



JINKA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE DEPARTMENT OF
COMPUTER SCIENCE
REPORT TITLE: WEB BASED COLLAGE MANAGEMENT SYSTEM



HOSTING COMPANY: HAWAASA UNIVERSITY WONDOGENET FORESTER COLLAGE IT OFFICE

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Submitted to: Computer science department

Submitted: Date__18/11/2022 GC

NOVEMBER 18, 2022

Jinka, Ethiopia

Declaration

This Declaration is made regarding the internship report which has been prepared and drafted by Elias Galcho for the completion of internship period, from July 2022 to October 2022 in Hawaasa University Wondogenet Forester Collage. I also declare that no Chapter of this manuscript, either in whole or in parties copied from any other document

Declared by: Signature Date

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Mr. Eshetu tesfaye(MSc) _____/_____/_____

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Mr.Tadese dejen (MSc) _____/_____/_____

Executive summary

This document is meant as a report for my overall internship at Hawaasa University Wondogenet Forester Collage

That I worked from July 2022 to October 2022.Over the course of these three

Months, I have solved the problem of the online clearance system, dorm management system, library management system, employee's management system and student management system. This document will detail my role in my project,

what I contributed my overall performance in these projects ,To solve all above problems I have to prepared the one project that have seven applications that gives different functionality but share data within each other and by doing this I update the existing system that can't be shared data with each other and by this manner their system unable to solve problem like online clearance system and also there system is made by using technology like php in server side and MySQL this two language have problems related to note handling high traffic and it may face the organization for MySQL injection and I solve both this problem by changing technology to python Django

ACKNOWLEDGMENT

First of all I would like to thanks Jinka University Computer science Department

For giving me a chance to participate in two

Month's internship period by accepting my request to be placed at. Hawaasa university I am so grateful to the internship placement at hawaasa university for successfully arranging the internship program and

Providing what I needed. I convey my sincere gratitude to my hosting company

Supervisor Mr. Hasan Ahmed for his exemplary guidance, constant encouragement, and

Careful monitoring throughout the internship was so great that, even my most profound gratitude

Is not enough. I also would like to thank our university supervisor Mr. Eshete tesfaye whose

Guidance, encouragement and suggestion.

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Abstract

The aim of this apprenticeship is to enable students to see how they can apply what they learned in University and to help them check how things work with IT in real world. I've managed to join hawaasa university wondogenet forestry collage IT office, in order to attend my apprenticeship session. The IT office is there to control all the collage IT support interconnect and the office can also check the the problems related with their system and if there is any kinds of problem they fix a soon as possible.

In their IT office, there is server data center, Network and hardware support and Maintenance office. I've attended in all these offices as the IT manager scheduled for me. I've really realized how IT applies in real world and make things easy for IT supporter and even lecturers.

CHAPTER ONE

1.1 INTRODUCTION

1.2BACK GROUND OF ORGANIZATION

Wondo Genet College of Forestry and Natural Resources is established in 1978 as Wondo Genet Forestry Resource Institute to train forest technicians. The College continued over past decades with progressive development and it is among the three Colleges that established Hawassa University (the then Debub University).

Currently, the College has 12 undergraduate (BSc), 13 MSc and 1 PhD programs organized under 12 departments. In addition to regular programs, CEP programs (week-end undergraduate programs by GIS and Land Administration & Surveying department, special summer undergraduate programs by Natural Resources Management department and MSc Summer program in 6 programs) are functional. Through strong attention given in staff development, the college has 171 academic staff (131 on duty and 40 on study leave). Within the current academic year (2019/20), the College is hosting 1425 regular (1175 BSc, 243 MSc & 25 PhD) and 678 CEP (517 BSc & 66 MSc) students.

On top of teaching and learning, the College is well experienced in conducting research and community service activities. There are 26 active research projects in the current academic year. Among these ongoing researches, 18 projects are supported by regular government budget while the remaining 8 are supported by different international collaborative projects.

Mission

To generate human power that have good knowledge about their study field and information technology and improve their living

Standard and develop the support of IT for the country and for the people of the surrounding.

Improving the ability of using information technology in the students & developmental faction and optimize its contribution to the social and economic development of the country. To develop or

Make familiar human power with technology, deploy and use ICT and also optimize its contribution to improve the live hood,

Vision

The Dream of Hawaasa university forester collage is to generate students that use information technology and prevent environmental pollution depending on technology and change country

agricultural practice from traditional to modern that managed by technology

1.2 OBJECTIVES OF COMPANY

The hawaasa university college has the following objectives;

To generate human power that have good knowledge about their study fields and information technology and improve their living standard and Develop the support of IT for the country and for the people of the surrounding Improving the ability of using information technology in the students & developmental faction and optimize its contribution to the social and economic development of the country. To develop or make familiar human power with technology, deploy and use ICT and also optimize its contribution to improve the live hood,

HOSTING ORGANIZATION INFORMATION

ORGANIZATION

Name: Hawaasa university forester collage

Location: It is located 25 Km. away from Hawassa in the Western direction in the town of Wondo Genet.

Established in 1978

Bachelor Programs (12)

Masters Programs (12)

PhD Programs (1)

Contact

E-mail: wqcf@telecom.net.et Phone: +251 046 211 0001

Fax: +251 046 211 0029 P.O.Box: 128, Shashemene, Ethiopia

PROJECT MANAGER:

Name: addisu-B (MSc) position IT Directorate

Email: addisb@hu.edu.et

Phone: +251911752388

1.3 PRODUCT AND MAIN SERVICES OF COMPANY

The organization provides different kinds of services efficiently and effectively for the satisfaction of students and society.

The main services are:-

- 1 Provide basic Computer training for students
- 2 Network administration and installation and website development for the college
- 3 Software and hardware maintenance
- 4 Maintenance and assessment of ICT equipment's
- 5 Giving support with follow up and capacity building services
- 6 Video conferencing service and software development
- 7 Domain name service and Data center administration

1.5 ORGANIZATION STRUCTURE AND WORK FLOW

As a governmental organization hawaasa university wondogenet forester collage ruled by hawaasa university president that held along all campus that exists under university. According to the rule Hawaasa University have one main head of the organization that is accountable for the president of the hawaasa university main campus. Under the head of organization there are

Different departments with different profession and tasks. Generally, over all work flow of the Agency is looks like figure1 below. This figure shows all department heads are accountable for

The main head of It bureaus and the other team members are submitted to the head of their

1.6 General introduction about this document

This document is all about the report on the summer apparent program that is held by jinka university computer science department and it explain about what can I do at my apparent time and what kind of problem I solved and at which company I participate and what technology I have used at my apparent period and it also explain about the organization mission, vision and objectives and

Internships provide for me an opportunity to link theory with practice to see the capacity how I can

Make a solution for real world problem to develop both my practical and theoretical knowledge.

The Internship Program allows me an opportunity to understand the Unique environmental

Conditions associated with a particular level of government such as regional local administration

And the nonprofit sector. It provides me the career with demonstrated academic competence and

A hands-on experience in the public sector. It gives me an opportunity to do business in group.

The hawaasa university college has the following objectives;

1.7 TIME SCHEDULE FOR APPARENT PROGRAM

Week one	Week two	Week three	Week four	Week five	Week six	Week seven	Week eight
Environment observation	Start project	Finished library interface	Start dormitory Management system	Student Management system	Human Resource Management System	Start ELearning system	Start to develop Teacher load minimize r app
Get project	Finished admin & registrar interface	Test the Done part	Test it	Lecturer interface	Test it	Start to solve problem	Test it
System setup	Finished student interface			Test it	Finish all the system		

CHAPTER TWO

OVER ALL EXPERIENCE GAINED FROM THE INTERNSHIP

2. REASON WHY I SELECT THE COMPANY

I have chosen the organization because it is one of the experienced in information technology

In the under Hawaassa university, as well as a leading institution that provides practical

Training to students from various department in the college by providing necessary equipment

And because the institution has rooms that are directly related to the subject I am taking and

Also, it is located a short distance from my home

2.1 MY INTERNSHIP WORKING SECTION

During my stay in the organization, I have chosen Programing from the various sectors offered

To me as an alternative, and the reason is Because of my eagerness to put into practice the

Programing technology I have seen at the theory level because it is one of the sections of the

Organization that provides adequate functional training in the organization.

2.2 THE WORK FLOW OF PROGRAMING DEPARTMENT

The Programing unit of the organization divides the work into several stages. These operations

Are arranged in stages as follows they divided it into two client and and server side by using different programing languages. Deploy the managed software to their server based on technology that they used. These include server setup and network installation and management,

As well as setting up a data center and providing and receiving information to the recipient in a

Timely manner.

2.4 MY TASK DURING THE INTERNSHIP

Once I was in the company and selected the Programing unit, the task I was given was to

Improve the existing system and add online clearance system, dorm management system but when I try to update it the system was so many problems regarding to cyber security and their system is slowest when there is high traffic b/c of the technology that they used when developing their system and I improved it by most preferred technology in currently and add asset on it and I also solve problem related with eLearning system of origination and in addition to that I observer problem around society

like teacher how teach below grade twelve are no knowledge about excel and he/she have I a lot of load to solve this problem I create android application which solve this problem

2.4 MATERIALS AND METHODOLOGY USED

2.4.1 Methodology

For the achievement of my internship I used different approach as the hardness of the project.

Accordingly, the following procedure was used to overcome my difficulty and lastly, I

Achieved my project in a good and best manner. Some methods are as listed as follow:

- 1 Observation of the problems
- 2 Free hand sketches of the contents
- 3 Observation of the technology that is needed
- 4 environmental setups

a) Observation

This is the first thing to start my project by surveying the overall requirements of origination which I aimed to do project or to upgrade current existing web based student management system design in to new design which solves the

Problems listed in the statement of problem of the project. And I physically vested around the Agencies site or bureaus and collect some information to do my next task.

b) Freehand sketch

The next step before going to observation of requirements in this step I draw the use case of system on the paper.

C) Observation of the technology that is needed

In this stage I was search all required technology to develop the system

And download them

D) Environmental setup

After I download the required software I setup on my computer

And same library to them

2.4.2 SOFTWARE USED

I used different software in order to finish my project

During the coding the necessary software used are:

1 Vis code editor

2 mongodb server

3 git version control

4 SQLite database

5 for server side python library Django

6 for Clint side Python library pyqrcode, pillow, pyzbar, jazzman and criyspy form

And jquery Ajax, html, css, bootstrap 5

7 xampp server

2.4.3 TOOLS USED

1 HP desktop computer

2 Linux server for deployment

2.5 DESCRIPTION OF PROGRAMING DEVICES I HAVE USED

a) HP desktop computer I have used for installing necessary software an

I have high processing speed and good ram and rom and it's used to code my project

And testing purpose

b) Linux server is used to deploy software that is like web application

Servers manage the shared resources on the computer. The server combines hardware and software to

Offer (or serve) network resources. The server hardware may be an ordinary PC or a high-performance unit designed specifically to be a server. The software running on the server will

Vary with the type of server.

2.5 CHALLENGE I HAVE FACED

Some of the challenges I have faced while performing my tasks are: -

- 1 lack of transportation system in the morning, and at return time
- 2 Weak assistant service from my hosting organization,
- 3 Lack of knowledge of requested technology and also the technology is new for my super visor

B. MEASURE I HAVE TAKEN TO OVERCOME THE CHALLENGES

To make my internship time suitable and smart I have tried to find a solution for the above Mentioned challenges. As one of the goals of internship program is to make students solution Maker about problems that exist around different company I have taken the following Measures

1 Getting ready early to get transport

- 2 I learned technology by myself at my spare time
- 3 I prograded myself and supervise my own by considering this apparent is used for my future

CHAPTER THREE

DETAIL DESIGN AND DESCRIPTION OF PROJECTS I HAVE DONE

3.1 PROJECT TITLE: IMPROVING EXISTING WEB BASED COLLAGE MANAGEMENT SYSTEM OF THE ORGANIZATION AND ADDING SAME NEW SYSTEM

Summery:

This project is aimed improve existing web-based collage management system of the organization in order to provide fast and efficient service for the company workers, customers and students

Officials by replacing and adding some functionality typically, a dormitory management system online Clearance system, library management system and employee management system

Student management system that has same issue like not caring high traffic and slowest in speed

3.2 Problem statement and justification

Main issue in the existing student management system is security problem logically.

Logically: -

1 system has week admin interface it easy crack by using SQL injection b/c its query set is so week

2 -it has no feedback system and no information flow b/n students and lecturer within system

3 -it has no password reset student get their password by want to registrar office and also password is not encrypted it may see by anyone it didn't keep user privacy police

3.3 OBJECTIVES OF THE PROJECT

3.3.1 General objective

To design and implement upgraded, scalable and valuable management services and high-speed performance for organization.

Finally having good knowledge on how to solve specific problems by using existing knowledge and to know how job performed by system developers

3.3.2 Specific Objectives:

Specific objectives of this project is:

1 To Design the scalable collage management system for the increasing number of users

- 2 To Improve functionality of system and to make up to date
- 3 To Provide increased system capacity, by up grading the existing system.
- 4 To Improve the system fault tolerance, security, and high-speed performance.
- 5 To understand and upgrade the existing student management system

3.3 LITERATURE REVIEW

3.3.1 Project requirement and documentation

In this project of collage management system

The project requirements and detail stakeholders need to develop formal solutions and

Document all organization goals. This research and discussion that help the project

Process go smoothly and ensure that I have all the requirements, needs and “wish list” items

Identified

I believe the design process is a collaboration that fuses my creative strengths with me

In-depth understanding to produce the project that exceeds expectation

3.4 PROPOSED PROKECT SOFTWARE INFRASTRUCTURE LOGICAL DETAILED EXPLANATION

3.5.1 Proposed software Infrastructures with Logical Explanation

The system was programed by python language, as we know python language is used for backend development and for front end development I have used html,css,bootstrap and jQuery and also system has around 27 database tables each share data within each other to solve same problems that need many sector participation like online clearance system

3.5.2 Detail explanation of project

Title of project web-based college management system for hawaasa university wondogenet Forester College

Project contains 7 applications

1 Admin interface it consists overall activities control panel it has direct access to database

2 registrar interface it consists

I student registration

ii lecturer approval that register by human resources interface

iii students' ID card maker

IV student's complete box

V permission grant and deny

VI registrar member's registration

Vii dashboard that show report by using pie chart and line graph

Vii library member's registration

3 student interface it consists

I update their profile

Ii see assessment result

Iii see their transcript

IV give feedback

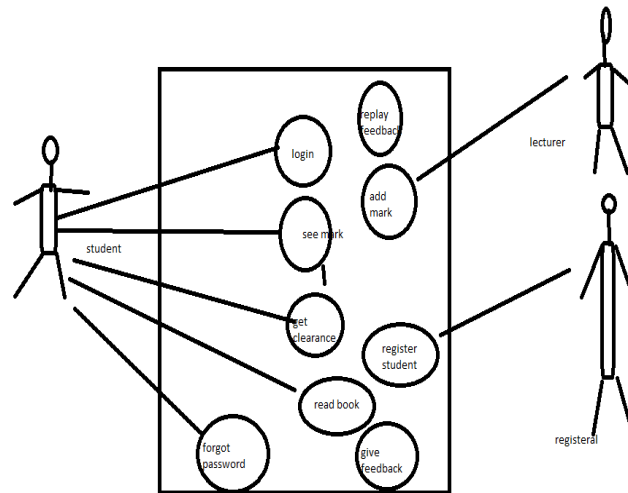
V gets their clearance

VI access library

Vii see their dominator

Vii registration

Use case diagram



4 lecturer interface it consists three main interface

a) Collage dean this interface contains

- 1 department registration
- 2 department head assignment
- 3 in addition share lecturer interface

b) Department head this interface contains

- 1 course registration
- 2 lecturer assignment to each course
- 3 approve final student result
- 4 get feedback and give answer
- 5 in addition share lecturer interface

c) Lecturer interface contains

- 1 add students mark and submit

5 employees interface contains

- 1 employees' registration

2 employee's ID card maker

3-member registration

4 dormitory registration

6 library interface contains

a) Library admin interface

1 member register

2 get feedback and give answer

3 approve students complete submitted by members

4 in addition share member's interface

b) Library employee's interface

1 upload book and update

2 complete on student

When I say complete if student take university property from specific sector that sector register that student, he has an organization property

7 students service interface consists

a) Dormitory interfaces this also contains

1 student's dorm assignment

2 reporting to admin and get feedback

3 complete on student

b) Service this interface consists

2 complete on students

3 get students request for special service

C women and disability sector interface

This consists

1 get students request give feedback

This interface makes the care for special need to be fast

Overall, my projects contain above mentioned service and also has remaining update for future

3.6 PROJECT REQUIREMENTS

My project requires the python library listed bellow

1 Django

2 pillow

3 pyqrcode

4 pyzbar

5 jazman

6 crispy_form

7 pypostgresql if you are to using postgres database

8 pymongo if you are to use mongodb database

9 mtp server email and password

And other requirements are network

-to deploy special needs Linux server

Or if you want host on online hostenger

Use Hurok server or python everywhere

Mostly my system requirements look like this

CHAPTER FOUR

OVERALL BENEFITS GAINED FROM INTERNSHIP

4.1 Significance of the internship

Internships provide for me an opportunity to link theory with practice to see the capacity how I can

Make a solution for real world problem to develop both my practical and theoretical knowledge.

The Internship Program allows me an opportunity to understand the Unique environmental

Conditions associated with a particular level of government such as regional local administration

And the nonprofit sector. It provides me the career with demonstrated academic competence and

A hands-on experience in the public sector. It gives me an opportunity to do business in group.

Generally, the benefits I gained from internship is as follows:

A. PRACTICAL SKILLS

During my practice work, from day to day I tried to learn something new from which I

Possess new knowledge/skills.

Some of those practical lessons are: -

1 In developing my project, I have practiced a lot of theories that previously I had been

Learning in the class for three consecutive years.

2 From my practical works, in terms of web development, I have learned from

System managed and the responsibility of each sector

3 From my internship project work I have learned each and every python library and other library that is currently used to develop web framework

4 Above all, from my internship practice I have upgraded my web design skills

B. UPGRADING THEORETICAL KNOWLEDGE

For doing any practical work, theoretical knowledge is the stepping stone for it. As a result: -

I have upgraded my theoretical knowledge by reading courses that I have learned in the

Previous class, so many times over and over. And new related course that helps to develop my project

In addition to academic theoretical knowledge, I have gained different theories in relation to

Different business-related environment not only that, I have also upgraded my theoretical

Knowledge on the important knowledge needed to develop fastest system

C. IMPROVING INDUSTRIAL PROBLEM-SOLVING CAPABILITY

This internship has changed my professional level which will be helpful in my activities inside

The company and outside me of working station. The knowledge I gained from the course and

From internship period will enhance my personal skill. I have tried to coordinating the theory

(Which I have learned from the course) and practice (during internship). As a result, I feel that

My quality of work improved and contributing more in the organization for the development of

The existing new system. Some of these areas where I have developed my selves are

Mentioned below:

A. TIME MANAGEMENT

I am now very much competent to proper time management and effective implementation of

Activities which will help me from the course of sustainable project management. Moreover, me

Supervisor oriented me to time management and encourages to attendee timely in office and

Completed all activities within time frame.

I am able to implement 95% of the activities without delay. Monthly and Weekly work plan,

Displayed board furnished with time line of activities in font of desk, day to day activities follow

Up helped all of the team member to successfully completion of activities within time

B. UNDERSTANDING ABOUT WORK ETHICS, INDUSTRIAL

PSYCHOLOGY, AND RELATED ISSUES

Work ethics are defined by what you are willing to do when no one is watching you. I have

Understood that to work in companies respecting the work ethics is the main criteria of workers.

Each

Worker respects the rules and ethics of the company.

Some of good work ethics are:

1 The path to what I want to take action.

2 A positive problem solving or goal attainment

3 Punctuality

4 Loyalty

5 Integrity

6 Taking responsibility

7 Respecting colleagues etc.

When I first joined the organization, my supervisor gave me orientation on how I should act in

Organization. And every day I took time to have decent character in my office. Because,

I understood the fact that the more I get close to others in ethical way the more I get

Benefit

C. LEADERSHIP SKILLS

The internship is an important occasion to practice the assets of leadership. I have increased a

Lot about leadership and I saw how important it is for a successful project.

In doing my project, I was able to improve my self-confidence as I have the willingness and

Inspiration to face any difficulty in the project. The project helped to grow emotionally and learn

From failure and success. This, in turn, gave me a chance to learn project management, the

Technical approach and methodology of a project.

In conclusion, the internship helped me to grasp leadership skills such as self-confidence,

Accountability and fair assignment of tasks.

D. ENTREPRENEURSHIP SKILL

The organization working environment had been a good starting place to enhance me Entrepreneur capabilities. Indeed, I learned a lot on improving critical thinking and problem-solving skills. The change from school to workplace itself was another learning opportunity, Conditioning me to adapt to change and to be able to take responsibility.

All in all, I can say that from this internship period in addition to formal academic knowledge I was able to gain general purpose life experiences in other aspects. These experiences are Unforgettable and I believe that it shaped my personality and behavior like: -

It helps me to be optimist in my future task and to think positively

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

Internship Program helps me to know several things. The program upgrades my practical skills in computer science. This internship program helps me to know and understand

Every aspect of the outside environment. In fact, what really interesting was I learned how to create system that minimize employees load from the scratch by working on everything step by step, so this enables me to come up

With many important experience and skills. So, using this practical knowledge and skills that I Got during internship have helped me to create a soft environment to engage into my own Business in future.

In this internship program I tried to create a good relationship with employees and ask several

Questions what is not clear. The other thing I got from this internship program is how to

Manage work through this also I have increased my self-confidence, work ethics and how to

Work cooperatively with others in the offices, from this I have learnt good values and Principles like politeness, respecting others, giving decision, punctuality, fulfilling Responsibilities, giving a good attention to others and like. So, I concluded that the internship is

Good opportunity to the student to have enough knowledge that help student in the future, and its good opportunity to know work environment and to prepare themselves for the future goal and to have a good Aim before graduation.

5.2 RECOMMENDATION

Hawaasa university forester collage is a successful organization in all direction. It is well organized company. The company has related to several other companies. The company has a lot of employees and gives

A good opportunity to employees to change their living standard and a company gives job

Opportunity for new graduated student special for technology student.

In my internship program I have tried to observe different things but I tried to give some

Recommendation about the program. As I know this Internship program are essential to all

Computer science students not only computer science students but also essential to all university student to know the practical world and to adopt the outside environment. But the company has a poor attention to this program.

The company willingness of this program is good because it can create awareness for young Computer graduate student by supporting them in aspect and create smooth business environment

For those have creative knowledge and skills. But it is not good because all employees are not Interested to show everything and every work in detail because of less knowledge about that Internship peoples need. In my thinking I want to recommend them they must be upgrade them Knowledge about internship program for the student, the company and to our country.

I want to say something about company adviser Mr. Hasen Ahmed (MSc). He is very gentle man To guide and advice to internship students.

5.3 REFERENCES

- 1 Django documentation pdf
- 2 jQuery graph documentation pdf
- 3 geeksforgeek.com
- 4 w3school.com

APPENDIXES

APPENDEX: -

Manage.py

```
#!/usr/bin/env python
"""Django's command-line utility for administrative tasks."""
import os
import sys

def main():
    """Run administrative tasks."""
    os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'apparent.settings')
    try:
        from django.core.management import execute_from_command_line
    except ImportError as exc:
        raise ImportError(
            "Couldn't import Django. Are you sure it's installed and "
            "available on your PYTHONPATH environment variable? Did you "
            "forget to activate a virtual environment?"
        ) from exc
    execute_from_command_line(sys.argv)

if __name__ == '__main__':
    main()
```