Department of Computer Science & Engineering

UE17CS355 – Web Tech II Laboratory

Project Evaluation

Project Title : Pictionary Game

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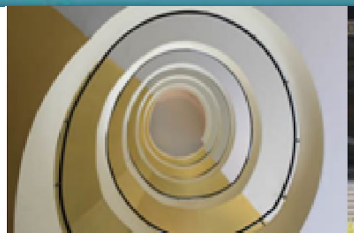




Project Description

- The project enables a user to play a game of pictionary with a computer.
- The game works exactly like the traditional pictionary game.
- The user has to draw a picture on the canvas with the help of mouse.
- The application recognises whatever the user has drawn.

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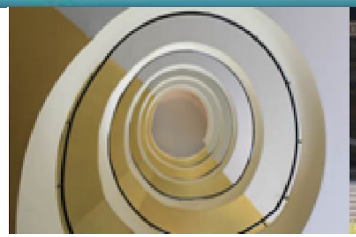




Technologies Used

- Front end Framework - React.js
  React is a component-based javascript library used for building user interfaces.
- Back end Framework - Flask
  Flask is a lightweight microframework in Python commonly used as the backend server for web applications.
- Tensorflow and keras
  Python libraries to train and deploy the machine learning model which is used to recognize the drawings.

Techniques Implemented

- Submission Throttling

  As the user is drawing, information must be sent to the backend. If data is sent every second, it can be very inefficient. Therefore, the submission throttling design pattern is implemented.

  Data is sent whenever the user stops drawing, or whenever a specified time period has elapsed which in this case is a period of 2 seconds.

- RESTful API
  Communication with the flask server is through a series of REST API's. The flask server has specified endpoints which are called by the React App and data is transmitted in a clean and effective manner.

Intelligent Functionality

- Intelligence provided with the help of CNN (Convolutional Neural Network)
- User's drawing is fed to CNN to predict type of drawing (among 15 categories it is trained to recognize)
- Takes a 28x28 image as input and provides a 15-length vector with probability of it being of that category

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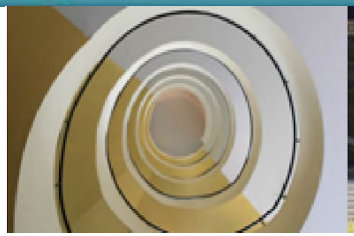

Thank You