

WordGuess - Project Proposal

Project Idea

WordGuess is a distributed web application that allows users to play a word guessing game with other players. Users can create new games (public or private) or join existing ones. During gameplay, players take turns guessing letters or attempting to guess the entire word until there is a winner.

Functional Requirements

Unregistered user:

- An unregistered user can register to the platform.

Registered user:

- A registered user can login/logout from the platform.
- A registered user can view available public games.
- A registered user can create a new game (public or private) and set the number of players.
- A registered user can join a public game from the list.
- A registered user can join a private game using a unique game code.

User in active game:

- View participants, masked word, and current player's turn.
- View guessing history of each player.
- Guess a letter or attempt the entire word when it's their turn.

Non-Functional Requirements

- Games have unique identifiers, specific words, and can be public or private.
- Games track guessed letters, words, and the current player's turn.
- The application must be user-friendly, maintainable, concurrent, and persistent.

Synchronization and Communication

- Client nodes need synchronized views of game state (word, guesses, turns)
- Client nodes need consistent views of available public games
- The Erlang server communicates letter/word guesses and the available public games to all players in real-time

Technology Stack

- **Presentation Tier:** HTML/CSS/JavaScript, WebSockets
- **Logic Tier:** Erlang/OTP, Cowboy HTTP server
- **Data Tier:** Mnesia distributed database