

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)



Final Year Internship Report

on

Software Intern at SimplifyVMS

Submitted By:

Prateek Sharma

0901CS181069

Faculty Mentor:

Dr. R. K. Gupta

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

GWALIOR - 474005 (MP) est. 1957

MAY-JUNE 2022

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)



Software Intern at SimplifyVMS

A final year internship report submitted in partial fulfillment of the requirement for the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by:

Prateek Sharma

0901CS181069

Internship Faculty Mentor:

Dr. R. K. Gupta

Submitted to:

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

GWALIOR - 474005 (MP) est. 1957

MAY-JUNE 2022

INTERNSHIP CERTIFICATE

SIMPLIFY WORKFORCE PRIVATE LIMITED

CIN: U72200TG2021PTC151294

To Whom So Ever IT May Concern

17 May 2022

This letter is to certify that **Mr. Prateek Sharma S/O Yadkul Bhushan Sharma**, student at **Madhav Institute of Technology and Science, Bachelor of Technology (CSE)** is pursuing Internship in our Organization since **26 July 2021**.

During the course of his internship, he is working on the project “**Configurator, Notification, and Profile Manager service, Simplify VMS V2**” for **Simplify Workforce Pvt Ltd** under the guidance of **Mr. Vishvambhar Dayal, (VP- Engineering)**.

For Simplify Workforce Pvt. Ltd.



Neha Khanna
Team Lead-HR

Regd. Office: AWFIS, N Heights, 4th Floor, Hi-tech City, Hyderabad-500081, Telangana

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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CERTIFICATE

This is certified that **Prateek Sharma** (0901CS181069) has submitted the Internship report titled **Software Intern at SimplifyVMS** of the work he has done under the mentorship of Dr. R. K. Gupta, in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology and Science, Gwalior.



Dr. R. K. Gupta

Faculty Mentor

Professor

Computer Science and Engineering



Dr. Manish Dixit

Professor and Head,

Computer Science and Engineering

Dr. Manish Dixit

Professor & HOD

Department of CSE

M.I.T.S. Gwalior

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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DECLARATION

I hereby declare that the work being presented in this Internship report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in CSE at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Dr. R. K. Gupta, Professor**, Department of CSE.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



Prateek Sharma
0901CS181069
IV Year,
Computer Science and Engineering

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

ACKNOWLEDGEMENT

The full semester internship has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary/interdisciplinary internship as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering**, for **allowing** me to explore this internship. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I am sincerely thankful to my faculty mentors. I am grateful to the guidance of **Dr. R. K. Gupta**, Professor, Department of Computer Science and Engineering, for his continued support and close mentoring throughout the internship. I am also very thankful to the faculty and staff of the department.



Prateek Sharma
0901CS181069
IV Year,
Computer Science and Engineering

ABSTRACT

SimplifyVMS is a global company which provides Vendor Management Solutions to many major companies such as Wipro, American Family Insurance, The Federal Savings Bank, UNFI etc. It is a business to business product based startup. I work here as a Software Intern in the backend team for the SimplifyVMS V2 (version 2) project of the company. My work involves creating new features and solving bugs in the existing system. We use various technologies like Python, Django, MySql, grpc, Celery, NodeJS etc. to develop robust REST APIs for storing and manipulating data. The project is based on microservice architecture and has various services. I work on Profile Manager, Configurator and Notification services.

Keywords: SimplifyVMS V2, Python, Django, MySql, NodeJS

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CHAPTER 1

INTRODUCTION

1.1 Internship Overview

Internships are formal programs designed to provide practical experience in a real-world environment to students who are new to the field. Internships help to build a competent resume by giving students visible work experience.

The Internship at SimplifyVMS as a Software Intern is of a duration of 12 months. During this internship as an intern, I got the opportunity to work on many different technologies and software stacks. It provides the opportunity to work in both front-end and backend parts of the project.

1.2 Company Overview

SimplifyVMS is the most innovative technology for the contingent workforce, SOW and total talent management solutions, enabling human resource, procurement, and talent sourcing professionals worldwide to drive exceptional outcomes by optimising their services procurement and contingent workforce programs and gaining real-time visibility into their non-employee workforce.

The company have a passionate and savvy team of technologists/professionals in the contingent workforce and services procurement industry, with one vision to create the greatest VMS/TTM platform in the industry combined with exceptional user experience. We have a unique solution that offers extreme flexibility – for all company sizes.

1.3 Internship Objectives and Scope

One of the core reasons and purposes of this internship is to give exposure and hands-on knowledge of working as a Software Engineer in the Tech Industry. An internship provides a clear idea of strengths, weaknesses, likes and dislikes. Knowing that I can have more confidence in my career path.

1.4 Internship Features

- 1-year internship from 26th July 2021 to 25th July 2022.
- Opportunity to work with team members from different regions of the world.
- Work on various technologies like Django, NodeJS, MySql, Amazon Document DB, Celery, grpc, Amazon Web Services etc.
- Working on the Core Project of the Company - SimplifyVMS V2
- Internship stipend of Rs. 25,000 per month. month.

1.5 System Requirements

- Python 3.8
- MySQL 8.0
- MongoDB 5.0
- MySQL Workbench Community
- Studio 3T
- Linux
- Redis
- Celery

1.6 Technologies Used

- Django
- NodeJS
- Amazon DocumentDB
- MySQL
- Celery
- Redis
- grpc
- Express JS

CHAPTER 2

PROJECT

2.1 Product Overview

A Vendor Management System (VMS) is a software suite that helps businesses take care of vendor management processes end-end, from initial contract to final closure of a deal or while establishing a business relationship.

Vendor management is key to the success of any procurement team, and using the best vendor management system helps you make the most of your supplier relationship. From supplier qualification to onboarding to allowing them to create & manage catalogues to capture supplier performance, a vendor management system comes with loads of benefits.

Here are some of the other advantages of having a vendor management system.

- A successful vendor relationship management initiative enables minimal expenditure of resources, both personnel and financial
- On-time delivery of goods and services
- Customer relationships improve too, as you deliver consistent results
- The vendor management system brings consistency and efficiency into the end-to-end processes involved
- You can analyze vendor performance with custom reports. All this with zero manual effort
- Optimize the procurement process for maximum productivity

Simplify VMS V2 (version 2) provides a suit that is the best in its class and delivers excellent customer satisfaction. It is being used by many companies. To name a few clients who use this platform are American Family, The Federal Savings Bank, Wipro and many more.

The backend of the product is built using the microservice architecture. It has various modules which interact with each other and give the desired output to the front end to display it to the user. I work on Configurator service, Profile Manager Service and Notifications Service.

CHAPTER 3

DESIGN

3.1 Configurator Service

Configurator service has 2 sub-modules Programs & Organizations(CLIENT, MSP, VENDOR). Configurator service contains different hierarchies and relational entities so any RDBMS would have been a choice in the stack. So it uses the following tech stack

- Django 3+
- MySQL 8+

This service is responsible for all the configuration regarding the projects and it handles the creation of different entities that are used in the product.

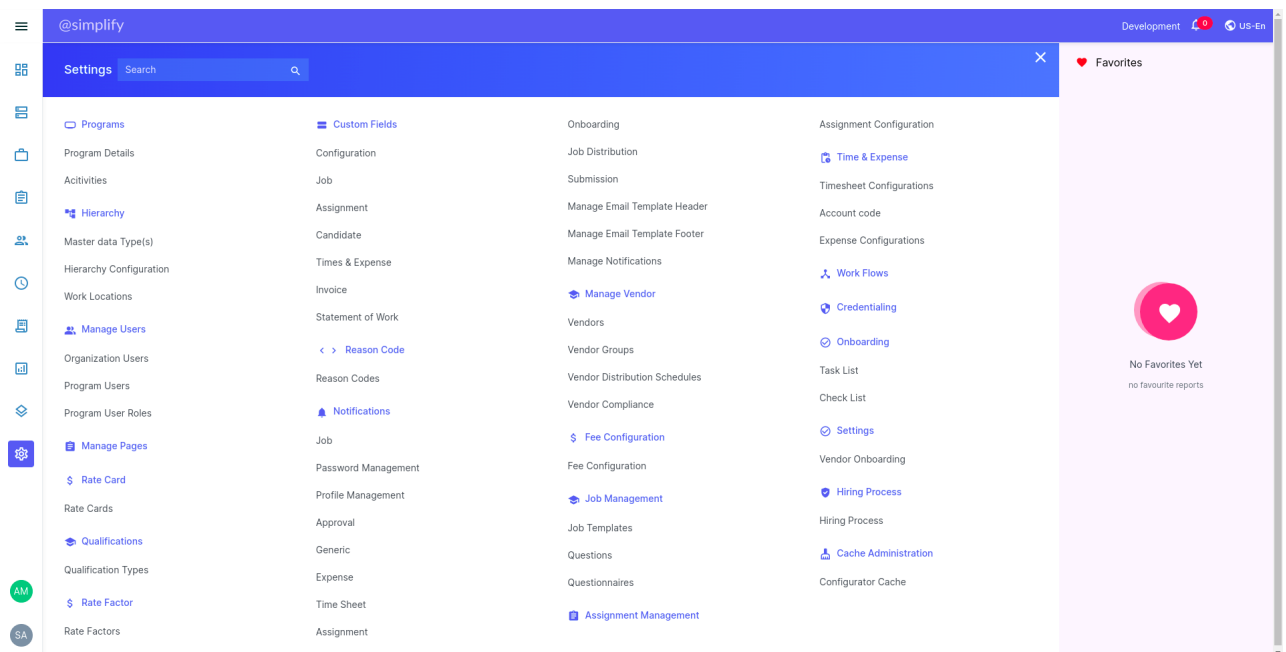


Figure 3.1 Configurations Page screenshot

3.2 Profile Manager Service

The User profile manager component is the core used to Authenticate Users into the VMS platform.

- It acts as an entry point into the VMS platform to allow setting up /configuring a program, client, MSP, vendors and their respective settings and relationships.
- The Service also allows to setup of User profile attributes and preferences applicable across the platform.

Technological Stack

- NodeJS 12.x
- AWS DocumentDB w/ MongoDB 4.2 compatibility

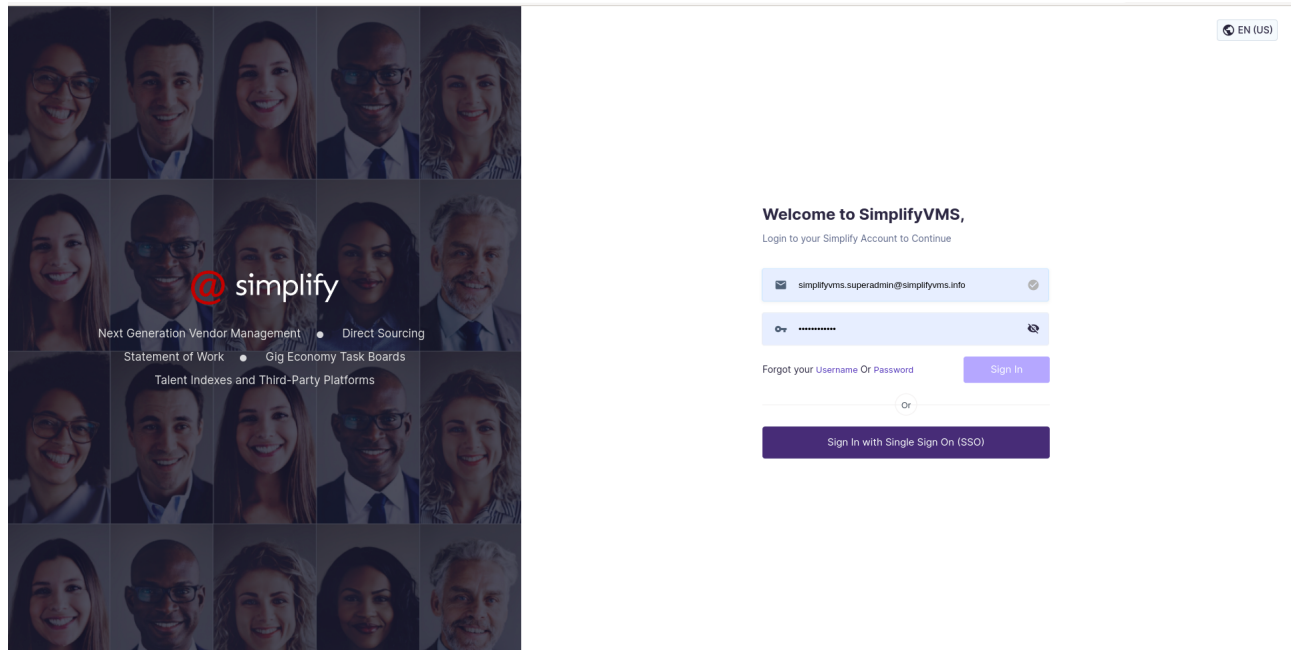


Figure 3.2 Login Page screenshot

3.3 Notifications Service

Notification Services can be of three channels

1. Email:
2. Phone: SMS or WhatsApp Notification
3. Website: Push Notification for Website Users

It can support 4 types of notification

1. Information
2. Action
3. Reminders
4. Custom

There can be configurations for Notification Service:

- For the module(Job), event, entity use a template (multi-language) supported. eg jobs module, job created event, for a client/user/role, a job-created-custom-template for English language is created.
- A tenant can be on and off the event for one/many/all roles.
- A tenant can configure one or more mail servers used.

- Users can on and off the events.
- Reporting level of notification- high level, only errors or details report

Technology stack:

- Django 3+
- MySql
- Celery

CHAPTER 4

FINAL ANALYSIS OF THE INTERNSHIP

4.1 Problem Faced


- Learning the various technologies in very less time and without any training.
- Working on various tasks with very short deadlines.
- The product is based on a microservice architecture, so it has various modules. So many times I have to coordinate with other teams and it becomes difficult to figure out the root cause of the bug that I am working on.
- Some clients have specific requirements or features that they want in the product. So working on the user stories to implement those features is a very challenging task.

4.2: Conclusion

SimplifyVMS is a young startup with a very large number of clients. The company's internal management and hierarchy are in a very raw form as of now. So even as an Intern, I get a lot of opportunities to work on a wide variety of tasks and a live project that many big companies are using. I have learned various technologies like NodeJS, Django, Celery etc. working in this company. I have also received a lot of appreciation and a pre-placement offer from the company to work as a Software Developer in the company after the completion of my 1-year internship.

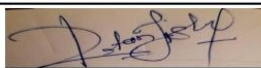
APPENDIX - FORTNIGHTLY REPORTS

FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Prateek Sharma	Department	CSE
Industry/Organization	Simplify VMS	Date/Duration	01/01/2022 - 15/01/2022
Criterion	Poor	Average	Good
Punctuality/Timely completion of assigned work			Yes
Learning capacity/Knowledge up gradation			Yes
Performance/Quality of work			Yes
Behaviour/Discipline/Team work			Yes
Sincerity/Hard work			Yes
Comment on nature of work done/Area/Topic	Prateek has worked over different modules with great dedication. He has worked over the Back-End side(Configuration module, Notification module) of our application using Python and Django. We extremely appreciate his participation. He has been putting in his best efforts. Hope he will continue to put his efforts to achieve all major milestones for our project.		
<u>OVERALL GRADE (Any one)</u>	EXCELLENT		
<u>Name of Industry Mentor</u>	KETAN MISHRA		
<u>Signature of Industry Mentor</u>			

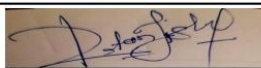
Receiving Date		Name of Faculty Mentor	Prof R.K. Gupta	Sign	
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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Prateek Sharma		Department	CSE	
Industry/Organization	Simplify VMS		Date/Duration	16/01/2022 - 31/01/2022	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					Yes
Learning capacity/Knowledge up gradation					Yes
Performance/Quality of work					Yes
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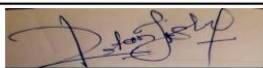
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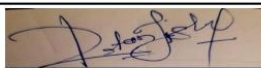
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Industry/Organization	Simplify VMS		Date/Duration	16/02/2022 - 28/02/2022	
Criterion	Poor	Average	Good	Very Good	Excellent
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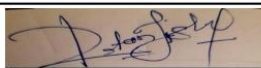
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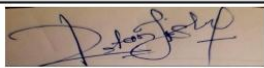
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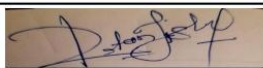
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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Prateek Sharma		Department	CSE	
Industry/Organization	Simplify VMS		Date/Duration	01/04/2022 - 15/04/2022	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					Yes
Learning capacity/Knowledge up gradation					Yes
Performance/Quality of work					Yes
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