**Time Table Management Software**

**PROJECT REPORT- STAGE I**

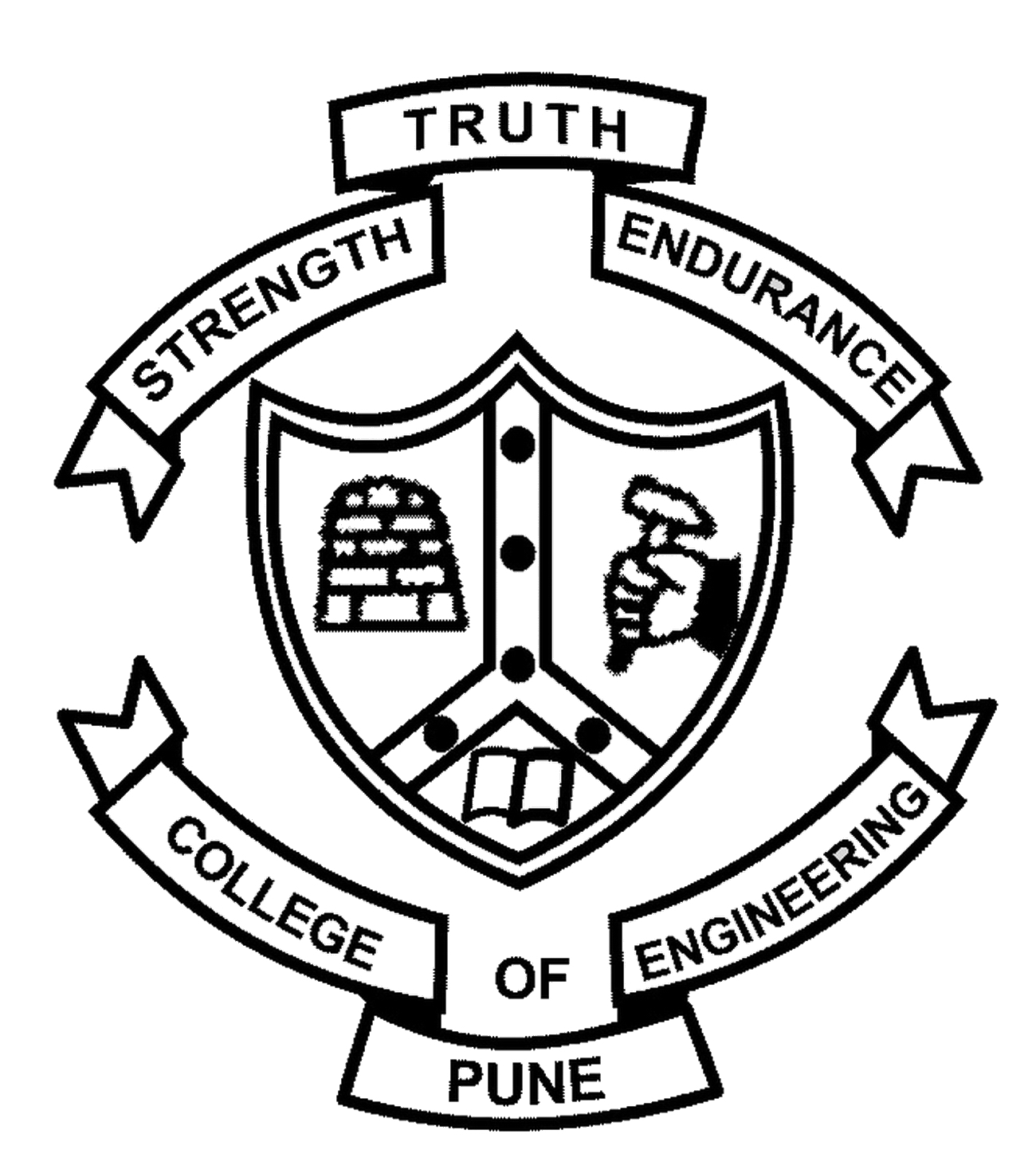
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**DEC 2015**

**CERTIFICATE**

Certified that this project report **“TIME-TABLE MANAGEMENT SOFTWARE.”**

is the bona-fide work of

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Place : Pune

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**CHAPTER 1**

**INTRODUCTION**

**1.1 Background:**

All organizations need Time table for their smooth working. It is an efficient mapping of resources to the uses. Educational institutes regularly face problem of timetable generation / maintenance , which is very time consuming and repetitive work.

**1.2 Properties of good Time - Table :**

**1) No Clashes :**

A good timetable ensures that there are no clashes.

**2) Efficient Use :**

Gives Optimal output for the available resources.

**3) Easy to Modify :**

Time table should be easy to modify in case some changes occur.

**4) Specific to organization :**

Generic timetable does not work well with different types of organizations, It should be customized for each organization.

**ABSTRACT**

Timetable generation is a time consuming problem faced by many educational institutes. It belongs to the class of combinatorial optimization problems. We propose a semi automated approach for solving this heavily constrained problem for educational institutes like College of Engineering Pune (CoEP). It will allow the users to make time table as per his/her choice while ensuring all constraints are satisfied and there are no conflicts. The existing solutions for this problem are fully automated, difficult to use and provide no freedom to user for customization.

We propose a much simpler approach for solving it. We aim to develop a desktop application using Object Oriented Programming paradigm with a user friendly interface.

**CHAPTER 2**

**LITERATURE REVIEW:**

**2.1 General**:

**2.2 Problems of conventional welding**

**2.5 OBEJECTIVE:**

**CHAPTER 3**

**SYSTEM DESIGN**

**Overview :**

We aim to develop a timetable management software which gives lots of scope for customization to the user. Its broadly divided into two components Front end and Back end.

**1. Front End:**

We propose a Sheet-based User Interface (similar to spreadsheet) where users can easily enter the schedule. Multi-tabbed view where user can see the timetable in different contexts. A constraints section which will contain global constraints used throughout the time table.

**2. Back End :**

At the back end it maintains list of all teachers, venues and Classes. Each one has its own timetable and all of them together constitute whole timetable for the institute. Every change in timetable is first verified to be consistent with existing entries before actually modifying the timetable. There is a list of constraints which must be satisfied by the timetable, where a user can change these constraints. We rely on a UI where user can easily understand and change the constraints.

**CHAPTER 4**

**SYSTEM REQUIREMENT**

**3.1 Hardware Requirements :**

The minimum Hardware Requirements are :

* Memory (RAM) : 512 MB of RAM required.
* Hard Disk Space : minimum 1GB free space required.
* Processor : Intel Pentium 4 or later

**3.2 Software Requirements :**

The minimum Software Requirements are :

* Operating System : Windows / Linux
* Text Editor : VIM / Sublime Text 2
* PyCharm
* Python 2.7
* Python Library : wx (Other GUI Library in future)
* PDF Reader / Word processors

**IMPLEMENTATION**

* **Current Status :**

The implementation phase is in initial stage. We are working on the Back end. Taking input from user through minimal Graphical User Interface and preparing a time table with minimal constraints.

Current implementation supports default constraints i.e.

* + No Clashes of Lectures / venues / teachers.
  + Support for Batches.
  + Support for combined lectures.
  + Maximum allowed load for faculty.
  + Compulsory Lunch break for all classes.

**Schedule for Remaining Implementation**

[31st Dec 2015] Complete Implementation of Back end and Front end.

[15th Jan 2016] Testing / Debugging of all features.

[31st Jan 2016] Final version with complete Report.

[Feb 2016] Paper Publication / Marketing of software.

[April 2016] Report Submission.

**References :**