

Camarines Science Oriented High School - Portal

Pre-School Progress System

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1. ABOUT THE CLIENT

1.1 Name of Organization

Camarines Science Oriented High School

1.2 Nature of Business

Private School

1.3 Address

New San Roque, Pili Camarines Sur

1.4 Contact Person and Designation

Ms. Jessa S. Cervantes

1.5 Mission and Vision

1.5.1 Vision

Camarines Science Oriented High School, a private educational institution of competitive, value orient and God-Loving citizen.

1.5.2 Mission

To quality basic education aligned with the science oriented curriculum adapting the current instructional standards through competent teacher and dedicated administrators for the fulfillment of the youths total intellectual, emotional, psychological, moral and environmental awareness committed to serve the community.

2. PROPOSED SYSTEM

Our group propose a system that will track the progress and performance of the students in his/her class. The parent of the student will be given a parents ID that will be using in order to have an access to the system. The system will display the current information of the child that is enrolled in the school. His/her name, grade, progress, and performance.

3. WHAT TYPE OF SYSTEM DO YOU PROPOSE TO BUILD FOR THE ORGANIZATION? WHAT IT WILL BE? WHAT PROBLEM WILL IT ADDRESS?

CSOHS is planning to provide a system where each preschool parent will be given appropriate I.D. as the representation of their identity. This system will help the school to easily manipulate the portal for tracking the progress of the students.

The problem it will address is the access of the parents to their child school performance. It will give and ease and reliable accessibility to track and been updated to them by not going to school and reporting to their child teacher just to request or know the students performance and progress in class/school.

4. METHODOLOGY

The methodology used in developing the web application "CHOSH Portal" using the (1) SDLC- Agile method and its phases: (1) Planning, (2) Requirements gathering, (3) Designing (4) Building and (5) Testing.

4.1 Agile Model

Agile software development methodology has been implemented by software industries over a decade ago and

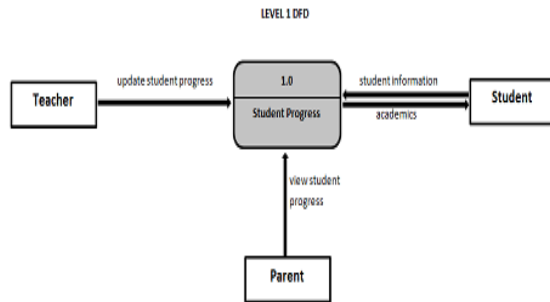


Figure 1: Data Flow Diagram

well accepted in the practitioner community and also the agile methodology has gained increasing interest among software engineering industry and academic researchers that able to view and track the current information and progress of their child using a reliable and user friendly web application. Following the Agile Manifesto principles, Individuals and interactions, working software, admin collaboration and it is responding to change. Agile Development Phases: 1.) Planning 2.) Requirement Analysis 3.) Designing 4.) Building 5.) Testing

4.1.1 Planning Phase

This will show how to plan and develop the web application using some guides and diagram: (1). Data Flow Diagram (DFD), (2). Entity Relationship Diagram (ERD). In this planning phase the researchers choose to use of the data flow diagram to set a proper connection for the development.

4.2 Using Data Flow Diagram

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system without going into great detail, which can later be elaborated.

4.2.1 Designing Phase of CHOHS Portal

The designs and diagrams that will be using to build the web application. Using the Entity Relationship Diagram (ERD).

4.3 Entity Relationship Diagram of CHOHS Portal

Entity relationship diagram is used to visualize the entity that are present in the application the attributes that are present to the entity and their respective data types. The diagram below shows the association and relationship of the entities together.

This diagram shows the relationship of the primary entities that is involved in the system primarily the "STU-

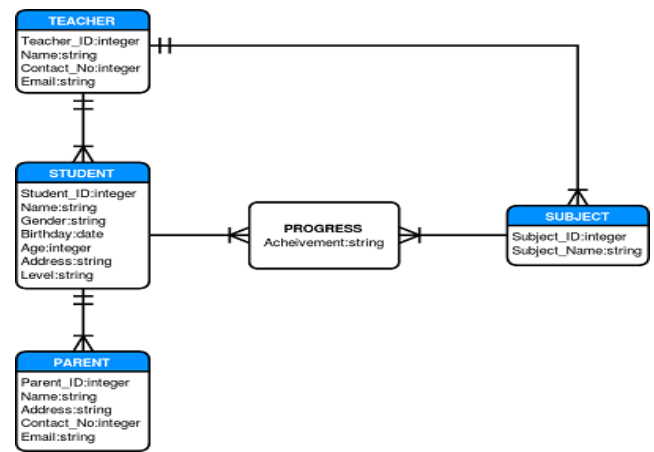


Figure 2: Entity Relationship Diagram(ERD) of CHOHS Portal

DENT" "PARENT", "TEACHER" and "SUBJECT". Next is the "STUDENT" is composed of the attributes StudentID (a unique primary key of the student), Name (Name of the student), Gender (gender of the student), Birthday (birthday of the student), Address (address of the student), and Level (determines the level of student e.g. Kinder 1, Kinder 2). The "PARENT" is composed of the attributes ParentID (a unique primary key of the parent), Name (Name of the parent), Address (address of the parent), Email (email of the parent) and ContactNo (contactNo of the parent). The "SUBJECT" is composed of the attributes SubjectID (a unique primary key of the subject) and SubjectName (subject of the student) And last is the "TEACHER" it is composed of TeacherID (a unique primary key of teacher), Name (name of the teacher), Address (address of the teacher), ContactNo (contactNo of the teacher), and Email (email of the teacher).

A parent may have one or more student in school and a student must only have one parent. A student must only have one teacher in a section and a teacher may have one or more student in the section. A student will track its progress through its grade in every grading. The web application will serve as a parents eye to know how well did they child perform in school. It makes the tasks of the teachers easier through providing the parents a portal.

4.4 Developing Web Application using Ruby on Rails

Ruby on Rails is an open-source web application framework ideally suited to building business applications, accelerating and simplifying the creation of database-driven websites. It has been developed on the Ruby Platform. Ruby on Rails is a framework that makes it easier to develop, deploy, and maintain web applications. During the months that followed its initial release, Rails went from being an unknown toy to being a worldwide phenomenon, and more important, it has become the framework of choice for the implementation of a wide range of so-called Web 2.0 applications. Ruby on Rails uses the Model, View, and Controller architecture pattern to organize application programming.

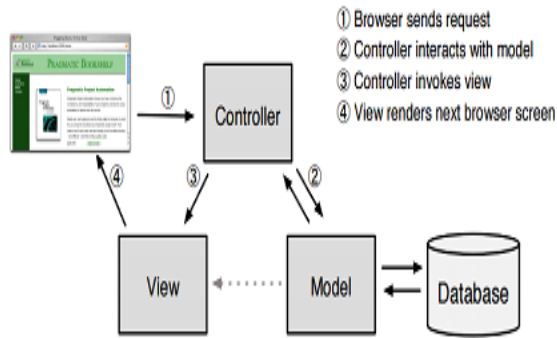


Figure 3: The Model-View-Controller architecture

4.4.1 Model

In a Ruby on Rails framework maps to a table in database. Models are where all of the persistent data retained by your application is managed. The model also does the validation of the data before it gets into the database. Each Model is responsible for a different entity, and for connecting this entity with other entities. Models are usually invoked by Controllers.

4.4.2 View

The default configuration of Rails is an erb file. It is typically converted to output html at runtime. Views control the way our application presents itself to the external world. By default, Rails scaffolding provides edit, index, new, and show, as well as a partial named form that is shared between edit and new. It is responsible for rendering your models into one or more formats, such as XHTML, XML, or even Javascript. A View is a visualization of the attached Model state.

4.4.3 Controller

The component of Rails that responds to external requests from the web server to the application, and responds to the external requests by determining which view file to render. Views control the way our application presents itself to the external world. By default, Rails scaffolding provides edit, index, new and show, as well as a partial named form that is shared between edit and new.

4.4.4 Ruby

Ruby is a general-purpose programming language, it is best known for its use in web programming. It combines the syntax inspired by pearl, also it supports multiple programming paradigms, including functional, object-oriented, imperative and reflective. It has a dynamic type system and automatic memory management.

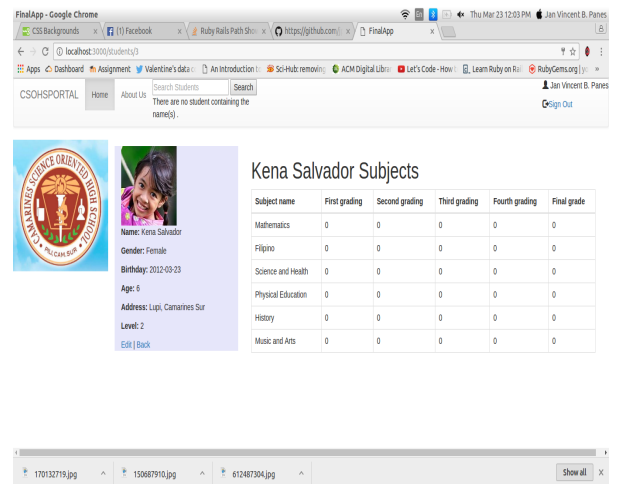


Figure 4: The Model-View-Controller architecture

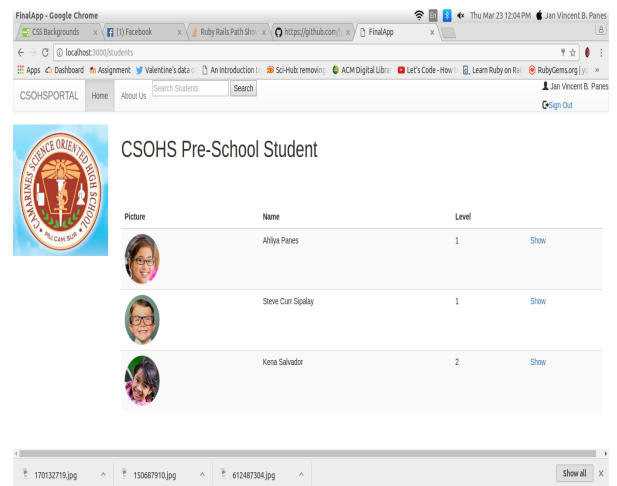


Figure 5: The Model-View-Controller architecture

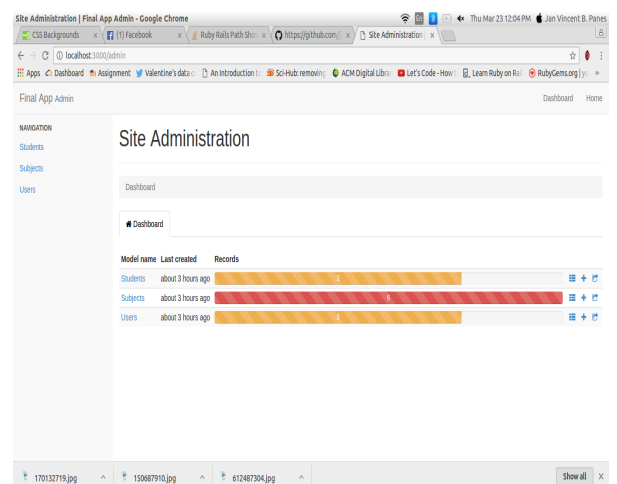


Figure 6: The Model-View-Controller architecture