



UI Mockup

Group 3: AaJanae, Christian, Jason



Screen 1: Home Screen

Allows the user to enter in their login information so that they can access their previously scanned vocabulary they have stored in the vocabulary list in screen 5. Pressing the login button for the first time redirects the user to the user preferences page (screen 6), and if the user had already set their user preferences, the user will go to the camera page (screen 2) instead. If the user does not have an account, then entering a username and password automatically creates an account in the database.

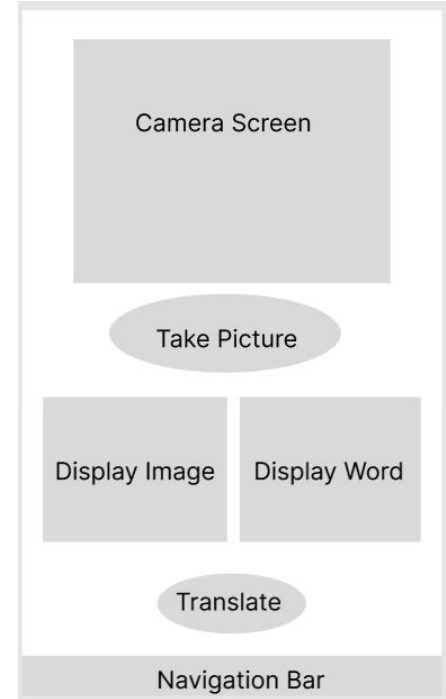


The mockup shows a white rectangular box with a thin gray border. Inside, the text "Visionlingo" is centered at the top. Below it are two gray rectangular input fields, one labeled "Username" and one labeled "Password". At the bottom center is a gray oval button labeled "Login".



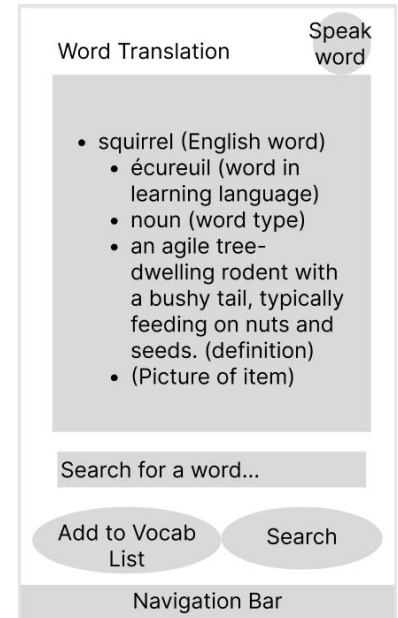
Screen 2: Camera

Lets the user take a picture and displays the image they have taken in the “display image” box. It also displays the word of the object detected in the image on the same screen. The user then has the option to translate the word of the object which sends them to screen 3 to display the information of the word they just took a picture of. The user is also able to navigate in the navigation bar to different screens, such as User Preferences, Camera, Quiz Screen, and Vocab List Screen (and this is true for all screens except screen 1).



Screen 3: Info of Word (Result of Camera or Searched Word)

After the user presses the translate button from screen 2, the user is provided a translation of the word detected from the image, the word type (e.g., noun, verb, adjective), a definition of the word, and the picture of the item from screen 2. The user can click the button “Speak Word” to learn how to say the word phonetically. The user then has the option to add this word to the vocabulary list (screen 5) or to search for a completely new word by entering text in the “Search for a word...” box. Searching for a word allows the user to add their own custom words they want to find the translations for, which we will use the network to access a dictionary to get this word.





Screen 4: Vocabulary Quiz

The vocabulary quiz tests the user's knowledge on the collection of words that they received from the app so far. The user is able to shake the phone to display a new word from the translated dictionary or simply press the "New Word" button. The "New Word" button will grab words from the Vocabulary list, to display the translated word in the first text box. The user must then correctly put that word in English in the box below. Once the user clicks submit, we will then show a toast to tell the user if what they entered is the correct English word or not.

Vocabulary Quiz

écureuil (Word in [learning language])

squirrel (Answer)

Submit

New Word

(Or shake your phone for a new word)

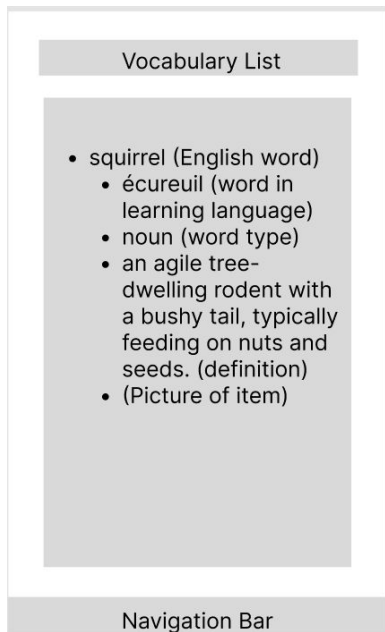
(Toast displaying correct/wrong)

Navigation Bar



Screen 5: Vocabulary List

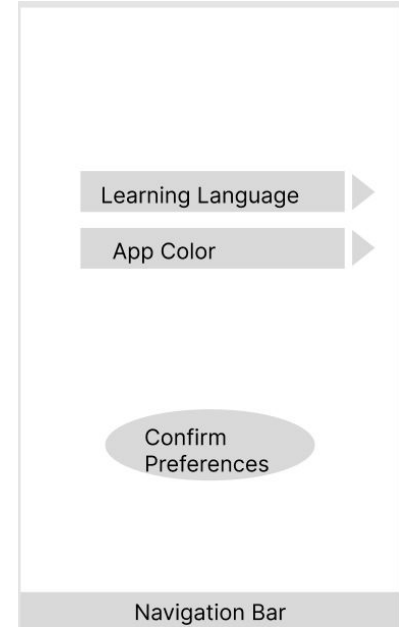
A vocabulary list containing words obtained from the camera screen or from the word the user searched on screen 3. This screen is similar to screen 3, except it provides a history of all the words detected and added, displayed in a recyclerview. This vocabulary list will be used as a way for the user to refer back to the words they have already scanned. The words in the vocabulary list will be used in the vocabulary quiz. If the user wants to add more words they can use the navigation bar to take them to either screen 2, the camera, to take picture of objects for the words, or to screen 3, to search up more words for their vocabulary list.





Screen 6: User Preferences

Allows the user to select the language that they are learning (French, Spanish) and the main color of the app (red, green, blue, etc.). The user changes their learning language or app color in a spinner. Clicking the confirm preferences button updates the user's preferences throughout the app.





Classes



Dictionary

-HashMap<String, Word> mcWordDictionary

-String mLanguage

- + Dictionary()
- + insertWord()
- + getWord() Word
- + ArrayList <Word>getAllWords



DictionaryReader (Superclass + Abstract)

-InputStream mcInputStream

-String mcLanguage

+ DictionaryReader(InputStream mcInputStream, String mcLanguage)

+ read (Dictionary) = 0



User

- String mUsername
- String mPassword
- Boolean mIsLoggedIn
- UserPreference mPreferences
 - + User(String Username, String Password)
 - + getUsername() String
 - + setPreferences (UserPreference mPreferences)
 - + getPreferences () UserPreference
 - + checkPassword() Boolean
 - + isLoggedIn () Boolean

User Preference

- String mColor
- String mLanguage
 - + getColor() String
 - + getLanguage() String
 - + setColor(String Color)
 - + setLanguage(String Language)



Word Class

.String mEnglish

-String mTranslated

-String mDefinition

-String mLexical

- + Word (String, String, String, String)
- + getEnglish() String
- + isTranslated(String) Boolean
- + getTranslation() String
- + getDefinition () String
- + getLexical()String



DefinitionDictionaryReader

- + DefinitionDictionaryReader (InputStream)
- + Read(Dictionary)



Vocab

-Word word

-ByteArray Image

-Date DateSaved?

- + Vocab (Word, ByteArray, Date?)
- + getWordEnglish() String
- + getWordTranslated() String
- + getImage() ByteArray
- + getLexical () String



DictionaryDAO





Resources



English Dictionary with Definitions

<https://raw.githubusercontent.com/suiithps/Dictionary/refs/heads/master/Oxford%20English%20Dictionary.txt>



ML Toolkit Translation

<https://developers.google.com/ml-kit/language/translation/android#:~:text=You%20can%20use%20ML%20Kit,this%20guide%20for%20more%20information.>