Project Report on

BASIC TIMETABLE GENERATOR

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CERTIFICATE

This is to certify that the Project entitled Basic TimeTable Generator is a bonafide work done by _____ of class XII Session 20-21 in partial fulfillment of CBSE's AISSCE Examination 2021 and has been carried out under my direct supervision and guidance. This report or a similar report on the topic has not been submitted for any other examination and does not form a part of any other course undergone by the candidate.

……	……..
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INTRODUCTION

This software project is developed to create timetables with ease. It takes in a specific set of values including number of days, periods etc. and generates multiple timetables to be available for download in JPEG format.

It is simple in design and does not require training to use. Any person regardless of age can use it(even an infant) as long as they are old enough to understand.

OBJECTIVE AND SCOPE OF THE PROJECT

The objective of this project is to make the creation timetables easier for schools and colleges. Just by entering a few relevant sets of data, a time table can be generated within seconds, which can be available for download in JPEG format. This saves time and resources of the administration of institutions, who could use that time for more important purposes.

System Implementation

Hardware used -

- Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz, 2 Core(s), 4 Logical Processor(s)
- 8 GB RAM
- Intel(R) Core(TM) i5-6200U CPU @ 2.30GHz
- 8 GB RAM

Software Required -

- Python 3.9
- Pillow, Tkinter, Itertools, Random modules should be downloaded.

Theoretical Background

This project was coded on Python 3.9, and multiple modules were used. The modules used were Itertools, Pillow, Random and Tkinter.

1) Itertools - itertools is an inbuilt module of python that provides common iterative functions that are memory efficient and time saving. The functions provided are basic iteration tools that are used commonly across programming projects. Some examples of itertools functions are - count(), cycle(), chain(), permutations(), combinations() etc. In this project, permutations() and combinations() have been used.

2) Pillow - Pillow is a fork of PIL (Python Image Library). It provides us with multiple image processing capabilities. It can be used to manipulate images of a large variety of image file types. For example, using Pillow, the file type of images can be changed, the image can be rotated, and various other such functions can be performed. In this program, PIL is used to make the final timetable in an image form.

3) Random - Random function is a very commonly used module in python programming. It's functions return random numbers based on what's required. Examples of functions are randrange(), randint(), etc. In this project, we have made use of the sample() function, which returns a specified number of random selections from a sequence.

4) Tkinter - Tkinter is Python's de-facto standard GUI(Graphical User Interface) package. Using Tkinter, the root window for the application is developed which includes all the necessary input and output fields and buttons. In this project, Tkinter is used to create the window where the timetable generator program is displayed along with the required buttons and input fields.

System Design and Development

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Event Coding

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Output

Timetable Generator

User Manual

Sohan Varier and Adhvaith Rajesh

References