

VisionLingo



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(Not affiliated with Duolingo or Google Translate)



What Problem does our App Solve?

- When you're traveling in a new country and want to learn the name of an object you see you simply take a picture and can learn what it is in a language of your choosing
- When you need to practice vocabulary for an upcoming language exam
- Want more interaction with your learning language, testing and practice
- Want to learn how to pronounce the word from the translated language



Audience

- English Speakers who want to learn or are currently learning a new language
- Travelers, Students, Educators
- People who want to know how to say chair in Spanish





Basic Functionality

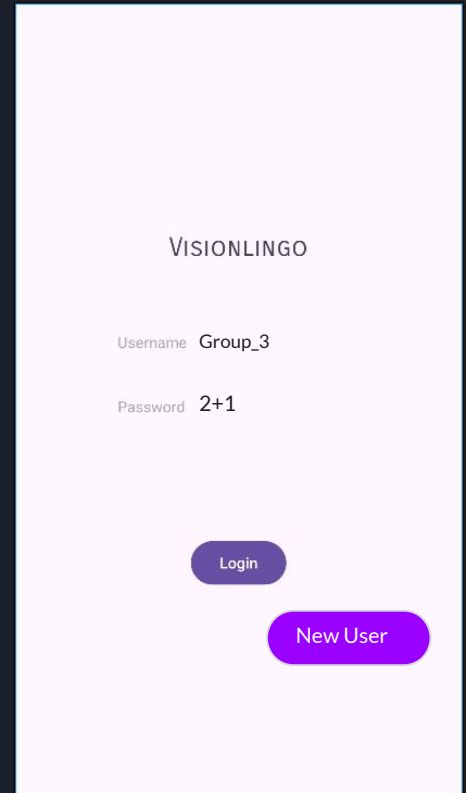
- Sign In / Create an Account
- Choose a Preferred Language
- Select a Theme
- Object Detection
- Camera
- Saving and Adding Words to Vocabulary List
- Vocabulary building
- Translate Text
- Interactive Translation Tests
- Navigation Bar

English	Français	Español
boy	garçon	chico
girl	fillette	chica
table	table	mesa
chair	chaise	silla
apple	pomme	manzana
orange	orange	naranja



Screen 1: Home Screen

- **Log in:** Access their account by signing on with their username and password
- **Authenticate:** The app checks the user database for their username and password, if it's incorrect the app will display a notification to inform the user
- **Upload:** When the user logs in their previous information of preferences, translated words, and vocab list that was stored in the database will be shown in the app
- **Add a new user:** (Will add a new user button) will send them to set user preference after entering username and password



VISIONLINGO

Username Group_3

Password 2+1

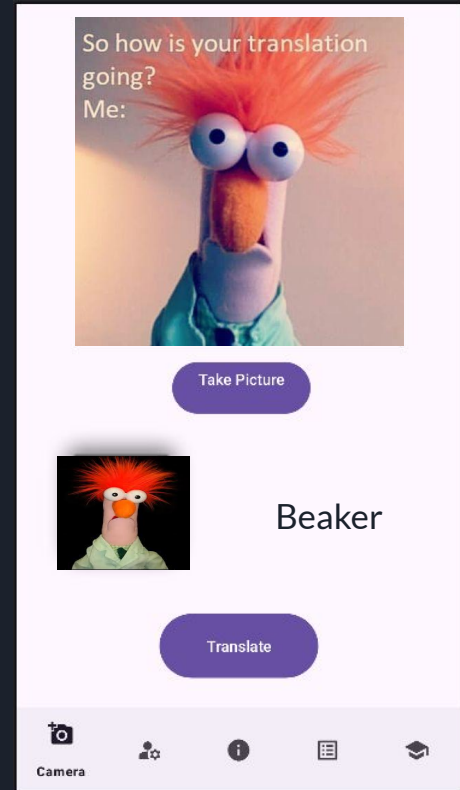
Login

New User

The screenshot shows a mobile app interface for 'VISIONLINGO'. It features a login form with two input fields: 'Username' containing 'Group_3' and 'Password' containing '2+1'. Below the fields are two buttons: a blue 'Login' button and a red 'New User' button.

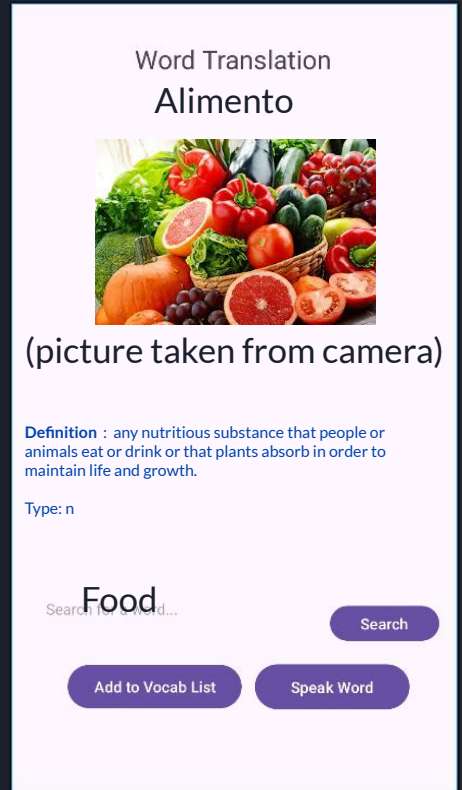
Screen 2: Camera

- **Navigation bar:** Is going to be displayed on all screens besides the home screen, we want the users to access the screens whenever they want as the screens work together
- **Object Detection:** Take a picture of a object with the camera feature and using object detection determine the name of that object in English
- **Display:** The picture of the object is displayed in an image view and the name of the object is displayed in a text view
- **Translate:** The name and the picture of the object is sent over to the information of the word activity



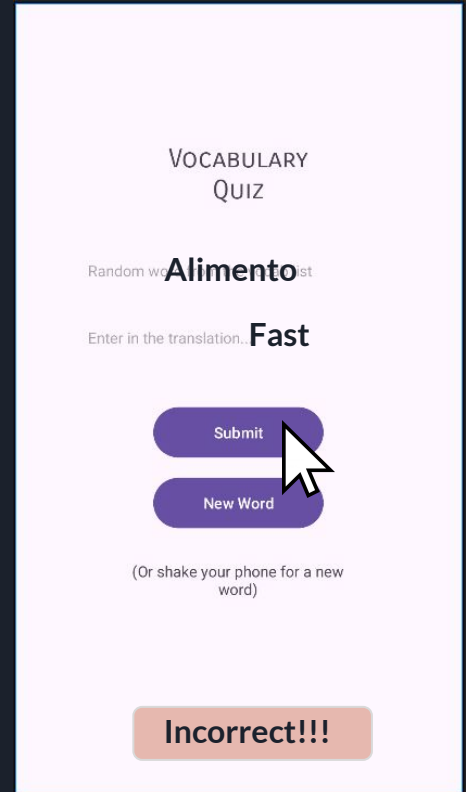
Screen 3: Information of Word

- Can receive a picture with a recognized object from the camera
- Translate given word(either by search or camera)
- Add Word + Image + Translation to User Vocab List
- “Speak Word” button sends to a website to speak the word



Screen 4: Vocabulary Quiz

- Displays a random word either from shaking screen or clicking “New Word”
- Test the user if they can translate the word
- On click of “Submit” toast appears if user was correct or incorrect



Screen 5: Vocabulary List (Recycler View)

- Word(in english)
- Word(translated)
- Definition
- Word Type
- Image

VOCABULARY LIST

Item 0
Item 1
Item 2
Item 3
Item 4
Item 5
Item 6
Item 7
Item 8
Item 9

Food : any nutritious substance that people or animals eat or drink or that plants absorb in order to maintain life and growth.

Translated : alimento

Word Type: n

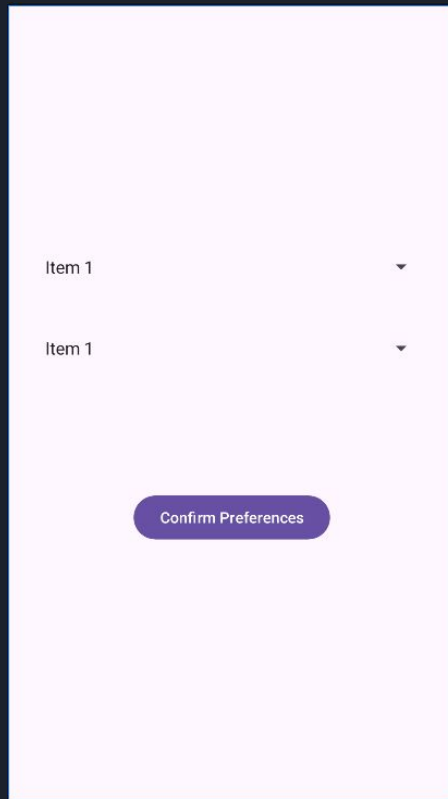
Image :





Screen 6: User Preferences

- Top spinner changes the language (Spanish, French)
- Bottom spinner changes the app theme (red, green, blue, etc.)
- Confirm preferences button confirms throughout app
 - This doesn't necessarily delete the existing vocab list if the user changed the language



Functionality We've Completed

- Setting up the camera
- Storing the Oxford dictionary in a database
- Finishing the overall UI
- Finishing the overall backend of the app
- Finish creating the word/user/vocab classes



Functionality We Need to Implement

- Getting object recognition to work
- Translation ML Toolkit
- RecyclerView (displaying image)
- Speak word button
- Search functionality
- Quiz functionality
- Sensor functionality (accelerometer, i.e. shaking your phone)
- Changing preferences
- Navigation bar





Challenges

- AaJanae
 - Assumed object recognizer would recognize objects on a more specific level as opposed to classifying (example food, plant, instead of bread and rose)
- Christian
 - Finding a good dictionary to use, easily parsable, has enough information about a word that we want to use
 - When to use translation
- Jason
 - Correctly reading the dictionary so that we could store what we needed (i.e. the word, word type, and definition)
 - Getting the recyclerview to display an image (bonus)
 - The “speak word” button sending the word’s translation to some website



Thanks for Listening!

¿Preguntas?

Des questions?

