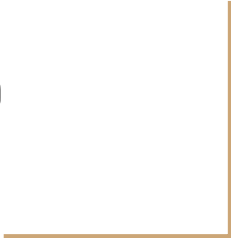
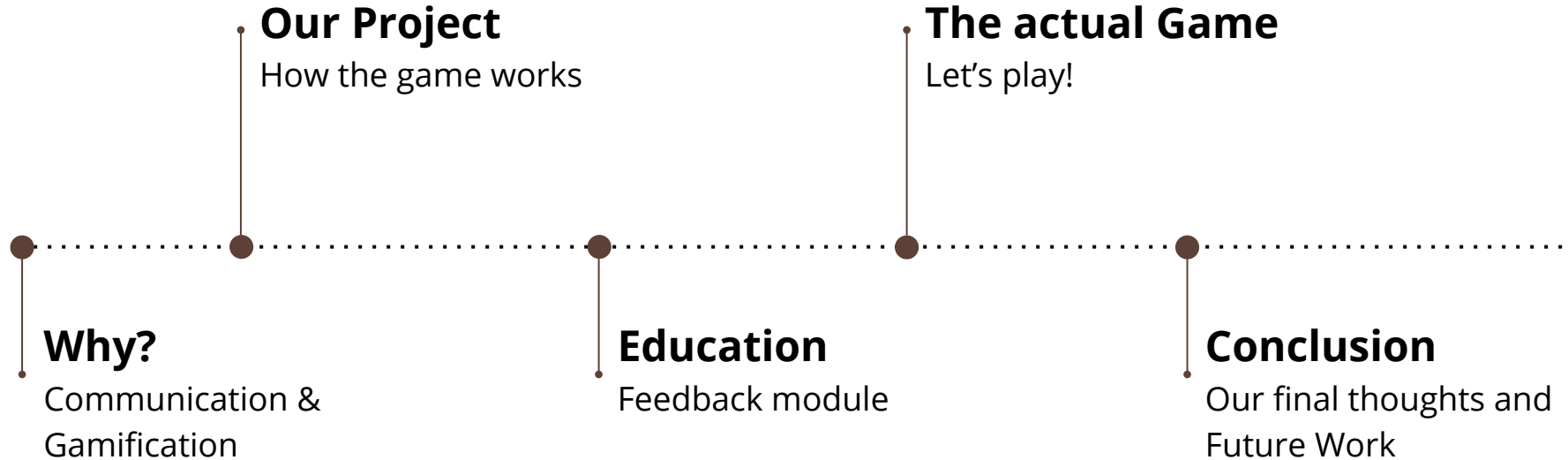


# A communicative approach through a speech-based game

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# Introduction



# Motivation

## Main goal: Communication

- Spanish learners of English
- Spanish is a phonemic language
- Pronunciation in ESL teaching



Speech  
Recognizer

## Gamification

- Easy way to learn
- Fun!
- Engaging and motivational



A hand-drawn map of a fantasy landscape. It features a winding river, several clusters of trees, a castle on a hill, and a small building with a chimney. The text 'Our project' is overlaid on the map.

# Our project

## ESPICH

- User moves around
- Speech as a weapon
- **Enemies:** 3 types
  - Evil Twins
  - Wise Trees
  - Old Grumpy troll
- **Feedback** module

# The enemies: The sentences

## Evil Twins

### Minimal pairs

#### **beat vs. sit**

*I am so beaten I need to sit*

#### **bought vs. boat**

*My aunt bought a beautiful  
boat last summer*

#### **not vs. note**

*There is not a musical note  
I can not sing*

## Wise Trees

### Pronunciation Errors

#### **Silent r:**

*My father saw her at work*

#### **Initial consonant clusters:**

*My **school** teacher is from  
**Spain***

#### **Voicing:**

*When I was young I had a  
very nice **hat***

## Old Grumpy Troll

### Tongue twisters

*Can you can a can as a canner  
can can a can?*

*A big black bug bit a big black dog  
on his big black nose!*

*Three short sword sheaths.*

# The Feedback Module

## Descriptive

### **/ɪ/ vs. /i:/**

Relax the mouth and keep sound short.

### **/əʊ/ vs. /o/**

Tongue central. Then tightly round lips.

## IPA

### **Input:**

1. I am so beaten I need to sit.
2. There is not a musical note I can not sing.

### **Output:**

1. aɪ æm soʊ bi:tən aɪ ni:d tə sɪt
2. ðeə ɪz nɒt e mjuzɪkəl nəʊt aɪ kən nɒt sɪŋ

## Arpabet

1. AY - AEM - SOW - BIYTAHN - AY - NIYD - TUW - SIHT

2. DHEHR - IHZ - NAAT - AH - MYUWZIHKAHL - NOWT - AY - KAEN - NAAT - SIHNG

Let's play!

# Conclusions

- Linguists rock!
- Speech Recognizer

# Future Work

- TTS
- STS
- Words depending on stress: record, address, content





# References

- 10 English Pronunciation Errors by Spanish Speakers  
(<https://pronunciationstudio.com/spanish-speakers-english-pronunciation-errors/>)
- Pronunciation problems for Spanish learners of English  
(<https://www.tefltrainer.com/general/pronunciation-problems-for-spanish-learners-of-english/> )
- Spanish language backgrounds: 26 common English pronunciation problems  
(<http://www.tedpower.co.uk/l1spanish.htm>)
- How to Write a Text Adventure in Python Part 1: Items and Enemies  
(<http://letstalkdata.com/2014/08/how-to-write-a-text-adventure-in-python-part-1-items-and-enemies/>)

**Thank you!**