

Wordbuds User Guide

1. Part I: Mobile Application	3
1.1. Account Creation	3
1.1.1. General Information	3
1.1.2. Email Verification	3
1.1.3. Privacy Policy	3
1.1.4. Demographic Information Survey	4
1.2. Tutorial	5
1.2.1. Add Your First Child	5
1.3. Sign-In	5
1.4. Home Page	5
1.4.1. Log a new Entry	6
1.4.2. Recent words	6
1.5. Logbook Page	6
1.6. Log Entry Page	8
1.7. Stats Page	9
1.8. Settings Page	10
1.8.1. Profile Information and Account Editing	10
1.8.2. Language Preference	10
1.8.3. Notifications	11
1.8.4. View and Edit Children	11
1.8.5. Account Management	12
2. Part II: Website Application	13
2.1. Account Creation & Sign-In	13
2.2. Administrator Panel View	14
2.2.1. Create, View, and Edit Accounts	14
2.2.2. Export Words	15

2.3. Researcher Panel View.....	15
2.3.1. Export Words.....	15
2.3.2. View Children.....	15
Appendix.....	17
A. Legend for team member's accomplishments	

Part I Mobile Application

Preface: The mobile application for this system is intended only for the use of parents.

Section 1.1: Account Creation

Upon launching the app, the regular sign-in page will appear. If creating a new account, click the **Register** button to redirect you to the account registration page. You will enter your email and password and re-enter that password before clicking **Register**. If an account exists under that email already, an error message will appear, and you can click on the **Sign in** button to return to the regular sign-in page. For each stage of onboarding, an option to sign out is available on the top right corner of the pages.

Section 1.1.1: General Information

After providing an email and password, you will be prompted to enter your first and last name under the “Set Up Your Profile” page. Press **Save and Continue**.

Section 1.1.2: Email Verification

A verification email will be sent to the email you entered. Open the link provided in the email, which redirects you to a new window letting you know that your account has been verified.

You will have the option to either press **I’ve verified my email** or **Resend email**. The former will send you to the next page if your email has been verified or keep you on the current page if not. If you select the **Resend email** button, a new verification email should be sent, which renders any old email verification links unusable.

Note: This email will most likely be sent to your junk or spam folder. Make sure to check those before requesting to resend the email.

External Resources: Authentication via email

Section 1.1.3: Privacy Policy

You can press the **Read Full Privacy Policy** link to view the policy on an external browser. When ready, you can reenter the app, select the check box next to the statement “**I have read and understand the privacy policy,**” and select the **Accept and Continue** button. If you select the **Decline** button, you will be signed out of the app.

Note: You must accept the privacy policy in order to use the app.

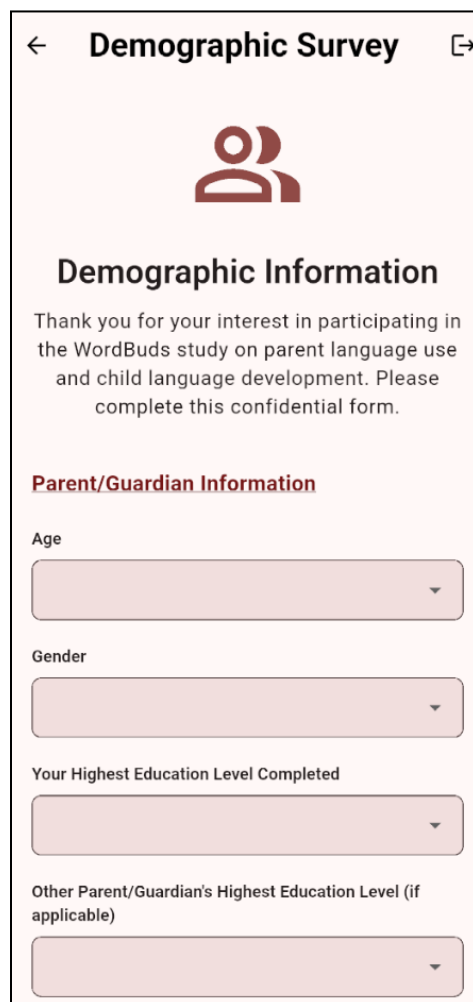
External Resources: Privacy policy acceptance via redirection to web browser.

Section 1.1.4: Demographic Information Survey

This survey is used to collect confidential demographic data for research purposes. Each field is mandatory to complete. If the field is a drop-down box, select the appropriate option for yourself. For “**Number of adults in household**,” make sure you enter a number rather than a word for the response to be properly recorded. Under “**Children in the Home**,” you can add a new child with the **Add Child** button or remove a child using the red minus sign to the right of the entry. For “**Childcare Arrangements**,” select all that apply.

If you select “Other” for the “**Gender**” field, you may optionally specify your identification in the box that appears upon selecting “Other.” For “**Childcare Arrangements**,” if you select “Other,” it is mandatory that you specify the arrangement.

Note: If you have already created an account and completed a survey other than the current version, you will be prompted to fill out the most recent survey upon re-signing into the app.



The screenshot shows a mobile app interface for a "Demographic Survey". At the top, there is a back arrow, the title "Demographic Survey", and a share icon. Below the title is a red icon of two people. The section is titled "Demographic Information" and includes a thank-you message: "Thank you for your interest in participating in the WordBuds study on parent language use and child language development. Please complete this confidential form." The survey is divided into a section titled "Parent/Guardian Information" which contains four drop-down menus: "Age", "Gender", "Your Highest Education Level Completed", and "Other Parent/Guardian's Highest Education Level (if applicable)".

Section 1.2: Tutorial

You will be greeted by the welcome page, where you will be prompted to select the **Get Started** button.

Section 1.2.1: Add Your First Child

To add your first child, you may enter their name, sex, birthday, and primary language(s). Each field is required to press the **Add Child & Continue** button. To select your child's birthday, click on the field associated with "**Birthday**" and either manually type in the date or navigate through the calendar. Multiple primary languages can be selected.

If you would like to continue on without adding your first child yet, you can select the **Skip-I'll add a child later** button. You can add children in your app settings later.

Section 1.3: Sign-In

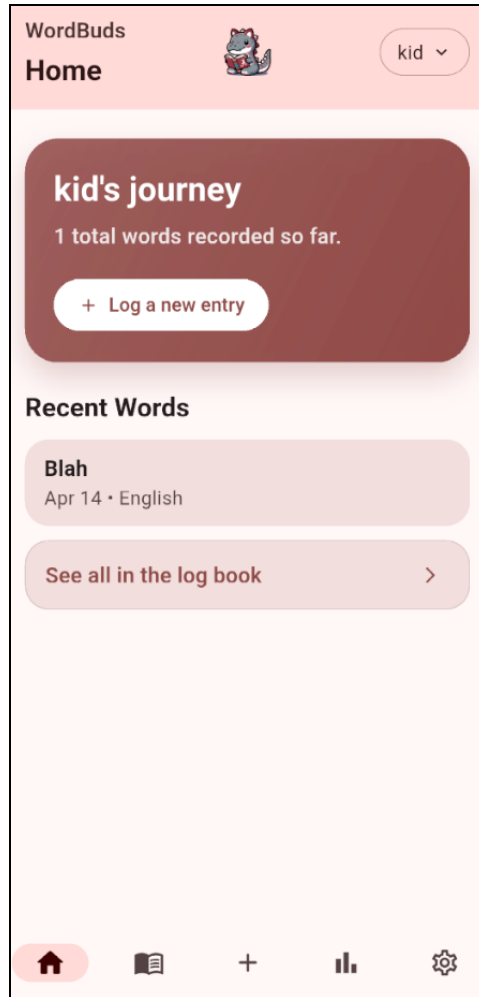
To sign in after creating an account, enter your email and password into the appropriate fields. If you have forgotten your password, select the "**Forgotten password?**" button. You can either go back to the sign-in page or enter your email and select **Reset password**. An email will be sent to you to reset your password. Click the link, enter your new password, and go back to the sign-in page to sign back into your account with the new password.

External Resources: Password resetting via email

Section 1.4: Home Page

The icons to navigate to each page of the app are located on the bar on the bottom of the screen. The home screen's icon is a house all the way to the left.

This page contains an overview of recent entries and allows for a new entry, and the view can be changed among your children. On the top right corner of the "Home," "Logbook," "Stats," and "Settings" pages, there is a drop-down menu that displays the names of all your children you have added to the app. The name of the child currently selected should be displayed on that tab. To change children, click that tab and select the child's page you would like to see.



Section 1.4.1: Log a New Entry

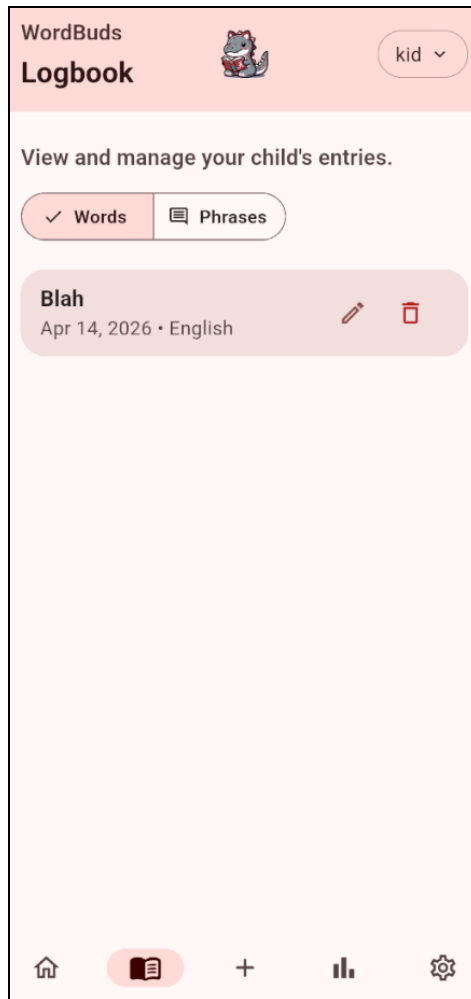
Within the block titled “[Child name]’s journey,” there is a count of their total words recorded so far and a **Log a New Entry** button. The entry logging details are provided in Section 1.6.

Section 1.4.2: Recent Words

Under the “**Recent Words**” header, there is a list of recent words from logged words and phrases. You can select the **See all in the log book** button to view the full list of their entries in the next tab.

Section 1.5: Logbook Page

This page’s icon is an outline of a book on the bottom left. The logbook is split into two sections: the “**Words**” tab and the “**Phrases**” tab.



Under the “**Words**” tab, each entry has a list of minimal information, including: the word, the utterance date, the language, and the phrase it came from (if applicable). On the right-hand side of each entry is an option to either edit the word- the button being the icon of a pencil- or delete the word- the button being the icon of a trash can. After clicking the entry, the word can be changed, and the language and part of speech can be selected from the dropdown menu. A note can optionally be added as well. Click the **Save** button to save the edits or **Cancel** to ignore the edits.

Note: The only languages available in the dropdown menu are the languages from the child’s profile.

Like the “**Words**” tab, the “**Phrases**” tab has a list of entries with minimal information: phrase, utterance date, and language. If you click on the entry, a sheet will appear with more information about the entry. On the right-hand side of the entry is a delete button.

Note: Phrase logs cannot be edited.

As will be explained in the next page, each word contained in the logged phrases is also logged as its own entry under the “**Words**” tab.

Section 1.6: Log Entry Page

To log a new entry, select the plus sign at the bottom middle of the page. You will be prompted to select if it is a word or phrase, enter the word/phrase, select language, write a note (optional), and upload a video or photo attachment (optional)¹.

Note: The note and attachment fields are for the purpose of context and sentimental value. They are not stored in the app’s database and are not used/viewed by anyone but the parent.

When a word is logged, the app searches for that word in our dictionary for that language and automatically identifies the most likely part-of-speech label for that word². If the automatic label is incorrect, the part of speech can be edited in the logbook page (Section 1.5)

When logging a phrase, each word is extracted from the phrase and logged as its own entry in the logbook.

When finished, you can either select **Cancel** on the top-left if you would like to discontinue the entry or **Save** if you have finished the entry.

External Resources:

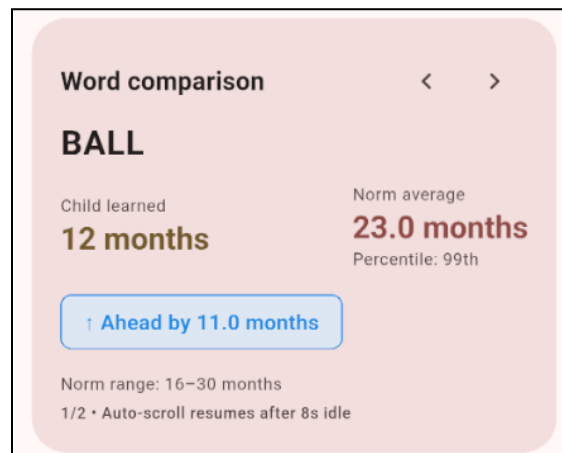
1. Video and photo upload using phone photo gallery
2. Part of speech identification using dictionary

Section 1.7: Stats Page

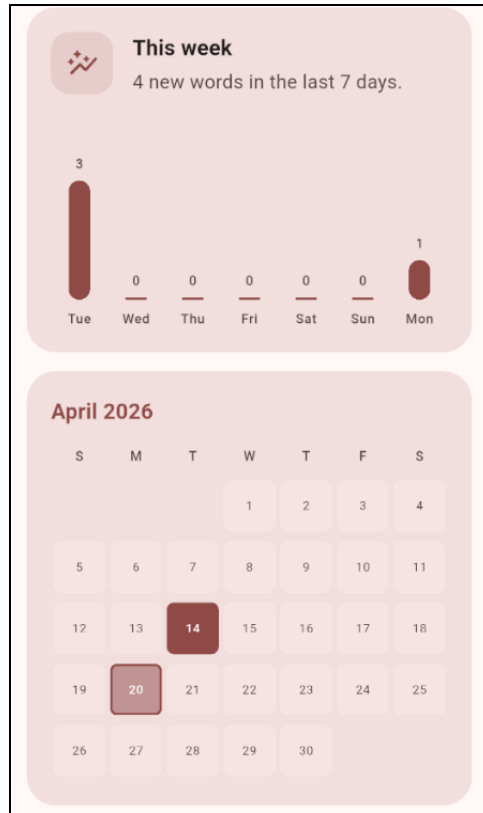
The page's icon is a bar chart on the bottom-right part of the app. This page is for parents to view their child's individual progress through frequency of word utterances as well as comparison to word milestones for that child's age.

The first panel, “**Word comparison**”, shows words from that child's logbook and displays information about how that child compares to normal speech milestones for that age. The image below shows what each entry looks like- word, the age at which the child learned that word, the normal range for child to learn that word, the average age for child to learn that word, the child's percentile in comparison, and how many months they fall ahead or behind the norm average. The page naturally autoscrolls through entries, but the arrow buttons on the top right can be used as well.

Note: Not every word in the child's logbook will be in this panel. Only words available in the corresponding norms dataset will be shown.



The second and third panels show the frequency of words being learned. Under the panel named “**This week**,” the chart shows how many words were learned each day of the week. Below that is a panel for the entire month, highlighting days in which the child learned new words.



External Resources: word norm comparison

Section 1.8: Settings Page

The page's icon is a gear located at the far bottom-right part of the screen.

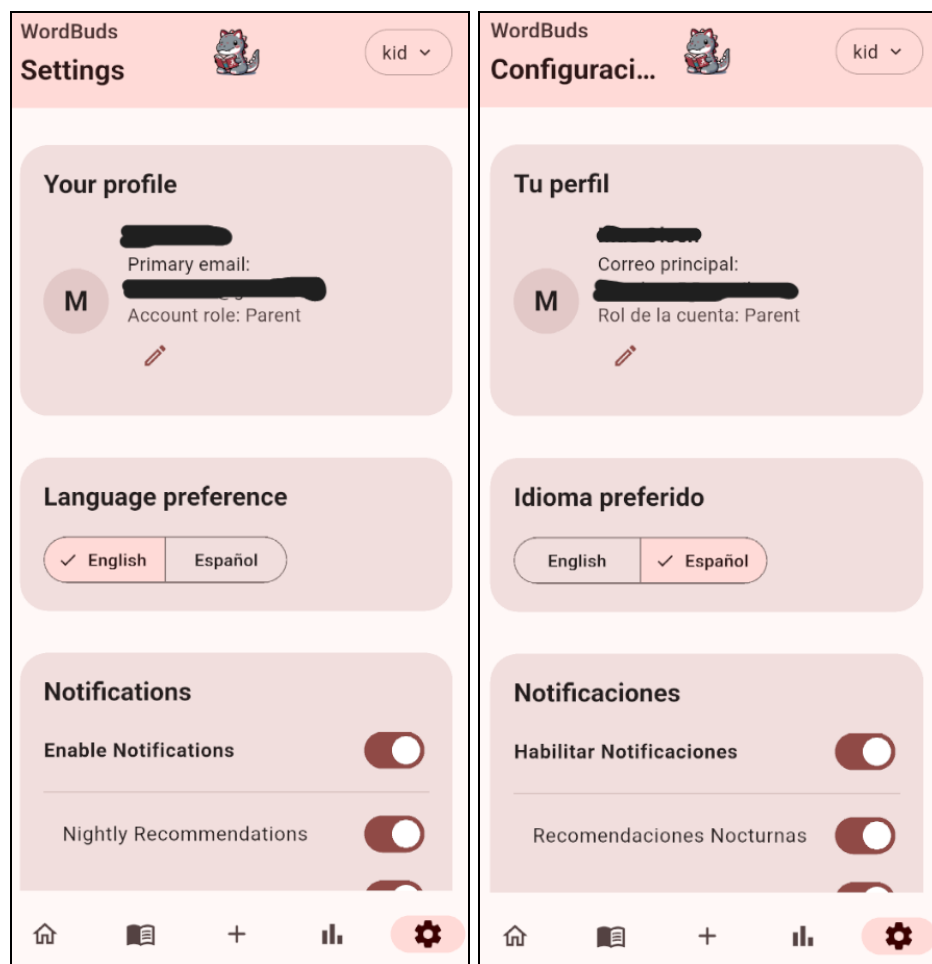
Section 1.8.1: Profile Information and Account Editing

At the top of the settings page, the profile named "**Your profile**" contains your basic information, including name, primary email, and account role. To edit your information, select the pencil icon at the bottom of the panel. You can edit your first name, last name, and email. Click **Cancel** to quit account editing or **Save** to save your changes.

Note: If you change your email, you will not be prompted to verify the new email.

Section 1.8.2: Language Preference

In the next panel, the language preference for the app can be selected between English and Spanish. Whichever language is selected will be the language used across the entire app. The images below show a side-by-side view of the settings page with different language selections.



Section 1.8.3: Notifications

The third panel on the settings page allows control over push notifications from the app. The first toggle button allows you to enable or disable all notifications. The second button, next to “**Nightly Recommendations**,” allows a notification to remind parents to log words their child learned that day. The third toggle button, next to “**Weekly Summary**,” allows a notification of the weekly summary of words learned.

Note: Disabling/enabling notifications on one child’s app view disables/enables all notifications from the app. The settings page is universal among child views.

External Resources: push notifications to the phone

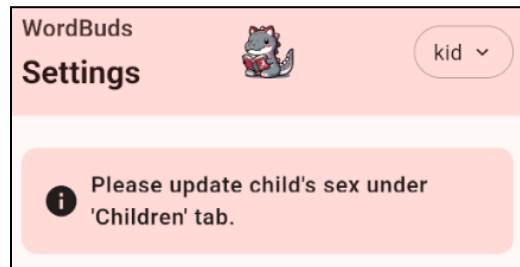
Section 1.8.4: View and Edit Children

Under the “**Children**” panel is a list of each child of that account. You can view basic information including name, birthdate, and languages. To edit a child’s information, select the

pencil icon to the right of the child profile. Name, sex, birthday, and languages can be edited. Select **Cancel** to quit editing and **Save** to save changes. To delete a child's profile, select the trash can icon.

Note: The checkmark on the child profile indicates which child view the app has selected.

For accounts created before the child's sex was required field of information, the sex has been defaulted to "Not specified." If any of the children under an account has "Not specified" as the sex, the banner below will appear on the top of the settings page until the sex is updated.



At the bottom of the “**Children**” panel is a button named **Share current child**. This allows the user to enter the email of another parent, guardian, etc. to use the app for the child selected on their own device. Whomever the child is shared with can log and view words the same way that the original user can.

Note: The shared user has to have an account on the app before having access to the child's profile. The sharing is automatic after an email is entered. No further action is required.

Section 1.8.5: Account Management

The final panel on the settings page labeled “**Account Management**” allows you to either sign out of the app or delete your account.

Part II Website Application

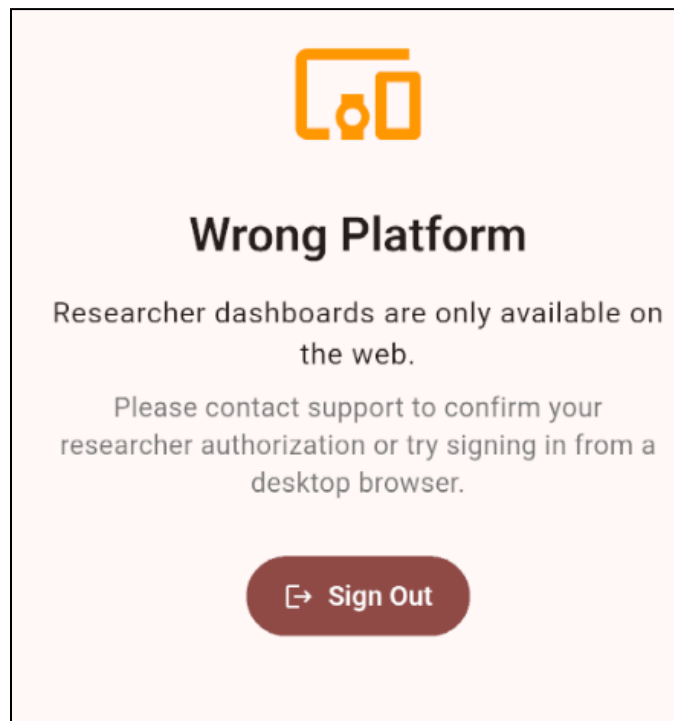
Preface: The web application for this system is intended only for the use of administrators and researchers.

Section 1.1: Account Creation and Sign-In

Per the prefaces made at the beginning of both sections of this user guide, the mobile app is for parental use, and the web app is for admin and researcher use. Though, before an admin or researcher can use the web app, they **MUST** create an account through the mobile app. Each user is automatically categorized as a parent when creating an account, so here is the procedure for an administrator and/or researcher:

1. Create an account through the mobile application
2. Ask a current administrator to change account type in the web dashboard
3. Once permissions are changed by admin, you may log into the web app using your credentials
4. Select the appropriate panel view for your role

Once your account role is changed to admin or researcher, you can no longer access the mobile app version (shown in the image below).

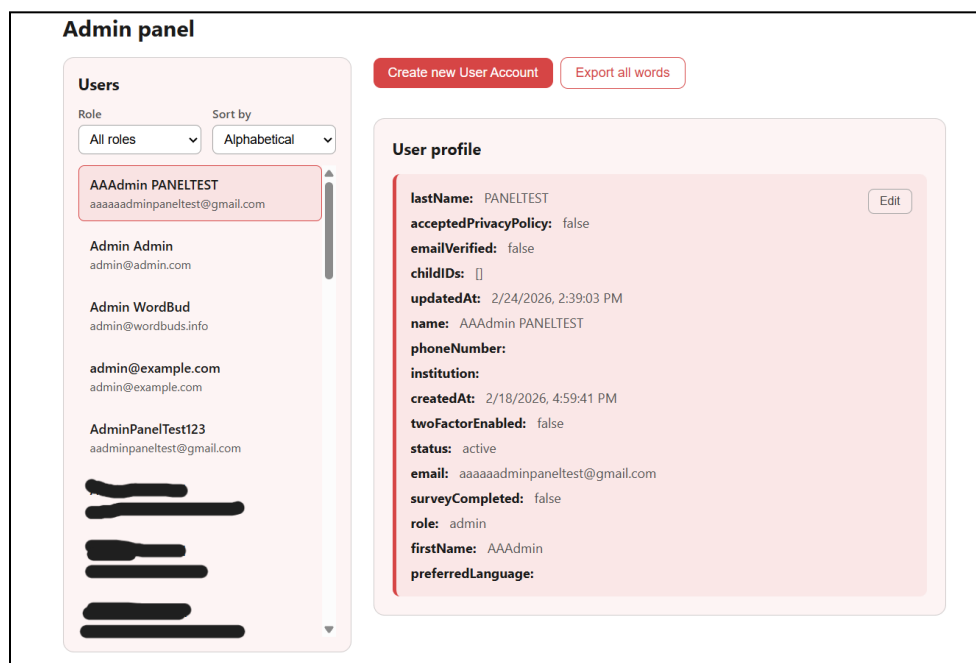


Note: In the case that there are no current administrators, the database must be accessed directly to change an account's permissions to admin or researcher.

After signing in, you will reach the main “**Dashboard**” page. On the top left, you can sign out with the **Log out** button.. On the top right, you can select **Dashboard**, **Admin panel**, or **Researchers panel**. Administrators can access both the **Admin panel** and **Researchers panel** views, while researchers can only access the **Researcher panel** view.

Section 2.2: Administrator Panel View

The administrator panel primarily enables account editing, viewing, filtering, and creation.



Section 2.2.1: Create, View, and Edit Accounts

To create a new account, select the **Create a new User Account** button towards the top of the page. You will be prompted to enter first and last name, email, phone number (optional), and role (optional).

User accounts can be filtered and sorted in the admin panel. To filter users by role, select the dropdown for **Role** at the top left of the “**Users**” panel and choose Parent, Admin, or Researcher. To sort accounts alphabetically, chronologically by account creation, or reverse chronologically by account creation, select the dropdown for **Sort by** at the top left of the “**Users**” panel and choose your criteria.

To edit an account, select the account on the lefthand side under the “**Users**” panel. In the middle of the page, under “**User Profile**,” click **Edit**. Change the fields necessary, then click **Done**.

Note: This is where administrators would edit a new user account to permit admin or researcher access.

Section 2.2.2: Export Words

To download a .csv file of every word logged through the app by all parents, click the **Export all words** button.

Note: This download could take a few minutes.

Note 2: This file is of every word entry in the app. This means that there can be duplicates among users.

The following fields are included in this file export:

- Child ID
- Word
- Date of first utterance
- Word language
- Lemma
- Primary part of speech
- All parts of speech
- Primary category
- All categories
- Notes
- Video ID
- Phrase ID
- Phrase Text
- Child total word count
- Child language
- Child birthdate
- Utterance language

Section 2.3: Researcher Panel View

The researcher panel allows researchers from different institutions to view and export data for child linguistic studies.

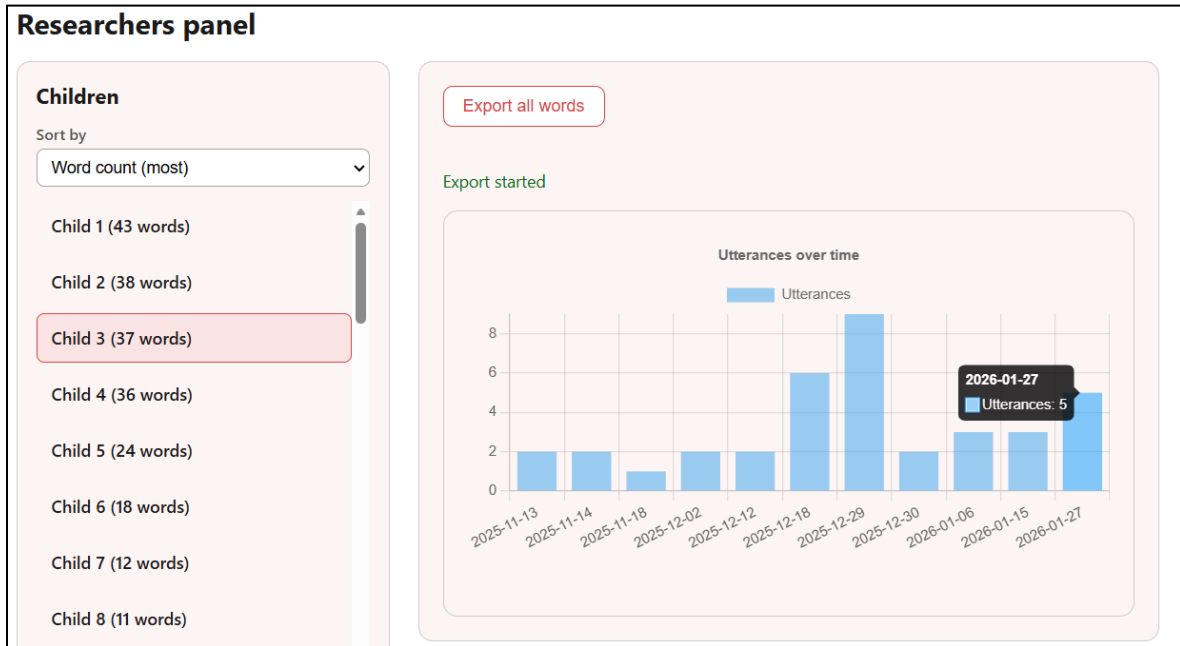
Section 2.3.1: Export Words

The export words functionality is the same as in the administrator panel.

Section 2.3.2: View Children

On the left panel named **Children**, you can use the **Sort by** dropdown menu to sort children by the highest and lowest word counts.

When you select a child's record, a bar chart of their utterances over time will appear. The x-axis represents the date of the utterances and the y-axis represents the number of utterances. If you hover over one of the bars, the date and number of utterances will appear.



Appendix A.

The following table indicates the highlighter color attributed to the group member who completed that task.

Color	Team Member
	Christian Lindner
	Mae Olsen
	Chris Phornroekngam
	John Portis
	Noah Wiechertjes