**ABSTRACT**

Nursery education plays an important role in the social development, while energy-saving education is also regarded as the basic course for children. In the nursery green building project, architects, constructors and kindergarteners should pay attention to the characteristics of nursery energy-saving education through the whole progress including design, construction and management, so that the school will fit with the energy saving education for children.

The children born nowadays are called digital natives, but their digital skills are under the expectations of the future workforce, which will be tremendously digital. Education has a key role in supporting the development of digital skills even from the early childhood. Designing educational software for preschoolers, that would support learning and digital skills development, needs focus both on children (to ensure engagement) and their instructors (to ensure appropriateness and acceptance). Edutainment software possesses educational content and an entertainment model, being a promising perspective in education support.

Aiming at the problem of Pick-up and Delivery children in kindergarten, it is difficult to identify the people who meet children, and there are some other problems, such as low efficiency, frequent accidents. Kindergarten Entrance Guard System based on fingerprint identification is designed, which not only effectively identify the pick-up person, also can effectively inspect the kindergarten staff attendance.

This project is implemented through python and technology used to implement this tool is Django. The backend used in this project is MySQL.

**Chapter 1**

**INTRODUCTION**

**1.1 GENERAL INTRODUCTION**

Quality of education is one of the important things in the Education Development Plan which emphasizes the quality of opportunity in education and excellence of educational institutions to determine the progress and prosperity of the country. Quality of education refers to development of human capital that is knowledgeable, skilled, and noble.

ERP is stands for Enterprise Resource Planning. Enterprise resource planning (ERP) is business management software or a system which is typically used to manage core departmental data of respective business. ERP provides an integrated view of business processes, often in real-time, using common databases maintained by database management systems. ERP system track business resources— raw materials, cash, production capacity and the status of business commitments like: payroll, purchase orders, and orders. The application that makes up the system share data across the various departments (purchasing, accounting, sales, manufacturing etc.) That provides the core data. ERP facilitates information flow between business function, and manages connections to outside stakeholders. Every system has to maintain a management system for various sections which may include performance analysis, attendance system, student information, fee structure, academic information, etc. Managing all these sections manually on paper becomes very time consuming and complex tasks. In such system there is high possibility of misplacement of collected data and data redundancy in the form of paper records in order to overcome these drawbacks there is a need to design and implement a efficient ERP.

**DES for preschoolers** is an online web-based system which implements an user friendly and attractive interface for **preschools**. The aim for deployment and implementation of this system is to replace manual system of **preschools** with an automated web-based system. This ERP system also manages data accurately and efficiently which is stored over a long period of time. **DES for preschooler** provides single access point to all administrative system of colleges.

**1.2 GOAL OF THE PROJECT**

The goal of this project is to replace manual system of preschools with an automated web-based system**.** Tracking of your child activity is made easy with help of the activity management module and update on child’s performance as well teacher’s performance is monitored and get daily report to the manger. The system makes faculty training program simple as different faculties in different franchise or different location can access to common training program: both online and offline. It’s engineered and crafted specifically considering the preschools & franchisor requirements- required technology for making preschools more efficient & successful.

**Chapter 2**

**LITERATURE SURVEY**

**2.1 STUDY OF SIMILAR WORK**

**Easy Montessori Manager: An online Montessori Management system**

Easy Montessori Manager is dedicated to all the schools in Malaysia which are using the Montessori approach. It resembles an online management system but specifically designed for Montessori preschools and inclusive of Montessori Methods and for teachers' guidelines and assessments. A preliminary study was conducted to investigate the need of an online Montessori module by doing a survey. The survey is conducted by using questionnaires which are distributed to four Montessori schools in Selangor. From the result of the study, a prototype of the actual system is developed in order to get a general idea on how the system should look like. Afterward, the prototype is then evaluated by a Montessori principal to get her opinion on a good Montessori management system.

# **Web Based E-learning System for Pre-school Kids**

It is a known facts that every country has its own way to teach young learners

but most of them agree that web-based computer system or the use of technology can

be used to enhance the traditional way of learning. Web-based computer system is a

tool that can provide alternative way for kids to learn and make sense of their world but

it should never replace the use of practical materials and manipulative.

Preschool web-based system does not only increase their academic skills but

also enhances their social and emotional attributes. It is important for kids to get

preschool education so that they can compete in the ever increasing computer age

competitive world. The flow of Preschool is a way in which information and

communication technologies (ICT) can contribute to development of kids learning

education.

A preschool system, Is a welcome development in educational industry by using

IT or web-based system to increase and enhance learning skills in kids. It will also

revolutionize their thinking at the tender age and it will acquaint with the right

educational learning abilities and cultures. The pretext for this system is to address the

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**2.1.1 EXISTING SYSTEM**

Today's schools need to manage more information than ever before. Without a solid internal infrastructure for teachers, administrators and departments to share data, critical school and student information can be lost, or worse leading to a host of problems that can effect of a school's image and endurance

To remain competitive, preschools need a simple solution that can run individual function, connect their entire operation, use the web as a key communication tool and simplify day to day operational responsibilities, giving staff more time with students.

The system must automate various scheduling activities of school and optimizes the use of premium resources. Concerned authorities can now easily and seamlessly use the system to mange time consuming and tedious task.

**2.1.2 DRAWBACKS OF EXISTING SYSTEM**

The existing system is not sufficient to

* Manage community of parents, teachers and students.
* Manages all administrative records with zero redundancy
* Achieve best possible resource optimization
* Automate all operational functions like fees, Attendance, Exam Management.

The problem currently facing many schools is the management of courses. Here, the teacher does not properly handle their workload, and sometimes the courses are not offered on time. The number of students who must study the course is not followed. The main problem is to managing the teachers work and courses scheduling.

**Chapter 3**

**OVERALL DESCRIPTION**

**3.1 PROPOSED SYSTEM**

Preschool is one big milestone from a baby to a child who is ready to explore the world and learn a lot of new things and it is the place where children go before kindergarten. It isn’t required, but a lot of parents consider this a big benefit; and good way of positively commencing their child's education. Owning & operating preschool needs plenty of dedication, hard work, and best preschool software in the market. The preschools have got some specific requirements than the big K-12 school, thus the generic software doesn’t fit well.  **Designing edutainment software for pre-schoolers (DES) understands the preschools and offers some tailor-made best ERP software for preschools.** It’s engineered and crafted specifically considering the preschools & franchisor requirements- required technology for making preschools more efficient & successful.

Manager of the preschool has got a lot of responsibilities to look after to stay in the business. First, they have to be licensed and need to have the qualified preschool teachers, balanced curriculum and they need to ensure that details of the people come to visit child will be securely updated in the system with finger print identification. Customers will be the parents, and they are aware about the security provided in the system.

Also, another important is to coordinate each staff in different location, train teacher with same curriculum, monitor staff performance, manage each center -coordinate activities, training programs, monitor children’s activities and daily updates.

Thus, Totally the system provides better business practices & administrative management can elevate general quality of services that you offer. offering opportunities for staff members to help them to sharpen their craft, and giving internal systems the overhaul can improve the quality of the program all along with this. Using the best technology signs that you’re the modern program that is something prospective and current customers care about.

**3.2 FEATURES OF PROPOSED SYSTEM**

**Centre & Franchise Management**

Helps to store all preschool centers & franchise database on centralize cloud system to access it anytime and anywhere, which will improve business productivity and decisions making.

**Simple for Management and Impressive to Parents and Staff**

Simple Registration Staff and child enrolment are made simple with the flexible admission procedure direct and online. Manage immunization records, child profile, emergency contact, family details, and finger print verification for visitor

**Child Activity and Development**

Tracking of your child activity is made easy with help of the activity management module. update on child’s performance as well teachers performance is monitored and get daily report to the manger

**Record Management**

Right from the staff registration, behaviour tracking, scheduling, qualification, review reports, family details, leave status to generate pay slip all of the staff management procedure is on the fingertip. It is totally effortless!

**Document management**

Through the help of this software, management will have all legal documents in just one quick & accessible area so anybody asking for any information will get it right away.

### Billing & Fees Collection

Plan annual budgets, track expenses and bookkeeping or finance ledger. Hassle free solution for collecting fees and auto generate e-invoice.

**Finance Reports**

Run important financial reports of all the financial areas of Preschool. Ensure all budgets are properly aligned. It allows the smart financial choices to make preventing unforeseen losses.

**Faculty and training management**

The system makes faculty training program simple as different faculties in different franchise or diff location can access to common training program: both online and offline

**AI based Analysis of Faculty and training center performance**

The system analysis the overall taring center performance, faculty performance and financial stability

**3.3 FUNCTIONS OF PROPOSED SYSTEM**

Most of the child care management software will come up with some and all the following capabilities:

* **Admissions & scheduling**

Offers widgets & calendars for scheduling the classes and enrollment or registration

* **Billing & payments**

Allows the users to carry out billing & invoicing, track the account balances as well as past-due payments, make & print payment reports, and post payment and Provides complete support for the multiple online & in-person payment techniques, which includes a check, cash, money order or credit cards

* **Reporting**

Create reports and offers alerts for kid’s birthdays.

Creates reports on the class statistics, revenue summaries (class type or size), financial transactions and attendance.

* **Communication**

Enables users to keep the parents informed about the child’s activities through mobile application alerts, text messages or emails.

* **Faculty management and Activity planning**

Manage staff activities, performance etc. Allows staff to make lesson plans and activity plans beforehand.an institution can be able to make time sheet reports for purposes such as measurement of lecturer's performance, measurement of the estimated time for portion completion

* **Bulk SMS & Email Facility**

able to send bulk SMS to both parents and staff. The system facilitates easy, and quick communication as it is able to send SMS on the mobile phone numbers of staff, parents.

* **Students/Employee Id Card**

With system can design identity cards for students as well as for employee. Generating identity card is the easiest job with DES. It contains all the details about students like their name, batch, date of birth, contact number with Preschool logo & QR code facility.

* **Live Virtual Classroom**

Live class room enable the teacher to connect with and help for training teachers from a single point. This module can be able to broadcast live training sessions to teachers ,thus coordinate entire teacher training program from a single point

### Customize report card & certificate template

Customize and auto generate printable report card, worksheet, ID card, classroom & activity report, calendar, and certificates.

**3.4 REQUIREMENTS SPECIFICATION**

System analyst tasks to a variety of persons to gather details about the business process and their opinions of why things happen as they do and their ideas for changing the process. These can be done through questionnaires, details investigation, observation, collection of samples etc. As the details are collected, the analyst study the requirements data to identify the features the new system should have, including both the information the system produce and operational features such as processing controls, response times, and input output methods.

Requirement specification simply means, “Figuring out what to make before you make it”. It determines what people need before you start developing a product for them. Requirement definition is the activity of translating the information gathered in to a document that defines a set of requirements. These should accurately reflect what consumer wants. It is an abstract description of the services that the system should provide and the constraints under the system must operate. This document must be written for that the end user and the stake holder can understand it.

The notations used for requirements definition should be based on natural languages, forms and simple intuitive diagrams. The requirements fall into two categories: functional requirements and non-functional requirements.

The requirements of specification of the proposed system are as follows:

* Python
* MySQL

**3.5 FEASIBILITY ANALYSIS**

Feasibility study is made to see if the project on completion will serve the purpose of the organization for the amount of work, effort and the time that is spent on it. Feasibility study lets the developer foresee the future of the project and the usefulness. A feasibility study of a system proposal is according to its workability, which is the impact on the organization, ability to meet their user needs and effective use of resources. Thus, when a new application is proposed it normally goes through a feasibility study before it is approved for development. The document provides the feasibility of the project that is being designed and lists various areas that were considered very carefully during the feasibility study of this project such as Technical, Economic and Operational feasibility. The following are its features:

**3.5.1 TECHNICAL FEASIBILITY**

The system must be evaluated from the technical point of view first. The assessment of this feasibility must be based on an outline design of the system requirement in the terms of input, output, programs and procedures. Having identified an outline system, the investigation must go on to suggest the type of equipment, required method developing the system, of running the system once it has been designed.

Technical issues raised during the investigation are:

⮚ Is the existing technology sufficient for the suggested one?

⮚ Can the system expand if developed?

The project should be developed such that the necessary functions and performance are achieved within the constraints. The project is developed within the latest technology. Though the technology may become obsolete after some period of time, due to the fact that newer versions of the same software supports older versions, the system may still be used. So there are minimal constraints involved with this project

**3.5.2 OPERATIONAL FEASIBILITY**

Operational feasibility is a measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. Proposed projects are beneficial only if they can be turned into information systems that will meet the operating requirements of the organization. This test of feasibility asks if the system will work when it is developed and installed. This project satisfies all the operational conditions. The project is found to work well on installation, all types of users can operate the system without any difficulty. User interfaces are designed in such a way that even ordinary users without having much knowledge in computer technology can easily operate the system. The access time of data is considerably low and the operation is less time consuming

**3.5.3 ECONOMIC FEASIBILITY**

The developing system must be justified by cost and benefit. Criteria to ensure that effort is concentrated on project, which will give the best, return at the earliest. One of the factors, which affect the development of a new system, is the cost it would require. The following are some of the important financial questions asked during preliminary investigation:

⮚The costs conduct a full system investigation.

⮚The cost of the hardware and software.

⮚The benefits in the form of reduced costs or fewer costly errors.

Since the system is developed as part of project work, there is no manual cost to spend for the proposed system. Also, all the resources are already available, it gives an indication that the system is economically possible for development.

**3.5.4 BEHAVIORAL FEASIBILITY**

Behavioral analysis is an operational principle for all requirements analysis methods. An estimate should be made of how strong a reaction the user is likely to have towards the development of a system. Behavioral analysis is an operational principle for all requirements analysis methods. The state-transition diagram represents the behavior of a system by depicting its status and the events that use the system to change state. The project is behaviorally feasible because of the effective use of the resource and also the system satisfies user needs and is user friendly.

**Chapter 4**

**OPERATING ENVIRONMENT**

**4.1 HARDWARE REQUIREMENTS**

|  |  |  |
| --- | --- | --- |
| Processor | : | Intel i3 or higher |
| Speed | : | 2.8 GHz |
| RAM | : | 4 GB or higher |
| Hard disk | : | 200 GB or higher |
| Monitor | : | 15 VGA colour |
| Keyboard | : | USB / Wireless Keyboard |
| Mouse | : | USB / Wireless Mouse |

**4.2 SOFTWARE REQUIREMENTS**

|  |
| --- |
| Operating System : Windows O.S (7 or higher)  Programming Language : Python  IDE : PyCharm, Visual Studio Code  Scripting Languages : HTML, CSS , JavaScript  Web Browser : Google Chrome  Front-End : Python, Django  Back-End : My SQL |
|  |
|  |

**4.3 TOOLS AND PLATFORM**

**4.3.1 Python**

Python is a general purpose, dynamic, high-level, and interpreted programming language. It supports Object Oriented programming approach to develop applications. It is simple and easy to learn and provides lots of high-level data structures. Python is easy to learn yet powerful and versatile scripting language, which makes it attractive for Application Development. Python's syntax and dynamic typing with its interpreted nature make it an ideal language for scripting and rapid application development. Python supports multiple programming pattern, including object-oriented, imperative, and functional or procedural programming styles. Python is not intended to work in a particular area, such as web programming. That is why it is known as multipurpose programming language because it can be used with web, enterprise, 3D CAD, etc.

**Features of Python**

* Easy-to-learn − Python has few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language quickly.
* Easy-to-read − Python code is more clearly defined and visible to the eyes.
* Easy-to-maintain − Python's source code is fairly easy-to-maintain.
* A broad standard library − Python's bulk of the library is very portable and cross-platform compatible on UNIX, Windows, and Macintosh.
* Interactive Mode − Python has support for an interactive mode which allows interactive testing and debugging of snippets of code.
* Portable − Python can run on a wide variety of hardware platforms and has the same interface on all platforms.
* Extendable − Can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.
* Databases − Python provides interfaces to all major commercial databases.
* GUI Programming − Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh, and the X Window system of Unix.
* Scalable − Python provides a better structure and support for large programs than shell scripting.

**4.3.2 MySQL**

MySQL is the most popular Open Source Relational SQL Database Management System. MySQL is one of the best RDBMS being used for developing various web-based software applications. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. This tutorial will give you a quick start to MySQL and make you comfortable with MySQL programming. MySQL is released under an open-source license. So you have nothing to pay to use it. MySQL is customizable. The open-source GPL license allows programmers to modify the MySQL software to fit their own specific environments.

**Features of MySQL**

* Relational Database Management System (RDBMS) - MySQL is a relational database management system.
* Easy to use - It is easy to use. You have to get only the basic knowledge of SQL. You can build and interact with MySQL with only a few simple SQL statements.
* Secure - MySQL consist of a solid data security layer that protects sensitive data from intruders. Passwords are encrypted in MySQL.
* Free to download - MySQL is free to use and you can download it from MySQL official website.
* Scalable - MySQL can handle almost any amount of data, up to as much as 50 million rows or more. The default file size limit is about 4 GB. However, you can increase this number to a theoretical limit of 8 TB of data.

**4.3.3 Django**

Django is a Python-based free and open-source web framework that follows the model-template-view (MTV) architectural pattern. It is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of Web development, so you can focus on writing your app without needing to reinvent the wheel.

**Features of Django**

* Ridiculously fast - Django was designed to help developers take applications from concept to completion as quickly as possible.
* Reassuringly secure - Django takes security seriously and helps developers avoid many common security mistakes.
* Exceedingly scalable - Some of the busiest sites on the Web leverage Django’s ability to quickly and flexibly scale.
* Framework Support − Django has built-in support for Ajax, RSS, Caching and various other frameworks.
* Administration GUI − Django provides a nice ready-to-use user interface for administrative activities.
* Development Environment − Django comes with a lightweight web server to facilitate end-to-end application development and testing.

**4.3.4 Visual Studio Code**

Visual Studio Code is a source-code editor developed by Microsoft for Windows, Linux and macOS. It includes embedded Git and support for debugging, syntax highlighting, intelligent code completion, snippets, and code refactoring. It is highly customizable, allowing users to change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality. The source code is free and open-source, released under the permissive MIT License. The compiled binaries are freeware for any use.

**4.3.5 PyCharm**

PyCharm is an integrated development environment (IDE) used in computer programming, specifically for the Python language. It is developed by the Czech company Jet Brains. It provides code analysis, a graphical debugger, an integrated unit tester etc.