# Cipher - Faoi Gheasa: An Adaptive Game for Irish Language Learning

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## Irish learning Challenges

- Complex socio-cultural problems
- No utilitarian value
- Teachers are not native speakers
- Orthography
- Morphologically complex language
- Lack of digital resources

## Proposed Solution

- Digital game-based language learning
- NLP
- CALL

Digital game-based learning as a bridge between NLP and CALL

Popular game-based language learning examples:
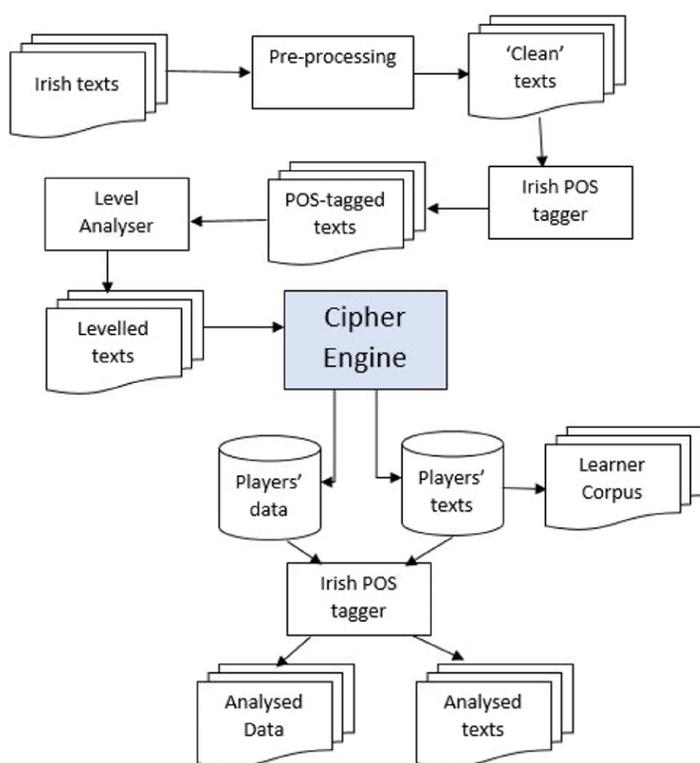


## Game Design

Language tasks:
- Noticing
- Reading
- Writing

Game theme:
- Irish Mythology
- Reconnecting to the spirit of the language



## Pipleline (NLP & Analysis)



NLP pipeline for Cipher: Faoi: Gheasa

## User Experience Study

1 primary school, 9 classes, 150+ students, 64 survey responses

| Question | Satisfaction (n = 64) positive (percentage) | |
|---|---|---|
| **Did you like playing the game?** | **71.9% (n=46)** | 🌟 |
| **How willing were you to play the game?** | **73.5% (n=47)** | 🌟 |
| Would you like to play the game more often? | 62.5% (n=40) | |
| What do you think about learning Irish through the game? | 62.5% (n=40) | |
| How willing were you to read the stories in the game? | 59.4% (n=38) | |
| **How would you compare learning or reading Irish through the game to normal classroom teaching?** | **73.5% (n=47)** | 🌟 |
| Do you think you learned anything while playing the game? | 51.6% (n=33) | |
| What do you think of spells (ciphers) in the game? | 68.8% (n=44) | |
| What do you think of the Irish stories in the game? | 60.9% (n=39) | |

Proportion of participants' ratings in terms of gaming experience, learning experience and adaptivity