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

Fun facts with squidward!

See ya is like saying chair in Spanish

- 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
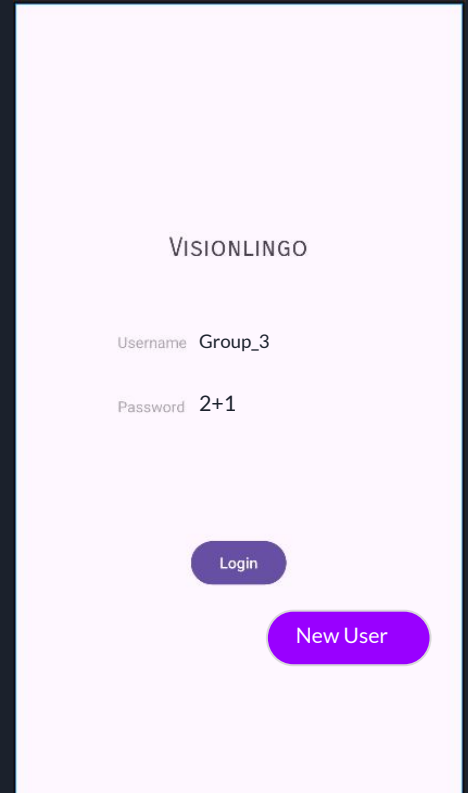
Basic Functionality

- **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 logins 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

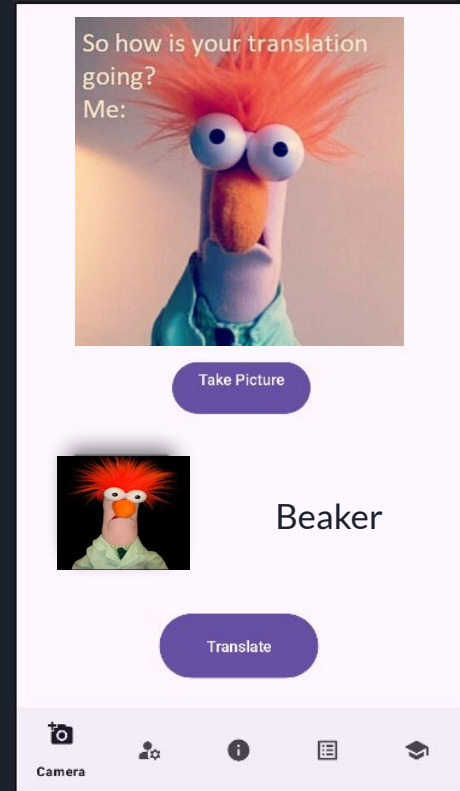VISIONLINGO

Username   Group_3

Password   2+1

Login

New User

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 be sent 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

Word Translation
Alimento

(picture taken from camera)

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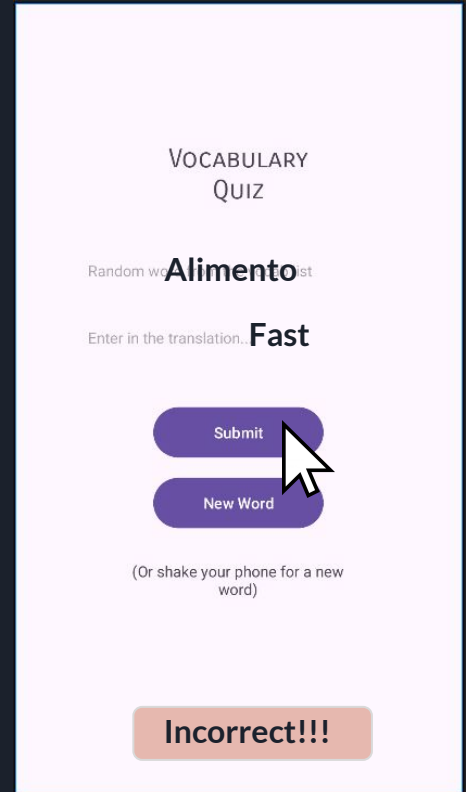
Type: n

Food

Search for a word...

Search

Add to Vocab List

Speak 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

VOCABULARY
QUIZ

Random wo... **Alimento**

Enter in the translation... **Fast**

Submit

New Word

(Or shake your phone for a new word)

Incorrect!!!

Screen 5: Vocabulary List

- 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.
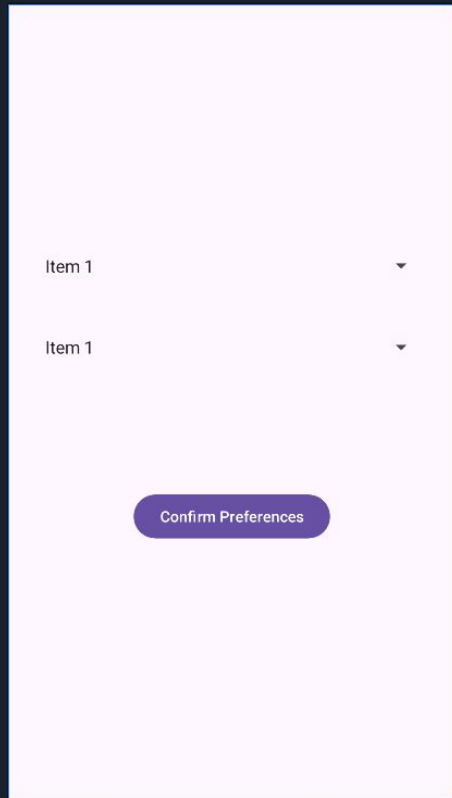**Translated** : alimento
Word Type: n
Image :

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!