SYSTEM FLOW

Image acquisition via user input >> Image preprocessing >> Features extraction >> Stroke recognition with KNN classifier >> Output result as text to the user interface

Image acquisition via user input

Image preprocessing

Features extraction

Stroke recognition with KNN classifier

Output result to user interface

SOFTWARE DEVELOPMENT LIFE CYCLE

- Iterative Waterfall

Requirements Gathering

System Design and

Software Design

Implementation

System Testing

Operation and

Maintenance

RESEARCH FLOW

Data gathering >> Develop system >> Train the system >> Test the system (if accuracy is not met then train more) >> Deploy to participating users >> Collect user feedback (if there are recommendations, then redo the system again if possible)

\*\*\*\*\* the last two are still not sure

Or Data gathering > data training > test data > design UI > deploy > gather use feedback

Data gathering

Develop the system

Training the system

Testing the system

Collect user feedback

Deploy to participating users

2X2 CONFUSION MATRIX

|  |  |  |  |
| --- | --- | --- | --- |
|  | | **Predicted** | |
| **Negative** | **Positive** |
| **Actual** | **Negative** | True Negative | False Positive |
| **Positive** | False Negative | True Positive |

THEORETICAL FRAMEWORK

Ocr - process of classification of optical patterns contained in a digital image

Gregg steno - Transcribing shorthand writing is time-consuming and sometimes confusing because of a lot of characters or words to be transcribed. Another problem is that only a stenographer can understand and translate shorthand writing.

Knn - N has been applied to text categorization in early research strategies and is one of the highly operational methods

Legal basis - ADMINISTRATIVE CIRCULAR NO. 24-90 “All stenographers are required to transcribe all stenographic notes and to attach the transcripts to the record of the case not later than twenty (20) days from the time the notes are taken”

- THE 1987 CONSTITUTION OF THE REPUBLIC OF THE PHILIPPINES – ARTICLE XIV Section 10 “…The State shall give priority to research and development, invention, innovation, and their utilization…”

Theories + legal basis >> input >>process >> output

**Gregg Shorthand Stenography** (Dionis A. Padilla, Nicole Kim U. Vitug, Julius Benito S. Marquez, 2020)

“…Transcribing shorthand writing is time-consuming and sometimes confusing because of a lot of characters or words to be transcribed…”

**Optical Character Recognition** (Arindam Chaudhuri, Krupa Mandaviya, Pratixa Badelia, Soumya K. Ghosh, 2017)

“…process of classification of optical patterns contained in a digital image…”

**K-Nearest Neighbors** (Lishan Wang, 2019)

“…has been applied to text categorization in early research strategies and is one of the highly operational methods…”

**PHILIPPINE SUPREME COURT, ADMINISTRATIVE CIRCULAR NO. 24-90**

“…All stenographers are required to transcribe all stenographic notes and to attach the transcripts to the record of the case not later than twenty (20) days from the time the notes are taken …”

**THE 1987 CONSTITUTION OF THE REPUBLIC OF THE PHILIPPINES, ARTICLE XIV Section 10**

“…The State shall give priority to research and development, invention, innovation, and their utilization…”

Gather training data from Gregg shorthand dictionary

Develop and test K-Nearest Neighbor model for Optical Character Recognition

Design of Desktop App for Gregg Shorthand Translator

Implementation of Gregg Shorthand Translator