linguists in recording, translating, eliciting and sharing those recordings. Aikuma won the Grand Prize in the 2013 Open Source Software World Challenge.

However, as of this writing, the Aikuma app, which is over 10 years old, is still not available on the App Store or Play Store and can only be downloaded through their website. After multiple installation attempts, our team came to the conclusion that the app simply does not function on more recent versions of Android, but was successfully installed on a cell phone running Android 10.

Functionalities Description:

- Menu page with access to other functions
- Recording page
- Upload page, to upload an existing recording from the mobile device
- Playback page (Ability to listen to the audio within the application)
- [Recording Editing page]
- User Registration page for the person collecting the data
- [Ability to remember the user and log in with Google]
- [Settings page]:
    - Language change
    - Dark mode
    - Contrast adjustment
    - Font size adjustment
    - Other accessibility options such as text-to-audio
- Recording Sharing page, to share with a public server
- Navigation Buttons to move between different sections
- Pop-up notifications with instructions and error logs
- User Data Collection Form:
    - Recording Language *
    - Region of origin of the recording with georeferencing if possible; otherwise, manual input (e.g., Maceió, Alagoas, Northeast Brazil) *
    - General notes on the background of the conversation *
    - [Possibility to include more than one speaker in the conversation]
    - Personal Information of the Speaker(s):
        - Name *
        - Gender *
        - Date of Birth *
        - Native Language *
        - Second Language
        - [Ability to add more spoken languages]
        - [Possibility to register the user's own profile]
    - [Ability to remember the created user]
    - [Creation of a consent file or consent agreement upon app installation]
- [Contact Page containing GitHub information]
- Shared Recording Access from Another Computer

- [Spoken Languages Information page, also called Databank Page:
    - Map showing the approximate locations of data collection
    - Statistics:
        - Number of collections in the last month
        - Number of recorded audio files
        - Number of recorded speakers
        - Number of recorded languages
    - [Search page, to find specific recordings or users]
- [[Automatic Audio Transcription]]

Functionalities Summary and Project Backlog:

At first, the project will focus on:

- Menu page with access to other functions
- Recording page
- Upload page to upload an existing recording from the mobile device
- Playback page (Ability to listen to the audio within the application)
- User Registration page in the application (Google Login)
- Recording Sharing page with a public server
- Navigation Buttons to move between different sections
- Pop-up notifications with instructions and information
- Speaker Data Collection Form:
    - Recording Language *
    - Region of origin of the recording with georeferencing if possible; otherwise, manual input (e.g., Maceió, Alagoas, Northeast Brazil) *
    - General notes on the background of the conversation *
    - Personal Information of the Speaker(s):
        - Name *
        - Gender *
        - Date of Birth *
        - Native Language *
        - Second Language
        - [Ability to add more spoken languages]
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