

**+Babbel**

# CODE CHALLENGE

Position: iOS Engineer

# Word game

The task is to write a small language game. At the end of the challenge, a user will see an English word on the screen. While the English word is displayed, a word in Spanish will appear.

The user has to choose if the Spanish word is the correct or wrong translation for the displayed word.

The project is split into three milestones/deliverables. Every milestone contains specific requirements that should be satisfied by the candidate's coding challenge.

A mockup of the UI has been attached to the end of this document.

## How we evaluate

The coding challenge should primarily allow us to assess the technical level of a candidate. When evaluating your challenge, we focus on the criteria listed below. They are in a ranked order where the first points have a greater weight on the overall assessment.

1. The deliverable should meet the provided requirements.
2. The chosen app architecture should be concise and clear.
3. The source code is consistent (e.g. formatting, naming, etc.).
4. For Professional and Senior positions we expect a certain level of test coverage.
5. How does the UI look and how does the UX feel?

## Constraints

The candidate should not invest more than 4 hours. We value and respect your time and know dedicating 4 hours to a code challenge is already a commitment. Please implement your solution following the milestones. Every milestone should be committed to the git repository.

## Expected deliverables

Preferably, the candidate is expected to share a git repository through GitHub, GitLab, Bitbucket or any other hosting platform.

Alternatively, the candidate can send the repository as a zip archive.

The candidate is expected to deliver the outlined milestones.

Additionally, the candidate is expected to deliver a short project documentation, stating:

- How much time was invested
- How was the time distributed (concept, model layer, view(s), game mechanics)
- Decisions made to solve certain aspects of the game
- Decisions made because of restricted time
- What would be the first thing to improve or add if there had been more time

## Definitions

### Wordlist

Wordlist describes the entire list of available word pairs. A list is provided to the candidate. All word pairs in this list are correct word pairs.

### Word pair

A word pair is the combination of an English word and a Spanish word. The combination can either be correct, meaning the Spanish word is the correct translation for the English word. Or it can be incorrect, meaning the Spanish word is not the translation for the English word.

### Attempt

An attempt describes the action of the user pressing either the *correct* or *wrong* button.

### Correct attempt

- The Spanish word is the translation for the displayed English word. The user chooses the *correct* button.
- The Spanish word is not the translation for the displayed English word. The user chooses the *wrong* button.

### Incorrect attempt

- The Spanish word is the translation for the displayed English word. The user chooses the *wrong* button.
- The Spanish word is not the translation for the displayed English word. The user chooses the *correct* button.

## Milestone 1 (Junior)

The first milestone implements the most important game logic. The game logic is functional but without animations or round timers.

### Requirements

- The game starts immediately after the app opens.
- A user can choose if the Spanish word is the correct or incorrect translation.
- After the user makes an attempt, the game displays the next English / Spanish word pair.
- The probability for a correct word pair to appear should be 25%, even for a small word list.
- A counter displays the correct and incorrect attempts of the user.
- The game has no end scenario.
- The words should be loaded from the file system.
- The provided word list json file must not be modified.

## Milestone 2 (Professional)

The second milestone implements an end scenario for the game, as well as a round timer.

### Requirements

- The user has 5 seconds to make an attempt.
- If the user does not make an attempt within 5 seconds, the game counts it as an incorrect attempt.
- No timer should be displayed to the user.
- The game ends if *any* of the following criteria is met
  - After three incorrect attempts
  - After 15 word pairs
- When the game ends, the app closes.

## Milestone 3 (Senior)

The last milestone implements an animation alongside the round timer. Also, the user will see a dialog at the end of the game.

### Requirements

- The Spanish translation should animate from the top of the screen to the bottom of the screen.
- The animation should take as long as the user has time to make an attempt
- When the game ends, a dialog should appear indicating the final score.
  - The user can choose to *restart* the game. This resets the game to its initial state.
  - The user can choose to *quit* the game. This closes the app.

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Correct attempts: 0

Wrong attempts: 3

**This is a random Spanish  
translation**

This is an English word

Correct

Wrong