

Synopsis on

FILE COMPRESSION AND CONVERSION TOOL

Submitted by
HARSHITA PANDEY
For the award of the degree of
MCA
Under the supervision of

Guide

Name - Sunil Kumar
Designation - Joint Director
Organization - C- DAC Delhi



Department of Computer Science

Banasthali Vidyapith

Banasthali - 304022

Session: 2022-2023

Table of Contents (For Software Development Project)

S.No.	Title	Page No.
1.	Introduction	1-4
2.	a. Organization b. Existing System c. Proposed System	
3.	Requirement Analysis a. Requirement Specification b. H/w and S/w Requirements	5-6
4.	Feasibility Study	7
5.	Work Plan	8
6.	References	9-10

1. INTRODUCTION

A file is often a combination of vector graphics, text, images and tables. The basic types of content in the files are

- Typeset text stored as content streams (i.e., not encoded in plain text);
- Vector graphics for illustrations and designs that consist of shapes and lines;
- Raster graphics for photographs and other types of images

So, sometimes file size is too large and it gets difficult to share the document on Whatsapp or e-mail because of some restrictions. That's why a compression tool is required. This compression tool is used to compress the size of the files. Anyone can use this product for compression and then share their files easily. Similarly, in situations where we need to convert the format of the files, we require a conversion tool as well. This system provides us with conversion and compression of files along with sharing features.

1.1 Purpose

The purpose of this system is to balance an optimized file size against the expected quality of images, fonts, and other file content and convert the file into required format. Just drag and drop a file into the tool and reduce the size of your files without compromising quality or convert them into desired format.

1.2 Intended Audience and Reading Suggestions

The intended audience of this document would be employees of CDAC, who will be implementing and testing this tool. The document can be used in any case regarding the requirements of the project and the solution that has been taken. The document would provide a clear idea about the system that is building.

1.3 Product Scope

This tool will provide a powerful interface to the users to compress, convert and share different types of files easily.

Our project aims to flatten or convert files efficiently and provides users with hassle free experience.

- Compresses different types of files
- Convert different types of files
- Share files through the internet
- Easy to understand by the user and operator
- Has a powerful and easy to use interface

2. A. EXISTING SYSTEM

For now, Users are going on different platforms for different file operations like compression and conversion of files. There is no proper database management for these processes. Also Users are exposing their files on different platforms making it insecure .

Therefore, it is tough for the organization to manage the authenticity and security of the system.

B. PROPOSED SYSTEM

Our proposed system is file handling system which provides user with benefits of compressing and converting of different type of files

It also lets users share files through different platforms. In this system, users create a new account or log in to their existing account before performing any operations. This lets the system maintain the authenticity of the user.

Every user has their own dashboard displaying the analysis of their actions like number of files converted, compressed and shared. Users can also download the resultant file given in the dashboard.

Admin has their own dashboard displaying the analysis of all users actions like number of files converted, compressed and shared. Admin manages different types of users by granting them permissions according to their role.

3. REQUIREMENT ANALYSIS

3.1 Requirement Specification

The system should have an OS compatible enough to support Python3, a code editor and a web browser. The detailed requirements are given in the next section which specifies the minimal requirement to run the product.

3.1.1 Product Functions

1. Reduce the size of files
2. Maintain the quality of files
3. Maintain files for many users
4. Convert files

3.2 H/W AND S/W REQUIREMENT3

3.2.1 Hardware requirements

- RAM: 4GB
- Processor (preferred): Intel core i5 or higher

- Operating System: Windows 32-bit and 64-bit both OS are capable

3.2.2 Software Requirements

- Browser: Google Chrome, Brave, Firefox
- Documentation tool: MS Word, Google Docs
- Database: Firebase
- Windows 10, 11
- Back end - Python
- Framework - Django
- Front end - HTML, CSS, Javascript

4. Feasibility Study

After understanding the project, studying and analyzing all the existing or required functionalities of the system, the next task is to do the feasibility study for the project. All projects are feasible- given unlimited resources and infinite time. This also includes consideration of all the possible ways to provide a solution to the given problem. The proposed solution should satisfy all the user requirements and should be flexible enough so the future changes can easily be done based on the future upcoming requirements.

i. Economic Feasibility:

This is an important aspect to be considered while developing a project. We decided the technology based on the minimum possible cost factor. All hardware and software cost has to be borne by the organization.

- Overall we have estimated that the benefits the organization is going to receive from the proposed system will surely be overcome and the later on running cost for the system. Here, in this project; all elements under defined economic

constraints used for development lie within the budget estimated for its development.

ii. Technical Feasibility:

This included the study of function, performance and constraints that may affect the ability to achieve an acceptable system. For this feasibility study, we studied complete functionality to be provided in the system, as described in the System Requirement Specification (SRS), and checked if everything was possible using different types of frontend and backend platform.

For this project, following technical needs of the system may include:

- The facility to produce outputs in a given time.
- Response time under certain conditions.
- Ability to produce a certain volume of transaction at a particular speed. Facility to communicate data to distinct locations.

Specific software and hardware products can then be evaluated keeping in view with the logical needs.

This project is technically feasible as all the software and hardware requirements are met by the organization.

iii. Operational Feasibility:

No doubt the proposed system is fully GUI based and is very user friendly and all inputs to be taken are all self-explanatory even to a layman. Besides, proper training has been conducted to let them know the essence of the system so that they feel comfortable with the new system. As far as our study is concerned the clients are comfortable and happy as the system has cut down their loads and doing.

This project is found to be feasible operationally because it is designed in such an interactive manner that users need not to take any special training for operating the application.

a) Cost estimation of the project

Software cost comprises a small percentage of overall computer-based system cost. There are a number of factors, which are considered, that can affect the ultimate cost of the software such as-human, technical, Hardware and Software availability etc.

The main point that was considered during the cost estimation of "Project -Brisky Bake" was its sizing. In spite of complete software sizing, function points and approximate lines of code were also used to size each element of the Software and their costing.

The cost estimation done by me for the Project also depend upon the baseline metrics collected from past projects and these were used in conjunction with estimation variables to develop cost and effort projections.

We have basically estimated this project mainly on two bases-

1) Effort Estimation - This refers to the total man-hours required for the development of the project. It even includes the time required for doing documentation and user manual.

2) Hardware Required Estimation- This includes the cost of the PCs and the hardware cost required for development of this project.

Tools and methods used in development of this project are free to use for non-commercial purposes. So, Development cost is negligible.

Basic COCOMO computes software development effort (and cost) as a function of program size. Program size is expressed in estimated thousands of source lines of code(SLOC, KLOC).

COCOMO applies to three classes of software projects;

Organic projects - "small" teams with "good" experience working with "less than rigid" requirements

Semi-detached projects - "medium" teams with mixed experience working with a mix of rigid and less than rigid.

Embedded projects - developed within a set of "light" constraints. It is also combination of organic and semi-detached projects (hardware, software, operational)

The basic COCOMO equations take the form

Effort Applied (E)=(KLOC)^a | man-months]

Development Time (D)=(Effort Applied)^b [month]

People required (P) Effort Applied Development Time [count]

Where, KLOC is the estimated number of delivered lines (expressed in thousands) of code for a project. The coefficients a, b, c and d are given in the following table (note the values listed below are from the original analysis, with a modern reanalysis producing different values)

Basic COCOMO is good for quick estimates of software costs. However, it does not account for differences in hardware constraints, personnel quality and experience, use of modern tools and techniques, and so on.