

Education ERP System (Opetus)

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Abstract— It's known that education is one of the very basic requirements of an individual, without education, we humans are savages roaming on earth none other than the very animals we see. It is education that help us boost our thought process, it helped us build ourselves, our society and to be exact our community. Extending this idea, We thought, What if we could help simplify this process of learning to a mere application, an application that every student belonging to a college can have on his/ her android mobile phone or could even connect to the contents of this application if he had the access to our cloud network. This gave the initial and the very base to our project idea, Opetus Education ERP. Opetus ERP for educational system is one of the products designed to work in an online / offline hybrid environment. This application can work on intranet or can be hosted on cloud or private data center. Keeping it simple, It can be configured for a centralized or distributed database architecture and using this application Entire student life cycle management from prospect to alumni can be tracked .It not only Enables educational institutes to record detailed demographics of every student activities but also Provides online / offline information to parents about wards attendance, results, performance which can be tracked and communicated via internet, mails, remote access, voice mails, conferencing etc.

Key words: Augmented Reality, Android, Vuforia, 3D Modeling

I. INTRODUCTION

Opetus ERP for educational system is one of the products designed to work in an online / offline hybrid environment

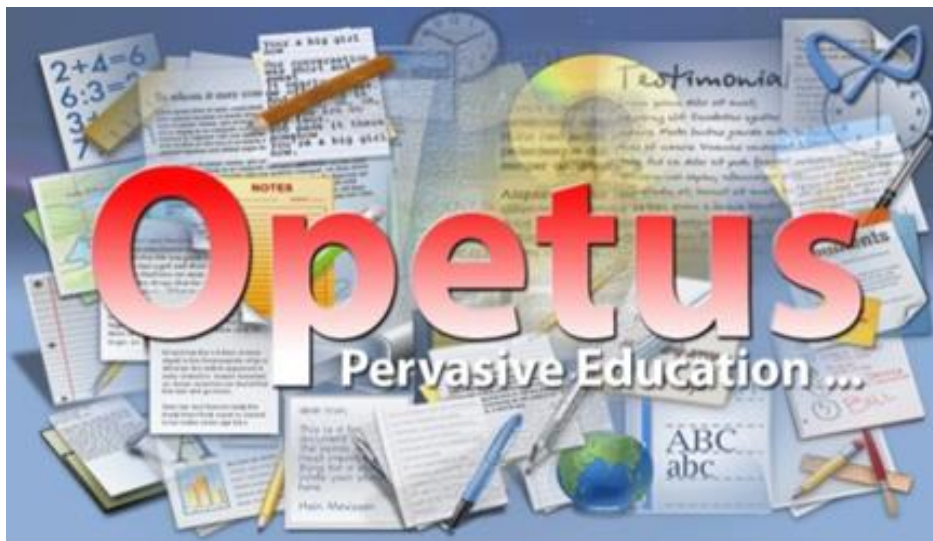


Fig. 1: Opetus

This application can work on intranet or can be hosted on cloud or private datacenter. Keeping it simple, It can be configured for a centralized or distributed database architecture and using this application Entire student life cycle management from prospect to alumni can be tracked and transacted. It not only Enables educational institutes to record detailed demographics of every student activities but also Provides online / offline information to parents about wards attendance, results, performance which can be tracked and communicated via internet, mails, remote access, voice mails, conferencing etc.

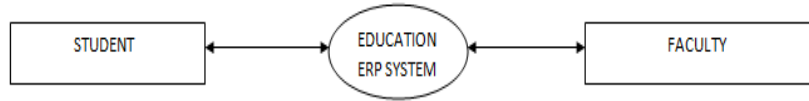
II. HISTORY AND MOTIVATION

Enterprise resource planning (ERP) systems are software packages composed of several modules, such as human resources, sales, finance and production, providing cross organization integration of information through embedded business processes. These software packages can be customized to cater for the specific needs of an organization. During the 1990s, ERP systems became the de facto standard for replacement of legacy systems in large and particularly multinational companies.

The development of Education ERP System (OPETUS) began in year 2014 by VKWARE Software company and it was designed to cover the in depth functionalities of any Educational Institute/ University/ Group of Institutions, from the perspective of various users carrying different roles and responsibilities such as Students, Teachers, Staff, Principal, Management, Parents, Alumni etc. Where all the data is managed in a time sensitive manner along with the rules and policies applicable at that time, so whenever required, the exact information can be re-produced as it is. The strength of Opetus Education

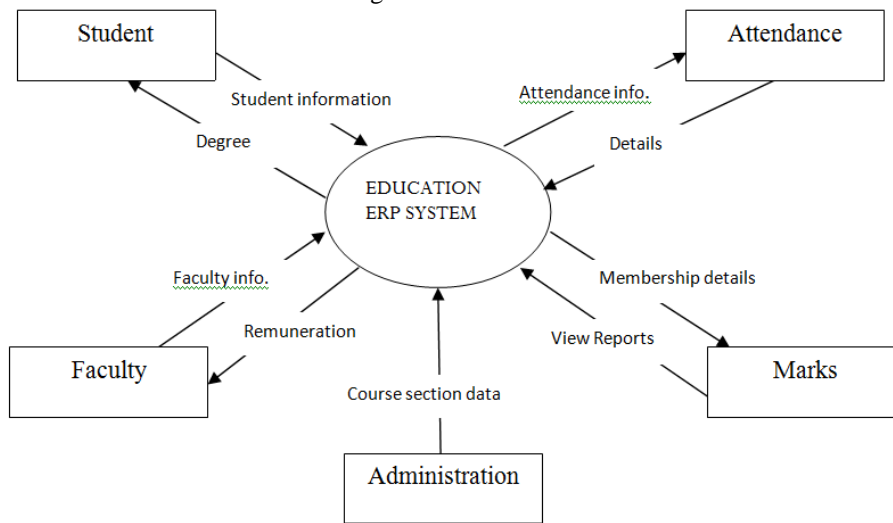
ERP increases many fold with the integration of data and resources. Also this System is designed to provide you with different test which helps you do self-practice and learning. However, the entire solution is designed based on a modular approach that gives flexibility to our clients to choose desired modules as per their requirements.

III. ARCHITECTURE



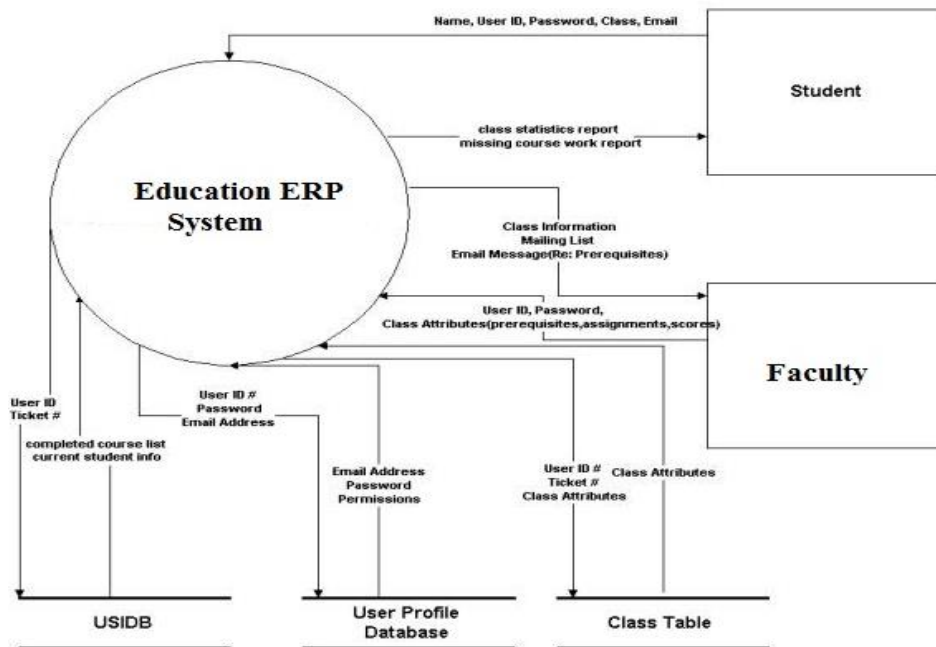
LEVEL 0 DFD

Fig. 2: DFD Level 0



LEVEL 1 DFD

Fig. 3: DFD Level 1



Level 2 DFD

Fig. 4: Level 2 DFD

The Architecture of Opetus is well described with the following levels of the Data Flow Diagram above and the key components here are Student and Faculty. Using Opetus student can store Name, Roll no, Class, email id, Opetus Id and password into the Opetus Application. Student can generate the statistics and reports which are made according to his

performance. The email-ids of the student will be provided to the respective Faculty in the order of roll numbers. Faculty can store their credentials and login id passwords in the Opetus Application.

The Id and Passwords of the users get stored in User profile database. User course is stored along with the ID to track his/her progress in the particular course.

IV. WORKING

The Following diagram depicts the working of the Opetus Education ERP system.

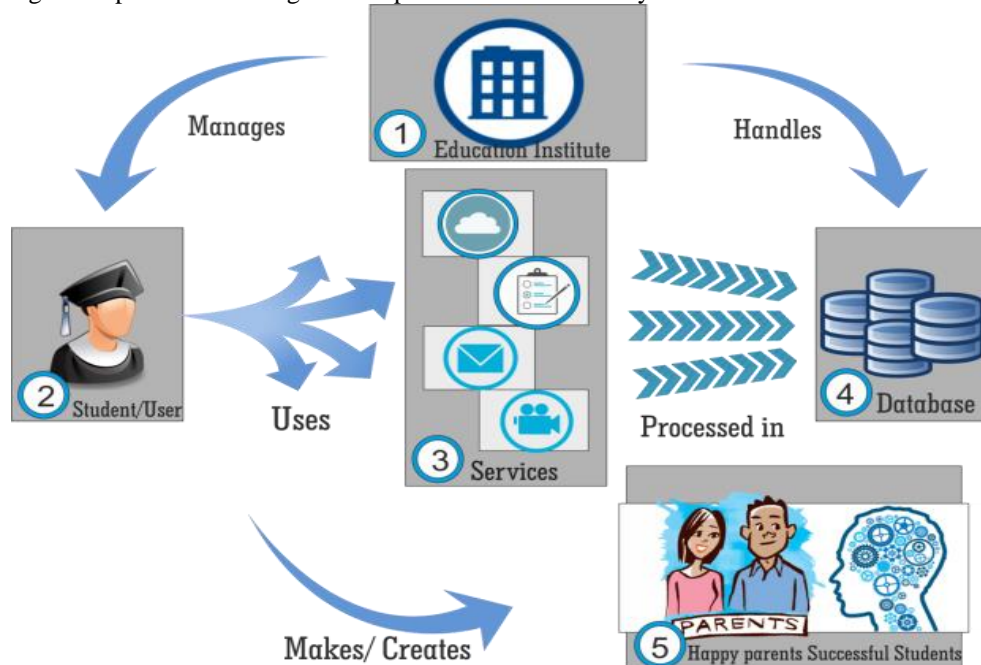


Fig. 2.4.1: Working of Opetus

Education ERP System is basically a software that craters the need of all the students, institution and parents. It is a software that is used to store the crucial and important information of the institute which comprises of all the student and faculty details. It is a system which is used to monitor the progress of each and every student and also it is used by the faculty and parents to check the progress and improvement of the students. Here the education handles the database which comprise of all the data and also maintains the students, parents and faculty login ID and Password which helps them in login into the database. Also it provides facilities of taking mock test to evaluate your performance and video and audio lectures to perform self study.

There are various component of the ERP System which are as follows:

- 1) Education institute
- 2) Student/User
- 3) Services
- 4) Database
- 5) Parents/Faculty satisfaction

A. Education Institute

The education institute is the hub of the system on which the software is implanted. All the functioning and validation is maintained by the institution. The institution maintains the database of students, faculties and parents which also includes login id and password which is used to enter the system and access the resources and important data. Institute handles and manages cloud to store and retrieve various services offered by Opetus. Institute allots access control to different alumni of institute. HODs and Principal and Trustees have maximum access regarding institute. Teachers can access student information and progress, prepare tests and test results, attendance of each student, feedback about students to parents. Student can access study materials, test and test results, attendance etc.

B. Student/User

The student is the component of the system which uses all the activities and functionalities provided by the institution. It uses the services like to take mock test for self evaluation, uses matter to study a subject and also uses videos to learn and understand the chapters and topics. Student can thus learn interactively and in efficient manner and can also track his/her progress. Student can retake tests to brush up his skills and evaluate his performances from previous tests. Teachers can also keep track of progress of students at each tests.

C. Services

These are the services which are provided by the system which includes accessing in the data. Listing all the activities and data the available and giving students the necessary resources for self learning and self evaluation. Also helps to monitor its progress and performance over the various types of test provided by the Opetus System.

D. Database

The Database forms a crucial component of the Opetus system as it provides the place to securely store and retrieve data. All the information regarding the students, faculties, Parents login, resources are all stored in the database in a secure format. Cloud process data by querying database and display results to users. Different users can access cloud using different access control. Staff accesses database to handle precious institute related data like payment of fees, salaries ,student information, admissions etc. Teachers access database to set tests and to access student related data. Student can access database for study materials and notices.

E. Parents/Faculty Satisfaction

This component describes the role and department of parents and teachers which is used to measure the performance of the student at regular intervals and also used to check the progress of students which also helps in knowing the current situation of the student. With the help of cloud based System our goal is make improve communication between teachers and students. Thus making aware of progress of his ward in field of education.

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