

**DSS Project Report**

**Report … –[ your project]**

**[your group members]**

– Hanoi, August 2019 –

# I. Project Report

## 1. Status Report

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Work Item** | **Status** | **Notes (Work Item in Details)** |
| 1 |  | Pending |  |
| 2 |  | In Progress |  |
| 3 |  | Completed |  |

## 2. Team Involvements

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Task** | **Member** | **Notes (Task Details, etc.)** |
| 1 |  | KienNT |  |
| 2 |  | TuanTV |  |
| 3 |  | AnhLM |  |

## 3. Issues/Suggestions

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Issue** | **Status** | **Notes (Solution, Suggestion, etc.)** |
| 1 |  | Pending |  |
| 2 |  | In Progress |  |
| 3 |  | Completed |  |

1. Introduction

The purpose of this report is to provide an overview and analysis of the face recognition program implemented in the decision support system. This report aims to present a comprehensive understanding of the system's capabilities, performance, and potential areas of improvement.

1. Executive Summary

The executive summary should provide a brief overview of the report, highlighting the key findings, recommendations, and conclusions of the analysis conducted.

1. Background

In this section, provide a background of the decision support system and its objectives. Explain the significance of incorporating face recognition technology into the system and how it enhances the decision-making process.

1. Face Recognition Program Overview

Describe the face recognition program in detail, including the algorithms and techniques employed. Explain how the system detects and recognizes faces, and outline the key steps involved in the process.

1. System Architecture

Present the architectural design of the decision support system, focusing on the integration of the face recognition program. Provide a high-level overview of the components, modules, and their interactions within the system.

5.1: Data Preprocessing

* + Data collection: Create a dataset containing facial images of the individuals to be recognized.
  + Data preparation: Ensure that the facial images are standardized in terms of size and brightness to ensure consistency.
  + Noise removal: Apply preprocessing techniques such as image filtering or histogram equalization to reduce noise and improve image quality.

5.2: Feature Extraction

* + Algorithm selection: Choose a suitable feature extraction method such as Local Binary Patterns (LBP), Histogram of Oriented Gradients (HOG), or Deep Convolutional Neural Networks (CNN).
  + Extract features: Apply the chosen algorithm to extract independent features from the facial images. These features can include shape, color, or other characteristic points.

5.3: Build Recognition Model

* + Model selection: Select an appropriate machine learning model such as Support Vector Machines (SVM), k-Nearest Neighbors (k-NN), or Convolutional Neural Networks (CNN).
  + Model training: Use the labeled dataset to train the selected model, allowing it to learn patterns and correlations between the extracted features and corresponding identities.

5.4: Face Detection and Localization

* + Apply a face detection algorithm to detect and locate faces within input images or video frames.
  + Ensure that the faces are aligned and properly positioned for accurate recognition.

5.5: Recognition and Decision Making

* + Apply the trained model to classify and recognize the identity of the detected faces.
  + Utilize decision-making techniques to determine the final decision or action based on the recognized identities.

1. Performance Evaluation

Evaluate the performance of the face recognition program based on predefined metrics. Include information on accuracy, speed, and robustness of the system. Compare the results with industry standards and discuss any limitations or challenges encountered during the evaluation.

* Evaluate the performance of the face recognition system using appropriate metrics such as accuracy, precision, and recall.
* Fine-tune the model, feature extraction, or preprocessing techniques to improve the system's performance and address any limitations or challenges encountered.

1. User Feedback and Experience

Collect user feedback and experiences regarding the face recognition program and its impact on the decision support system. Analyze the feedback to identify areas of improvement, user concerns, and suggestions for enhancing user experience.

1. Security and Privacy Considerations

Address the security and privacy aspects associated with the face recognition program. Discuss measures taken to ensure data protection, user privacy, and compliance with relevant regulations, such as data anonymization, encryption, and access control.

1. Integration and Scalability

Examine the integration of the face recognition program into the decision support system. Discuss any challenges or requirements encountered during the integration process. Additionally, explore the scalability of the system, considering the potential for future expansion or increased user load.

1. Recommendations

Based on the analysis conducted, provide recommendations for enhancing the face recognition program and its integration into the decision support system. Suggest potential improvements, such as algorithm enhancements, performance optimizations, user interface refinements, or additional security measures.

1. Conclusion

Summarize the key findings, conclusions, and overall impact of the face recognition program on the decision support system. Emphasize the significance of face recognition technology and its contribution to improving decision-making processes.

1. References

Include a list of references used throughout the report, following the appropriate citation style (e.g., APA, MLA).

*Please note that this template serves as a starting point, and you can modify or expand upon it based on your specific requirements and the details of your face recognition program in the decision support system*.