

## Morse Encoder/Decoder

Morse code is communication system that uses dashes and dots to represent letters and numbers. The communication system was developed in early 19<sup>th</sup> century and is still used today in various context.

The Morse Encoder and Decoder GUI Java Application is a graphical user interface tool that can encode and decode files using Morse code. The application is built using Java programming languages and uses Map class to store the Morse code mappings.

### Encode/Decode

To encode/decode, select the file you want to encode/decode in the file browser and click the Encode/Decode button. The encoded/decoded file will be displayed (translated) in the output field once the file is loaded.

### Implementation

The “MorseWindow” class provides graphical user interface for the user to interact with the application. It creates window with the output field, and buttons: Browse (to browser for specific file), Encode (to encode the selected file), Decode (to decode the selected file), Clear (to clear the output), and Quit (to exit the application).

“Encode” class contains the logic for encoding the message into Morse code, and the “Decode” class contains the logic for decoding the Morse message into plain text. Both classes use ‘Map’ object to store Morse code mappings, take string message as input and return output equivalent to the input. In Encode class each character in the input message is converted to its corresponding Morse code sequence, with spaces between each sequence. If a character in a message is not a letter or a number, character is ignored. In Decode class input message is split into ‘words’ (group of sequences), each word is split into ‘letters’ (sequences) and each sequence is converted to plain text.