

PROJECT PRESENTATION 2
CAPSTONE 1
**ONLINE STUDENT PROGRESS MANAGEMENT
SYSTEM**

Project prepared for: For Camelot Junior School (CJS)

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CHAPTER 1

Abstract

Online Student Progress Management System is software being developed to work on web-platform to send assignments and notices Camelot **Junior School (CJS)** students. This system shall involve the School authority (Admin), Student, Teacher and most importantly the Parent or Guardian. Through this software we are trying to introduce and usher our students into the world of ICT since its now a requirement within the School new curricular syllabus.

The system shall be sending an instant message through a mobile phone number of the parent to make sure the assignment and notices has been sent to the student according to their classes. The involvement of parents will help as a form of follow-ups to students and to make sure they are doing their assignments. With the system the teacher shall be uploading and sending assignments to students according to their classes. By seeing the instant message, the parent will assist the child to open the child's school account to download assignments or to read the full notification on the notice's column. Keeping all these points in mind, we have developed a web tool which is implemented using web-services that would connect with the database established on a remote server. The unique pin and password would provide unique identification to all the students who would be using this system. The pin number would not just help the admin to keep the track of students, but would make it easier for the students as well the parent will use the student's pin number to check on his/her child's school work performance and progress. Online Student Progress Management System is a simple yet effortful tool that would result in effective in giving students experience in practical ICT learning as per the government's schools new curricular.

- **Keywords:** PIN (Student Pin Number), AMS (Assignment Management System), HTML, Php & MySQL

1.1 INTRODUCTION

The introduction of the new curricular for both primary and secondary school learning in Zimbabwe in early March 2017 has left all learning institutes with no whatsoever choice but to embrace for ICT theory and practical learning and for fast and convenient communication within the school stakeholders (school authorities, teachers, students and parents). Not only for the Zimbabwe learners, but it has happened to be the talk and activity of the day-to-day of the global world education. The ICT learning and communication system has become the fast and core mode of transmitting learning information among learning environments. This has seen almost all learning institutes embracing and seek to improve its old standards of learning and communication to ICT mostly being the Online Student Progress Management System. Schools has welcomed this idea of ICT communications systems.

1.2 ORGANISATIONAL BACKGROUND

Camelot Junior School (CJS) is a Zimbabwean registered and dynamic institute of this modern day that is located in the medium density of Southlea Park in Harare. CJS is a private institute offers academic primary education. The college's core area of learning is teaching on various academic subjects as indicated in the current primary and secondary school curricular.

The introduction of the new primary and secondary school curricular in all private and government learning institutes has seen Camelot Junior School thoroughly researched and seek the best way to improve their student learning especially taking into consideration ICT learning. The consideration birthed the need to develop an ICT communication system for the school that will involve the institute's key stakeholders being school authority (admin), class teachers, students and parents. This was also an improvement from the old mode of communication of doing homework photocopies and writing hand delivery notices to parents/guardians. Because of the vast school work that has come by the introduction of the new curriculum in schools, that old system is now proving to be lesser effective and expensive in terms of copy production.

By the embracing the ICT communication systems through an Online Student Progress Management Management system, CJS has already started on assembling a school computer lab, also has encouraged all parents/guardians to buy PCs, laptops for their children so that

they can easily access their homeworks in the comfort of their homes. This is going to see the efficient involvement of teacher, child and parent in progress Management to students.

1.3 PROBLEM STATEMENT

Since Camelot Junior School is still infants' stage, only established 3years ago, having an online system before the of the introduction of the Government school new curricular was a secondary issue. They had only a computer with Microsft Office for the office clerk typing and printing services. ICT to the students was being overlooked until the government made it a necessity for student to be well taught theoretically and practically to scholars. That saw Camelot Junior School seek to have an Online Student Progress Management System that the admin will register all enrolled students according to their classes with the involvement of parent/guardian's contact number. This system will see a student almost operating a computer on daily basis doing school assignments.

The school authorities together with class teachers sat down to ponder on what may be the loop holes and to also find the best way to achieve best results as the school new curricular is expecting from any registered school. After the research below are findings:

- There need to have an Online Student Progress Management System, since there was none at all.
- Poor communication between students, teacher and parents
- There is poor ICT learning in students' daily learning.
- Parents are not too involved in the activities of the school work given to children.

1.4 PROJECT AIM

The project aim is to develop an Online Student Progress Management System which is simple, efficient, secure and always updated to make sure students improve on their learning and performance through the introduction of an ICT system.

1.5 PROJECT OBJECTIVES

- To develop an Online Student Progress Management system for Camelot Junior School (student, teacher, headmaster and parent). That will see:

- ✚ Students to have experience of ICT almost on daily basis by interacting on assignment activities on the CJS student online system.
- ✚ To embrace the Government's ICT learning requirements effectively.
- ✚ To send Instant SMS message notifications to parents of assignments given.
- ✚ To give access to assignments at the comfort of your own home or anywhere.

1.5.1 THE FUNCTIONALITY OF THE STUDENT ONLINE SYSTEM:

- On registering incoming student is given an CJS Online Account Student Pin number by the Administrator
- The Administrator put school events notices
- The Teacher uploads class homework/assignments
- The student logs in to check for any school notices and assignments
- Parent/guardian receives an instant SMS message whenever there is something new on the student's account.
- Parent logs in the own child's account using the respective student's pin number
- Student download homework
- Parent can find teacher's contact details if any communication is needed through online system database provided.

1.6 FEASIBILITY STUDY AND PLANNING

Feasibility study in this project plays an important role such that it helps to analyze if the system can be developed and also if the system is worth implementing given the available budget stated by the organization of CJS.

It is important to carry out a feasibility study considering aspects like technical feasibility, economic feasibility and also operational feasibility so that the project team will inform the organization and give the stakeholders the capacity to decide on whether or not if they should ahead in the development of the school online system with more details.

1.6.1 Justification of the Study

Alternative Methods

a) Off the Shelf / Generic

- This refers to the buying of generalized software like Microsoft Office from vendors.
- This software is designed for use in a number of organizations without problems for example the Microsoft Office version.

Advantages

- Cheaper than the custom written Packages as development costs are spread over many users.
- It is available immediately in shops
- Generic software upgrades are always available every year or two.

Disadvantages

- It may not meet the individual needs of the organization or client.
- May not run on the organization's hardware.
- The organizations purchasing the software have no right to modify.

b) Tailor Made Software / Bespoke

- These are programs that are specifically designed to meet the unique needs of only one organization.

Advantages

- Bespoke is easier and more intuitive to use
- Much better customer support since they will be in direct contact with the software designer.
- Bespoke can be modified as the company requires changes.

Disadvantages

- It is expensive to develop.

- It takes too long to develop and implement.
- It is difficult to tell how good the final software Package will be.

c) **Manual System**

- It involves the running of the existing system manually without any computerized feature on performing some task e.g. making calculations using a manual calculator.

Disadvantages

- Takes user's time.
- Not accuracy at all.

In the CJS College case of system need, I prefer to use Bespoke software because it specifically meets the needs of the organization without any limitation. It is easy and efficient to use and can be manufactured to restrict with all other software. The writers of the software can be involved in the training of the staff which will be geared towards the requirement. It is specifically designed for the application and therefore more efficient and will only contain the features wanted by the user. Bespoke is easier to use since it is very specific and that the writers of the software are within the company thus preventing software clashes and can also be involved in the training of the staff which is geared towards their requirements. I have used the HTML, PHP, JavaScript and MySQL to design the system.

Chosen alternative (bespoke system)

- User friendly
- Can be accessed at your own comfort
- Notification to parents on new assignments
- Can provide information for stakeholders (admin, teachers, students and parents)

1.6.2 Business Value

Considering the implementation of the Online Student Progress Management System, CJS college is seeking to bring customer satisfaction, meeting the government's new curricular learning requirements that has strong emphasis on including ICT in the children's learning. It is also CJS' core vision and mission to deliver quality learning and producing good results in students. With the involvement of ICT online accounts on every student, the school will not face the challenge of losing clients (students) running away seeking better schools with better ICT standards. This online system is effective, can be accessed in the comfort of their home anywhere in the world even during the holidays, also that internet rates are cheap for the connection to system at home. No extra fees are needed to train students on how to use the system since Computer subject is part of learning to every school student from Primary to secondary school.

By the implementation of this system CJS is going to benefit from the customer satisfaction which will put it on better geographical status in terms of marketing the school's standards and quality learning.

1.6.3 Feasibility Study (Operational, Technical and Economic)

The feasibility study is to check whether our system is viable or feasible enough to be created. This will measure how beneficial of practical CJS Online Student Progress Management System will be to and whether or not it is worthwhile to proceed further. In this case the study covers the operational, technical and economic feasibility.

a) Operational Feasibility

In this phase is dependent on human resources available for the project and also involves projecting whether the system will be used if it is developed and implemented.

It is a measure of how well a proposed system solves the problem, and reviews the willingness of the organization to support the proposed system. Also, to note the management commitment

on the proposed system project, and it is important if the employee base is accepting the change.

In the case of CJS Online Student Progress Management System:

- School management commitment is totally in support of the new system
- Teachers are welcoming the proposed system for much efficiency
- Parents being given the importance of the new system, are also in total agreement
- Training of the staff who shall be involved e.g. class teachers, admin
- Admin's work of notices has been made efficient and easier to carry.
- The system can be operated in the comfort of home anywhere
- Main centre for the uploading of the school work shall be at school admin office
- It is secure and simple to operate system
- The system will be operated throughout the whole day.
- School authorities are excited because it is going to improve the student's learning activities since IT has become the call of attention from the government's directive.

b) Technical Feasibility

This is a large part of determining resources has to do with assessing technical feasibility. It mostly considers the technical requirements for the proposed system compared to the technical capability of the organization. The system project is to be considered technically feasible if the internal technical capability is sufficient to support the new system project requirements.

Considering the designing and installation of the new CJS Online System Project, for it to be completed and run successfully, we have to acquire the necessary hardware and software to handle the Online Student Progress Management System. With the research already done, it is guaranteed that the resources will be reliable and able to support the system. Suppliers for the necessary equipment are locally available and costs for these can be easily negotiated for it is a local company.

In regards to the required technical expertise's that can build this system, CJS has a strong professionally qualified staff members; admin, teachers and the management who in their acquired professions has undergone partly computer studies which makes it easier for the

preparation of requirements for the current needs and the effective future use and opportunities of the system. Fewer risks may be expected since its transforming from the manual system of contacting the business converting it into total technological system though it is of more advantageous for the introduction of the new technical system. This project is of the interest strongly involving all the school stakeholders being the school management, staff teachers, the admin, parents and students. A project team of 8 people that involves the qualified system programmer considering it to be a medium sized project.

This CJS Online system can be completed in less than 20 weeks if only the acquired hardware and software available is reliable enough to conduct the system design. Generally following the research done and since most of the necessary requirements of building the system can be met, would say the system is feasible enough technically.

Technical Minimum Requirements

The requirements for the conversion from manual old methods system to the new proposed system will require the following:

Computer Hardware

- 2 Desktop computers- dual core or higher
- 1 external hard drive 1 terabyte

Software

- Operating System e.g. Windows 7 or higher
- Front-End Software: HTML, PHP and JavaScript
- Back-End: MySQL
- Support Application: Microsoft Office 2010
- Notepad Editor
- Anti-virus
- Domain
- Any device with a browser
- Internet Connection

Other Requirements

- Bond paper - Available
- Cartridge - Available
- 1HP laser printer - Available
- Complete documentation of the project
- User Manuals
- When the new system proves to be satisfactory the old system will be phased out and the new system becomes fully operational.

b) Economical Feasibility

This phase can also be referred to as cost/benefit analysis. The frequently used method for evaluating the effectiveness of a new system. In economic feasibility the procedure is to determine the benefits and savings that are expected from a candidate system and compare them with costs. If the benefits outweigh the costs, then the decision is made to design and implement the new system. An analyst needs too accurately weigh the cost versus benefits before taking an action.

In research concerning the economically feasibility of introducing and installing the CJS Online Student Progress Management system, the analysis noted that:

- The student or parent can access the student account on either android phone, laptop or PC in the comfort of their homes without needing to print the school assignment documents.
- Teachers/parent interaction using contacts provided on the database
- The system contains information about definitions of data used in the system.
- The system contains every school student's account with unique User pin and password.
- Saving money for frequent copy producing as compared to the current system
- No more buying of bulky reams of bond and expensive inks
- Efficient reaching every student timeously
- School notices through instant messages to parents' phone

Feasibility Cost Benefit Analysis list

REQUIRED COST	SUPPLIER	QTY	UNIT PRICE \$	TOTAL VALUE \$
Desktop Computers 4Gig RAM and 500Gig Hard drive	Innovation Computers & Accessories Shop	2	750.00	1,500.00
Software costs	Innovation Computers & Accessories Shop	Package	500.00	500.00
Designing, Coding and Testing charges	Programmer	Sum	1,500.00	1,500.00
User Training	Programmer	Sum	200.00	200.00
Maintenance	100.00 Per month (after 3 months of use, system proved to be working. Paid each month.			NIL
TOTAL				3,700.00

1.6.4 Risk Analysis

Like any other academic institution in our country, as far as the education climate is concerned, school success is defined as ensuring achievement for every student. The introduction of the CJS Online Student Progress Management system is proving to bring for expected students' class performance results but there are some risks noted as well that educators needs to identify students who are at risk academically and adjust instructional strategies to better meet these students' needs.

Likewise, there are some risks that are noted and others being considered technical risks. There are also proposed risk management as shown below:

RISKS IDENTIFIED	PROPOSED SOLUTION/MANAGEMENT
Faulty electronic gadgets can cause failure to see the student's work.	Parents to keep an eye on the gadgets so as to avoid failure in tackling the student's homework.

Not all parents/guardian are able to operate a computer	To be open and find an in-house or close person to assist the child on doing the homework timeously
Not all parents can afford to own computer or laptop	This can be done by the school to invite all the parents for meeting to introduce the new system introduction and emphasize on the importance of complying. Also that other parents may adopt to seek help from close families as they will be preparing to purchase theirs.
Power failure due to load-shading	To have a home power back-up system that incase of power failures there will be better alternatives.

1.6.5 Stakeholder Analysis

On the CJS Online Student Progress Management system the Stakeholders identified are:

- School Management Team
- Teachers
- Admin
- Parents/Guardian
- Students

1.6.6 Work Plan

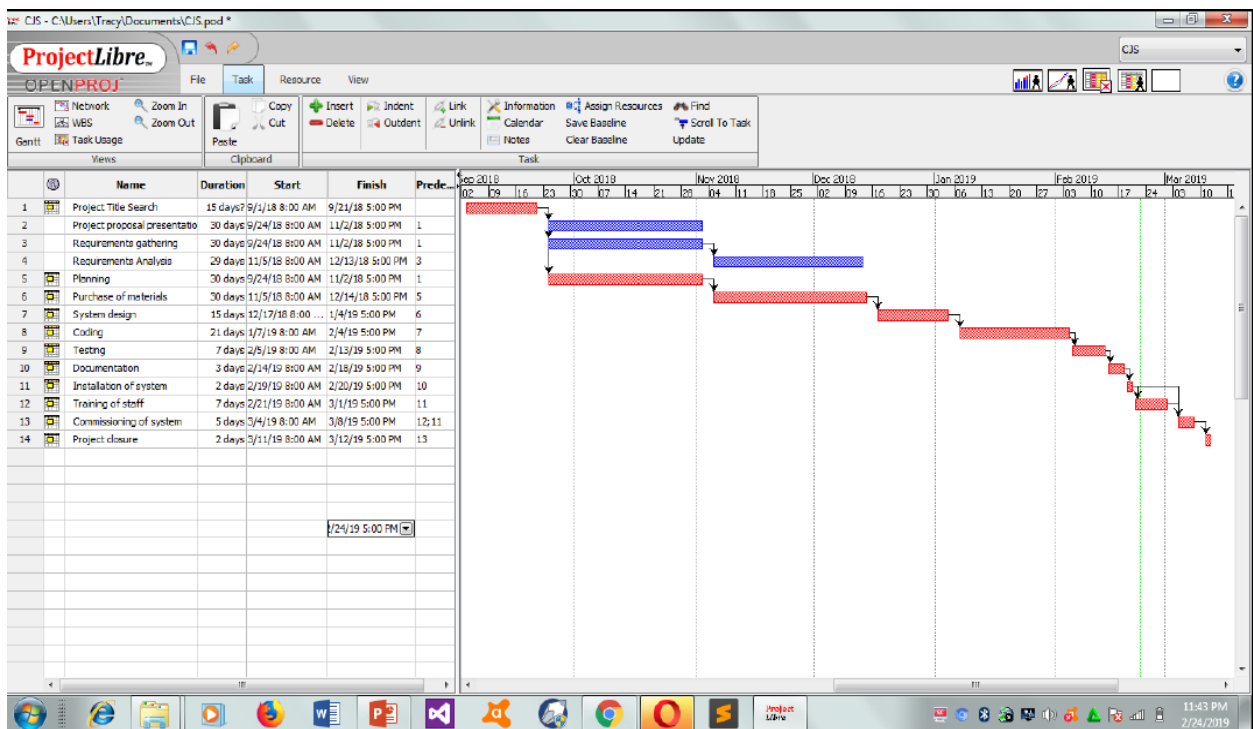
A work plan for a project is an outline of a set of goals and processes by which a team or a person can accomplish those goals or a project, and offering the reader, user a better understanding of the scope of the project. Work plan, whether used in academic or professional life, helps in keeping the person or a team stay organized while working on a project. It is also important on planning time management of each and every phase of the project to be done timeously and avoid situations like scope creep and project late finishing due to uncontrolled delays.

On the work plan of Camelot Junior Online Student Progress Management System below is the work plan of the entire system:

Project Activity Work Plan

No.	Task Name	Duration (days)	Start	Finish
1	Project title search	15	01/09/18	21/09/18
2	Project Proposal presentation	30	24/09/18	02/11/18
3	Requirements gathering	30	24/09/18	02/11/18
4	Requirements analysis	29	05/11/18	13/12/18
5	Planning	30	24/09/18	02/11/18
6	Purchase of materials	30	05/11/18	14/12/18
7	System design	15	17/12/19	04/01/19
8	Coding	21	07/01/19	04/02/19
9	Testing	7	05/02/19	13/02/19
10	Documentation	3	14/02/19	16/02/19
11	Installation of system	2	19/02/19	20/02/19
12	Staff Training	7	21/02/19	01/03/19
13	System commissioning	5	04/03/19	08/03/19
14	Project Closure	2	11/03/19	12/03/19

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CHAPTER 2 ANALYSIS REPORT

2.1 DATA GATHERING METHODOLOGIES EMPLOYED

2.1.1 Interviews to teachers

- Asked several questions on 1 -1
 - Sample questions
 - Are the students performing well?
 - How can we improve participation of parents?
 - Do students perform well on given assignments

2.1.2 Questionnaire to parents

- Questionnaire guide
 - Select preferred way of communication
 - Does your child ask for assistance?
 - How do you get to know of school activities?

• 2.1.3 Observations on students and teacher

- How it was carried out?
 - Got into class and see how teacher gives assignment.
 - Observed on how students submit work done.

Conclusion

- Used several methods of data gathering because:
 - Interviews can be scarier if 1-1 people are afraid to loosen up
 - Questionnaire is easier to ask a group of people
 - Observation is accurate such that action speaks louder than words

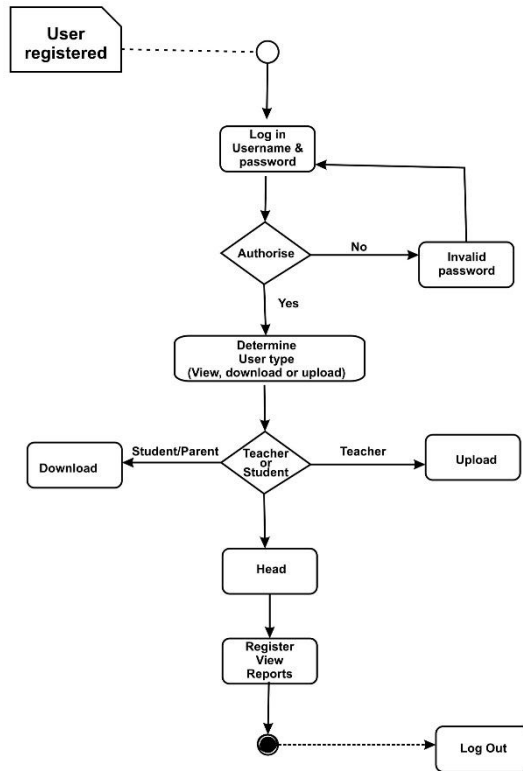
2.2 PROBLEMS OF THE CURRENT SYSTEM

The following are the problems of the current system:

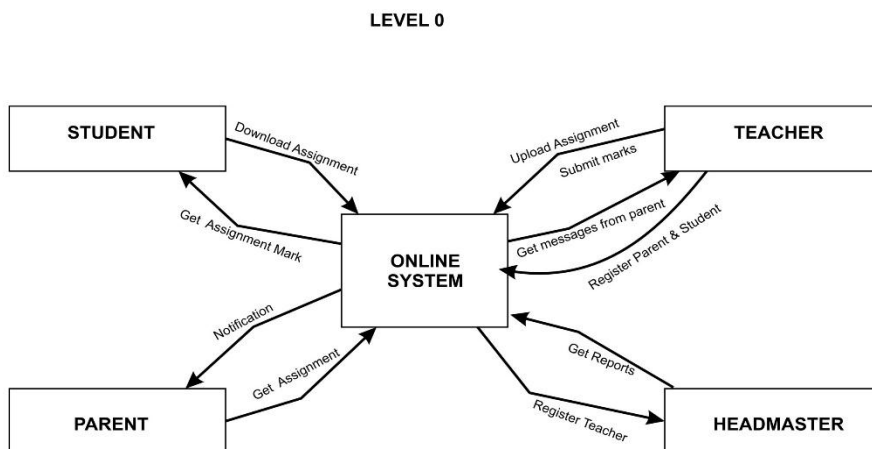
- There current system was done manually everything without the involvement of ICT.
- Poor manual record keeping
- Parents were not too involved in the communication of homework and assignments.

- Parents are given paper written notices for school activities
- Was less ICT lessons in students' class lessons

2.3 Activity Diagram



2.4 DATA FLOW DIAGRAM



2.5 WEAKNESSES OF THE EXISTING SYSTEM

- It's a manual way of passing information from Admin, teacher, student and parent communication.
- No ICT services involved between the stakeholders
- Activities are at a slow and ineffective because of less involvement of ICT.
- Student school registering done manually, poor and slow record keeping

2.6 JUSTIFICATION OF AN ALTERNATIVE TAKEN

- ✚ It is following the Government's requirement to involve ICT in the children's learning as stated in the Primary and Secondary School New Curricular.
- ✚ Easy to operate
- ✚ Reliable filing of records
- ✚ Fast way of sending assignments and information to students and staff

2.7 REQUIREMENTS ANALYSIS (USE CASE DIAGRAMS)

