Eastern Visayas State University

Project Proposal

Systems Analysis and Design

Team Lead: Dr. Ma. Windie C. Velarde

BSIT 3D

Project Proposal

Project Title:
AUTOMATION AND ARCHIVING OF SCHOOL FORM 10

Purpose and Description of the Study:

The pilot school was founded in 1935. It offers Kindergarten, Grade Levels 1 to 6, and non-grade SPED classes. Currently, it has approximately 1,300 enrolled students per school year.

What is the function of your study?

- A web and mobile application that will capture, analyze and automate permanent records of students.
- Provide a database for the reports with search capability

What makes your study unique, innovative, and relevant?

- The mobile application and the system in its entirety are intended to automate thousands of permanent student records, which would increase the efficiency of record releasing and storage security.
- The application of technologies to automate physical documents will provide faster report generation, and transforming handwritten documents will be considered, thus the study aims to combine the use of deep learning to improve accuracy.
- The proposed study is aimed to be extensible and will not be limited to the pilot school.

Who are the respondents of your study?

- San Fernando Central School, its teachers, and stakeholders

Problem Statement:

- The records officer manually searches School Form 10 in a stock room when a stakeholder requests a copy.
- There is no database of past Form 10 (old Form 10).
- The releasing of the documents is time-consuming.
- There is no computerized record for the requested School Form 10.
- The manual process is prone to missing student's permanent records.

General Objective:

- To automate forms such as Form 10, use technologies to digitize past forms to improve accuracy, and create a system to store the digitized forms.

Specific Objectives:

1. To lessen if not eliminate the manual process of searching physical records and overall speedup the report request process.

2. Provide features such as user dashboards, request tracking, and approval workflows to ensure transparency and accountability in handling Form 10 documents.
3. To evaluate the system using ISO/IEC 25010.

Functional Specifications

Functionality	Description
User management and authentication	No public user registration, only admin level users can invite the record officer by adding their email addresses to the system and generating a unique user invite, or by manually creating an account via web admin panel
Admin Form template management	An admin can create a template specific to a form record since Form-10 has many versions through the years.
Data Validation	As the system will start with a limited training model, it is expected that some strokes may not be recognizable and would therefore need confirmation.
Search and Retrieval	Provides a fast search feature within the database, allowing users to quickly locate student records by name, grade level, year, or other identifiers.
Report Generation	Enables automatic creation of digital copies and summaries (e.g., student academic history reports) that can be exported or printed in standardized formats.
Audit Trail and Logging	Records all user actions such as record creation, edits, retrievals, and deletions to ensure accountability, transparency, and traceability in managing Form 10.
Backup and Recovery	Implements automated backups and data recovery mechanisms to protect against accidental data loss or corruption.

Project Design/Development Plan

Program Specification
Web and API: Android: iOS:
Software Specification
Hardware Specification
Web server:

RELATED LITERATURE AND STUDIES

Related Literature and Studies	
Author	**Techniques/Methods Used**
Stančić, H. (2018). New technologies applicable to document and records management: blockchain. *Lligall. Revista Catalana d'Arxivística. Noves perspectives en matèria de gestió documental*, *41*, 56-72.	In the broadest sense, digitization is the transformation of an analog signal into a corresponding digital form. In a more narrow sense, it represents the transformation of different materials into digital format, turning them into binary code saved in a computer file.
Tayal, D. K., Vij, S., Malik, G., & Singh, A. (2017). An OCR-based automated method for textual analysis of questionnaires.	Optical character recognition or Optical Character Reader (OCR) describes a system that performs mechanical or electronic conversion images. They are capable of converting typed and handwritten texts into "machine-encoded text." The source of the document fed to the OCR includes a scanned document or image of a document or even a scene-photo or text superimposed on an image.
Singh, Sri Niwas; Wen, Fushuan; Jain, Monika (2019). *[Lecture Notes in Electrical Engineering] Advances in System Optimization and Control Volume 509 || Handwritten Character Recognition—An Analysis. , 10.1007/978-981-13-0665-5(Chapter 18), 207–212.* doi:10.1007/978-981-13-0665-5_18	The process of scanning and recognizing static images of the characters is generally called Offline Character Recognition and also called Optical Character Recognition (OCR).
Nair, A. M., Aldo, C., Bose, B., Joseph, A., & MJ, S. E. (2021). Handwritten Character Recognition using Deep Learning in Android Phones.	An uploaded image is processed in a neural network model (NN model), which identifies the characters, i.e., the digits, alphabets, or special symbols. After identifying these characters, they are converted into text (printed text), and this processed document is sent back to the user as output.
Kavitha, D., & Shamini, P. (2016). Handwritten Document into Digitized Text Using Segmentation Algorithm. *COMPUSOFT: An International Journal of Advanced Computer Technology*. Retrieved	Handwriting Conversion helps preserve history by making information searchable, easily, and reportable without the need for human labor. It can be applied for digitizing old manuscripts which helps in the preservation of historical data.

from https://ijact.in/index.php/ijact/article/view/465	
Rizvi, Mehdi; Raza, Hasnain; Tahzeeb, Shahab; Jaffry, Shan (2019). [IEEE 2019 16th International Bhurban Conference on Applied Sciences and Technology (IBCAST - 2019) - Islamabad, Pakistan (2019.1.8-2019.1.12)] 2019 16th International Bhurban Conference on Applied Sciences and Technology (IBCAST) - Optical Character Recognition Based Intelligent Database Management System for Examination Process Control. , (), 500–507. doi:10.1109/IBCAST.2019.8667127	Reducing human workload through reducing manual work in several facets of life. OCR is one of the approaches that is commonly used in the computer vision domain for the purpose of automation.