

WordBuds

Sprint 2



Chase, Nick, Joe, Caitlin, Zimuzo

Github: https://github.com/Baby-Words-Tracker/Baby_Words

Website: https://baby-words-tracker.github.io/Baby_Words/index.html



WordBuds

Project Focus

- Baby Words Tracker is a mobile app that allows parents to track their child's speech through text, audio, and video.
- Simple data visualizations are available to parents, and all data input into the app is available to researchers from the UA's Literacy Education and Cognitive Science Lab

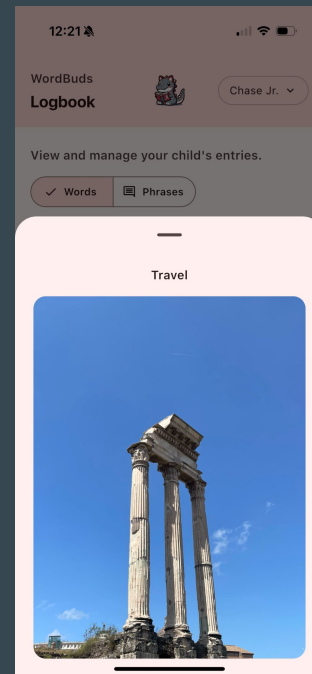
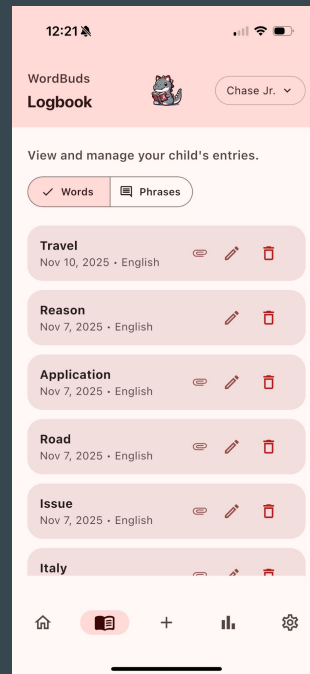
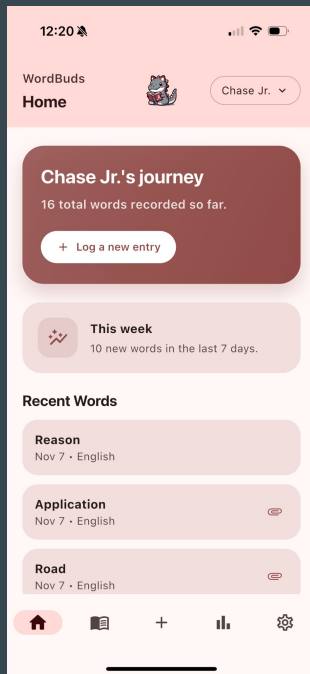
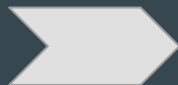
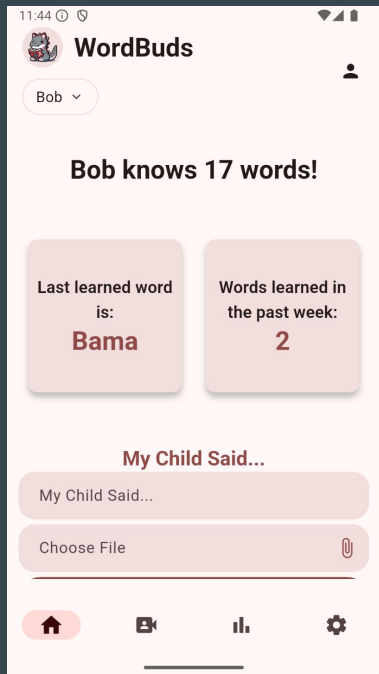


Major Achievements

- App is live on TestFlight.
- Overhauled the user management and Authentication systems to be simpler and more secure.
- Email and phone number verification, a requirement for the IRB.
- Total UX overhaul that makes the app more engaging.
- Stanford Wordbank data uploaded and ready to use.
- Researcher portal improvements.
- New word processing backend that provides much richer data than before.
- Feature that allows parents to attach photos & videos to entries.
- Each of us completed the required IRB training for Non-Medical Investigators.



UX Overhaul: Before & After



Project Backlog (after Sprint 1)

ID	Story	Estimated Hours	Status	Priority	Sprint Finished
1	Establish UI theme and make initial improvements	8	Complete	1	1
2	Fix N+1 stats page query	6	Complete	1	1
3	Add survey page	8	Complete	1	1
4	Analyze codebase and set up environment	8	Complete	2	1
5	Add basic test suite	5	Complete	3	1
6	Review TestFlight requirements	5	Complete	1	1
7	Analyze data efficiency issues	4	Complete	1	1
8	Terms and conditions page	4	In Progress	2	
9	Two factor authentication	8	In Progress	1	
10	Further UI Improvements (Stats and Home Page)	5	In Progress	3	
11	Researcher page query efficiency fixes	5	In Progress	2	
12	Review app store requirements	5	In Progress	1	
13	Push notifications	5	In Progress	3	
14	Firebase database cleanup and improvements	10	Not Started	1	
15	Change ages to be stored in smaller increments	2	Not Started	3	
16	Set up Testflight closed beta	5	Not Started	1	
17	Word entry system testing	10	Not Started	2	
18	Add multiple language support	4	Not Started	3	
19	Implement comparative stats with Stanford wordbank	10	Not Started	4	
20	Additional Graphs/Features for Researchers	8	Not Started	4	
21	Additional Graphs/Features for Parents	8	Not Started	3	
22	Implement audio recording and upload feature	10	Not Started	5	
23	Implement video recording and upload feature	10	Not Started	5	
24	Widget for audio recording/adding words	5	Not Started	3	

Project Backlog (after Sprint 2)

ID	Story	Estimated Hours	Status	Priority	Sprint Finished
1	Establish UI theme and make initial improvements	8	Complete	1	1
2	Fix N+1 stats page query	6	Complete	1	1
3	Add survey page	8	Complete	1	1
4	Analyze codebase and set up environment	8	Complete	2	1
5	Add basic test suite	5	Complete	3	1
6	Review TestFlight requirements	5	Complete	1	1
7	Analyze data efficiency issues	4	Complete	1	1
8	Terms and conditions page	4	Complete	2	2
9	Two factor authentication	8	Complete	1	2
10	Further UX Improvements	5	Complete	3	2
11	Researcher page query efficiency fixes	5	In Progress	2	
12	Review app store requirements	5	Complete	1	2
13	Push notifications	5	In Progress	3	
14	Firebase database cleanup and improvements	10	Complete	1	2
15	Change ages to be stored in smaller increments	2	Complete	3	2
16	Set up Testflight closed beta	5	Complete	1	2
17	Word entry system testing & overhaul to NLTK	10	Complete	2	2
18	Add multiple language support beyond English & Spanish	4	In Progress	3	
19	Authentication system overhaul.	10	Complete	1	2
20	Media attachments for words locally	5	Complete	2	2
21	Implement comparative stats with Stanford wordbank	10	In Progress	2	
22	Additional Graphs/Features for Researchers	8	In Progress	2	
23	Additional Graphs/Features for Parents	8	In Progress	3	
24	Implement audio recording feature	10	In Progress	5	
25	Implement video recording feature	10	In Progress	5	
26	Widget for audio recording/adding words	5	In Progress	5	
27	Gather data and feedback from internal beta test	-	In Progress	1	

Reflections

Overall, this Sprint was a great success.

- We implemented a number of large features and tackled many tough challenges.
 - Word Processing via Natural Language Toolkit, 2FA, Media Attachments, etc.
 - Memory leak that caused our App to crash universally.
- Our biggest goal of the Sprint was to get the app ready for beta testers.
 - We were able to do via TestFlight and are ready for users.
- We also completed foundational changes to the app's architecture.
 - Authentication refactor, User model simplification, UX overhaul, etc.
- Cybersecurity:
 - Found an public API key that had no restrictions on it.
 - Cyber partners worked on testing our authentication system.

We just released a new version on TestFlight. Total UX redesign (except the stats page), videos and photos now supported fully, 2FA should work as expected now for Apple, and we replaced WikiData API with a solution that gives is much richer data and more language support (will be useful on the eventual stats page updates). Test it out and let us know your thoughts/bugs!

WOW, Chase and team! This is fabulous. Thank you!!

Most importantly, our sponsor is very pleased with our work!

Team Member Contributions

Chase Compton	<ul style="list-style-type: none">• Apple & TestFlight configuration & upload• UX Overhaul• Local Media Attachments• Authentication & User Refactor• 2FA via SMS for iOS• Word Processing via NLTK• Investigated & fixed memory leak• Non-Medical Investigators CITI Training
Nick Pucci	<ul style="list-style-type: none">• Researched & uploaded Stanford Wordbank data• Development on a new stats page logic to give users rich insights into their children's language development.• Non-Medical Investigators CITI Training
Joe Schmith	<ul style="list-style-type: none">• Finished applying new UI theme to all pages• Researching app crash• Updating project website that we inherited from previous group• Non-Medical Investigators CITI Training
Caitlin Seaborn	<ul style="list-style-type: none">• Non-Medical Investigators CITI Training• Researcher Portal Database/Display Fixes and Improvements• Researcher Portal UI/UX Improvements
Zimuzo Ernest Eze	<ul style="list-style-type: none">• Researched & planned implementation of Notification and Widget features• Developed foundational Notifications page and route• Tested cross platform behavior and contributed to UI/UX Integration• Non-Medical Investigators CITI Training

Live Demo

