



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

NAAC Accredited

Department of Computer Science & Engineering

Session 2016-17

Date: 26/11/2016

Application for Internship Training

To

The HoD

Computer Science & Engineering Department,
TGPCET, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: ELECTRO-TECH ENGINEER SERVICES

Applicant Name: Ms. Apurva Likhar, Chetan Rathod

Respected Madam,

We the students of VII Semester Computer Science & Engineering Department of Tulsiramji Gaikwad-Patil College of Engineering & Technology Nagpur, request you to allow us to do internship. The duration of training is for One Month.

So kindly permit us have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop our professional level with effectiveness.

Thanking You.

Your's faithfully,

1. Apurva Likhar [VII Sem CSE]

2. Chetan Rathod [VII Sem CSE]



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

NAAC Accredited

Department of Computer Science & Engineering

Session 2016-17

Ref: TGPCET/CSE/2016-17/178

Date : 29/11/2016

To,
The Manager,
ELECTRO-TECH ENGINEER SERVICES
Nagpur.

Subject:- Internship Training for students of B.E. VII SEMESTER of Computer Science and Engineering Department in your esteemed organization.

Respected Sir/Madam,

Greetings from Tulsiramji Gaikwad-Patil College of Engineering and Technology, Mohagaon, Wardha Road, Nagpur.

We are conducting four years fulltime Engineering degree in Computer Science and Engineering course affiliated to R.T.M. Nagpur University, recognized by Maharashtra State Government and approved by AICTE, New Delhi.

Student of B.E.(CSE) VII Semester are willing to take internship training in software technology practices in your esteem organization. After completion of training students has to submit their work as a Internship report to the Head of Department.

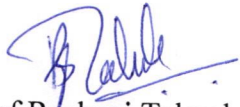
The following students of our college in B.E. VII Sem(CSE) had approached you for their Internship Training in your organization :-

Sr. No.	Name of Students
1	Apurva Likhari
2	Chetan Rathod

I assure you that the information collected by the students will be exclusively used for academic pursuits only. You are requested to co-operate and needful for giving the opportunity to work with your organization.

With Regards




Prof. Roshani Talmale
HoD (CSE)
T.G.P.C.E.T, Nagpur

Head of Dept. (Computer Science & Engg.)
Tulsiramji Gaikwad-Patil College of
Engineering and Technology, Nagpur



ELECTRO-TECH ENGINEER SERVICES

Ref No. ETES/gen/1617/12/08

Date: 29/11/2016

To,
The HOD
Computer Science & Engineering Department
TGPCET, Nagpur

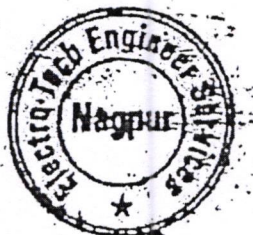
Subject: Regarding joining of student of your college for "Internship Programme".

Respected Sir/Madam,

We are pleased to inform you that the Ms. Apurva Likhari of BE final year students from Computer Science & Engineering department has been selected as an Software Development trainee in our company.

Duration of internship training is for 1 month from 01st December 2016 to 30th December 2016.

PROGRAM CO-ORDINATOR
ETES



SEAL

V.G SAGAR
ETES GROUP (CHAIRMAN)



ELECTRO-TECH ENGINEER SERVICES

Ref No. ETES/gen/1617/12/08

Date: 29/11/2016

To,
The HOD
Computer Science & Engineering Department
TGPCET, Nagpur

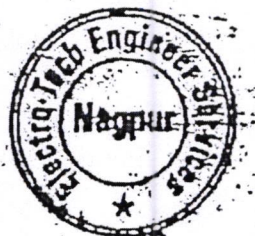
Subject: Regarding joining of student of your college for "Internship Programme".

Respected Sir/Madam,

We are pleased to inform you that the Mr. Chetan Rathod of BE final year students from Computer Science & Engineering department has been selected as an Software Development trainee in our company.

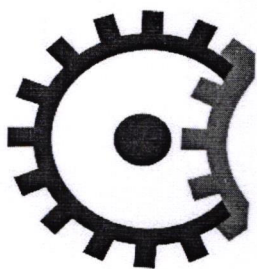
Duration of internship training is for 1 month from 01st December 2016 to 30th December 2016.

PROGRAM CO-ORDINATOR
ETES



SEAL

V.G SAGAR
ETES GROUP (CHAIRMAN)



NAAC Accredited
TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology
Mohgaon, Wardha Road, Nagpur – 441 108
(Approved by AICTE, Recognised by Govt. of Maharashtra, Affiliated to RTM Nagpur University, Nagpur)

“Industrial Training Report on JAVA”

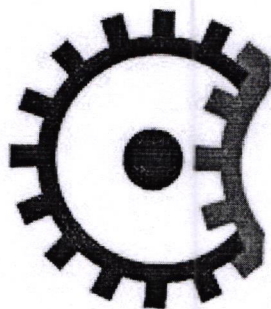
*This Industrial Case Study report is submitted to
Rashtrasant Tukdoji Maharaj Nagpur University
in partial fulfillment of the requirement
for the award of the degree*

of

Bachelor of Engineering in Computer Science & Engineering

By

Ms. Apurva Likhar



**COMPUTER SCIENCE & ENGINEERING
DEPARTMENT**

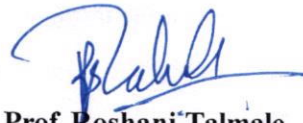
SESSION 2016-17

CERTIFICATE OF APPROVAL

This is to certify that the Industrial Case Study entitled “**The inventory Management of window**” carried out by **Ms. Apurva Likhari** of the Final year Computer Science & Engineering, during the academic year 2016-2017, in partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering in Computer Science & Engineering** offered by the **Rashtrasant Tukdoji Maharaj Nagpur University**.



(Industry Mentor Name)



Prof. Roshani Talmale
(HOD of CSE Department)

Date: 04/01/2017

Place: Nagpur

DECLARATION

I/We certify that,

- a. The work contained in this Industrial Case Study has been done by me under the guidance of my supervisors.
- b. The work has not been submitted to any other Institute for any degree or diploma.
- c. I/We have followed the guidelines provided by the Institute in preparing the Industrial Case Study report.
- d. I/We have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
- e. Whenever I/We have used materials (data, theoretical analysis, figures, and text) from other sources, I/We have given due credit to them by citing them in the text of the report and giving their details in the references. Further, I/We have taken permission from the copyright owners of the sources, whenever necessary.



Ms. Apurva Likhari

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ACKNOWLEDGEMENT

We would like to express my deep sense of gratitude to all engineers for giving me an opportunity to do training at Code Microsystem OPC Pvt. Ltd.

We got the good knowledge of trouble shooting of hardware, networking related problems and connecting local area networking. We feel very lucky to undergo training in such organizing. They have shown us right path that we could follow in the future to reach maximum possible heights in my life.

Finally, we like to thanks all staff member of Web Analysis Computer for their very good support during my training.

ABSTRACT

It is quite interesting to know the development of Java technology, which is widely accepted in the area of networked/distributed computing. Java evolved from a project developing language for a programming consumer electronic devices at Sun Microsystems, USA.

Internet is the network of networks between different types of computers located at different places to transmit information. Information can reach to any place in the world quickly at a cheaper rate through the Internet. Thus, the Internet has made the world a global village for information exchange. The emerging infrastructure of electronic devices and interconnected computer networks create an environment that presents new challenges to software industries for this emerging computing environment. Java process to be a well – suited programming language. It is found suitable for networked environments involving a great variety of computer and devices.

ABBREVIATION

There are literally thousands of computer Abbreviations out there. Many are concerned with the technical aspects of the computer while other deal with personal communication. Following are more common ones that you may have but do not know exactly what they mean.

Following are some abbreviation which are used in java:

- 1) GPL: General Public License
- 2) RAM : Random Access Memory
- 3) JDK : Java Development kit
- 4) JVM : Java Virtual Machine
- 5) ANSI : American National Standard Institute
- 6) JRE: Java Runtime Environment
- 7) Java Standard Edition (JSE) – This version is the basic platform for Java. The course will focus on this edition.
- 8) Java Enterprise Edition (JEE) – This edition is mainly for developing and running distributed multitier architecture Java applications, based largely on modular software components running on an application server. We will not be covering this version in the course.
- 9) Java Micro Edition (JME) – This edition is primarily for developing programs to run on consumer appliances, such as PDAs and cell phones.

Chapter-1

INTRODUCTION TO JAVA

Java programming language was originally developed by Sun Microsystems which was initiated by James Gosling and released in 1995 as core component of Sun Microsystems' Java platform (Java 1.0 [J2SE]).

Java is an object-oriented programming language which evolved from C++. It is also a high-level programming language. The latest release of the Java Standard Edition is Java SE 8. With the advancement of Java and its widespread popularity, multiple configurations were built to suit various types of platforms. Java is—

- **Object Oriented:** In Java, everything is an Object. Java can be easily extended since it is based on the Object model.
- **Platform Independent:** Unlike many other programming languages including C and C++, when Java is compiled, it is not compiled into platform specific machine, rather into platform independent byte code. This byte code is distributed over the web and interpreted by the Virtual Machine (JVM) on whichever platform it is being run on.
- **Simple:** Java is designed to be easy to learn. If you understand the basic concept of OOP Java, it would be easy to master.
- **Secure:** With Java's secure feature it enables to develop virus-free, tamper-free system. Authentication techniques are based on public-key encryption.
- **Architecture-neutral:** Java compiler generates an architecture-neutral object file format, which makes the compiled code executable on many processors, with the presence of Java runtime system.
- **Portable:** Being architecture- neutral and having no implementation dependent aspects of the specification makes Java portable. Compiler in Java is written in ANSI C with a clean portability boundary, which is a POSIX subset.
- **Robust:** Java makes an effort to eliminate error prone situations by emphasizing mainly on compile time error checking and runtime checking.

- **Multithreaded:** With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously.
- **Interpreted:** Java byte code is translated on the fly to native machine instructions and is not stored anywhere. The development process is more rapid and analytical since the linking is an incremental and light-weight process.
- **High Performance :** With the use of Just-In-Time compilers, Java enables high performance.
- **Distributed:** Java is designed for the distributed environment of the internet.
- **Dynamic:** Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry extensive amount of run-time information that can be used to verify and resolve accesses to objects on run-time.

Characterstics of JAVA

Java has many characteristics that have contributed to its popularity:

- **Platform independence** - Many languages are compatible with only one platform. Java was specifically designed so that it would run on any computer, regardless if it was running Windows, Linux, Mac, Unix or any of the other operating systems.
- **Simple and easy to use** - Java's creators tried to design it so code could be written efficiently and easily.
- **Multi-functional** - Java can produce many applications from command-line programs to applets to Swing windows (basically, sophisticated graphical user interfaces).

Java does have some drawbacks. Since it has automated garbage collection, it can tend to use more memory than other similar languages. There are often implementation differences on different platforms, which have led to Java being described as a "write once, test everywhere" system. Lastly, since it uses an abstract "virtual machine", a generic Java program doesn't have access to the Native API's on a system directly. None of these issues are fatal, but it can mean that Java isn't an appropriate choice for a particular piece of software.

Tools will need for JAVA

For performing the examples or program of java, we will need a Pentium 200-MHz computer with a minimum of 64 MB of RAM (128 MB of RAM recommended).

You will also need the following software:

- Linux 7.1 or Windows xp/7/8 operating system
- Java JDK 8
- Microsoft Notepad or any other text editor

Chapter-2

THE JAVA PLATFORM

One thing that distinguished Java from some other languages is its ability to run the same compiled code across multiple operating systems. In other languages, the source code (code that is written by the programmer), is compiled by a compiler into an executable file. This file is in machine language, and is intended for a single operating system/processor combination, so the programmer would have to re-compile the program separately for each new operating system/processor combination. Java is different in that it does not compile the code directly into machine language code.

Compilation creates bytecode out of the source code. Bytecode generally looks something like this:

```
a7 f4 73 5a 1b 92 7d
```

When the code is run by the user, it is processed by something called the Java Virtual Machine(JVM). The JVM is essentially an interpreter for the bytecode. It goes through the bytecode and runs it. There are different versions of the JVM that are compatible with each OS and can run the same code. There is virtually no difference for the end-user, but this makes it a lot easier for programmers doing software development.

Java and Open Source:-

➤ In 2006 Sun started to make Java available under the GNU General Public License(GPL). Oracle continues this project called OpenJDK.

Java Virtual machine :-

- The Java virtual machine (JVM) is a software implementation of a computer that executes programs like a real machine.
- The Java virtual machine is written specifically for a specific operating system, e.g. for Linux a special implementation is required as well as for Windows.
- Java programs are compiled by the Java compiler into bytecode. The Java virtual machine interprets this bytecode and executes the Java program.

Java Runtime Environment vs Java Development Kit

- A Java distribution comes typically in two flavors, the Java Runtime Environment (JRE) and the Java Development Kit (JDK).
- The Java runtime environment (JRE) consists of the JVM and the Java class libraries and contains the necessary functionality to start Java programs.
- The JDK contains in addition the development tools necessary to create Java programs.

Chapter-3

OBJECT AND CLASSES IN JAVA

Java is an Object-Oriented Language. As a language that has the Object-Oriented feature, Java supports the following fundamental concepts:

- Polymorphism
- Inheritance
- Encapsulation
- Abstraction
- Classes
- Objects
- Instance
- Method
- Message Parsing

We will look into the concepts - Classes and Objects

➤ Object - Objects have states and behaviors. Example: A dog has states - color, name, breed as well as behaviors - wagging the tail, barking, eating. An object is an instance of a class.

➤ Class - A class can be defined as a template/blueprint that describes the behavior/state that the object of its type support .

Objects in Java

Def.: An object is an instance of a class. The object is the real element which has data and can perform actions. Each object is created based on the class definition.

Let us now look deep into what are objects. If we consider the real-world, we can find many objects around us, cars, dogs, humans, etc. All these objects have a state and a behavior.

If we consider a dog, then its state is - name, breed, color, and the behavior is - barking, wagging the tail, running.

If you compare the software object with a real-world object, they have very similar characteristics.

Creating an Object:-

A class provides the blueprints for objects. So basically, an object is created from a class.

In Java, the new keyword is used to create new objects.

There are three steps when creating an object from a class:

- Declaration: A variable declaration with a variable name with an object type.
- Instantiation: The 'new' keyword is used to create the object.
- Initialization: The 'new' keyword is followed by a call to a constructor. This call initializes the new object.

Following is an example of creating an object:-

```
public class Puppy
{
    public Puppy(String name)
    {
        // This constructor has one parameter, name.
        System.out.println("Passed Name is : " + name );
    }
    public static void main(String []args)
    {
        // Following statement would create an object myPuppy
        Puppy myPuppy = new Puppy( "tommy" );
    }
}
```

If we compile and run the above program, then it will produce the following result:

Passed Name is : tommy

Classes In Java

Def.: Template that describes the data and behavior associated with an instance of that class. In Java source code a class is defined by the class keyword and must start with a capital letter. The body of a class is surrounded by {}.

```
package test;
class MyClass
{
    .....
}
```

The data associated with a class is stored in variables and the behavior associated to a class or

object is implemented with methods.

A class is contained in a Java source file with the same name as the class plus the .java extension.

A class is a blueprint from which individual objects are created.

Following is a sample of a class:-

```
public class Dog
{
String breed;
int ageC
String color;
void barking(){
}
void hungry(){
}
void sleeping(){
}
}
```

A class can contain any of the following variable types:-

- **Local variables:** Variables defined inside methods, constructors or blocks are called local variables. The variable will be declared and initialized within the method and the variable will be destroyed when the method has completed.
- **Instance variables:** Instance variables are variables within a class but outside any method. These variables are initialized when the class is instantiated. Instance variables can be accessed from inside any method, constructor or blocks of that particular class.
- **Class variables:** Class variables are variables declared within a class, outside any method, with the static keyword

Constructor in Java

A constructor initializes an object when it is created. It has the same name as its class and is syntactically similar to a method. However, constructors have no explicit return type. Typically, you will use a constructor to give initial values to the instance variables defined by the class, or to perform any other startup procedures required to create a fully formed object.

All classes have constructors, whether you define one or not, because Java automatically provides a default constructor that initializes all member variables to zero. However, once you define your own constructor, the default constructor is no longer used

Here is a simple example that uses a constructor without parameters:

```
// A simple constructor.  
class MyClass {  
    int x;  
    // Following is the constructor  
    MyClass() {  
        x = 10;  
    }  
}
```

You will have to call constructor to initialize objects as follows:

```
public class ConsDemo  
{  
    public static void main(String args[])  
    {  
        MyClass t1 = new MyClass();  
        MyClass t2 = new MyClass();  
        System.out.println(t1.x + " " + t2.x);  
    }  
}
```

Parameterized Constructor

Most often, you will need a constructor that accepts one or more parameters. Parameters are added to a constructor in the same way that they are added to a method, just declare them inside the parentheses after the constructor's name.

Example

Here is a simple example that uses a constructor with a parameter:

```
// A simple constructor.  
class MyClass  
{  
    int x;  
    // Following is the constructor  
    MyClass(int i) {  
        x = i;  
    }  
}
```

You will need to call a constructor to initialize objects as follows:

```
public class ConsDemo {  
    public static void main(String args[]) {  
        MyClass t1 = new MyClass( 10 );  
        MyClass t2 = new MyClass( 20 );  
        System.out.println(t1.x + " " + t2.x);  
    } }
```


5.4. Packages in Java

Java groups classes into functional packages.

Packages are typically used to group classes into logical units. For example all graphical views of an application might be placed in the same package called `com.vogella.webapplication.views`.

It is common practice to use the reverse domain name of the company as top level package.

For example the company might own the domain, `vogella.com` and in this example the Java

packages of this company starts with `com.vogella`.

Other main reason for the usage of packages is to avoid name collisions of classes. A name

collision occurs if two programmers give the same fully qualified name to a class. The fully

qualified name of a class in Java consists out of the package name followed by a dot (.) and

the class name.

Without packages, a programmer may create a Java class called `Test`. Another programmer

may create a class with the same name. With the usage of packages you can tell the system

which class to call. For example if the first programmer puts the `Test` class into package `report` and the second programmer puts his class into package `xmlreader` you can distinguish between these classes by using the fully qualified name, e.g. `xmlreader.Test` or `report.Test`.

In simple words, it is a way of categorizing the classes and interfaces. When developing applications in Java, hundreds of classes and interfaces will be written, therefore categorizing these classes is a must as well as makes life much easier.

Chapter-4

VARIABLE TYPES IN JAVA

A variable provides us with named storage that our programs can manipulate. Each variable in Java has a specific type, which determines the size and layout of the variable's memory; the range of values that can be stored within that memory; and the set of operations that can be applied to the variable.

Following is the basic form of a variable declaration:-

data type variable [= value][, variable [= value] ...] ;

Here data type is one of Java's datatypes and variable is the name of the variable. To declare more than one variable of the specified type, you can use a comma-separated list.

Following are valid examples of variable declaration and initialization in Java:

int a, b, c; // Declares three ints, a, b, and c.

int a = 10, b = 10; // Example of initialization

byte B = 22; // initializes a byte type variable B.

double pi = 3.14159; // declares and assigns a value of PI.

char a = 'a'; // the char variable a is initialized with value 'a'

There are three kinds of variables in Java:

- Local variables
- Instance variables
- Class/Static variables

6.1. Local Variables

- Local variables are declared in methods, constructors, or blocks.
- Local variables are created when the method, constructor or block is entered and the variable will be destroyed once it exits the method, constructor, or block.
- Access modifiers cannot be used for local variables.
- Local variables are visible only within the declared method, constructor, or block.
- Local variables are implemented at stack level internally.
- There is no default value for local variables, so local variables should be declared and an initial value should be assigned before the first use.

Example :

Here, age is a local variable. This is defined inside pupAge() method and its scope is limited to only this method.

```
public class Test
{
    public void pupAge()
    {
        int age = 0;
        age = age + 7;
        System.out.println("Puppy age is : " + age);
    }
    public static void main(String args[])
    {
        Test test = new Test();
        test.pupAge();
    }
}
```

Following example uses age without initializing it, so it would give an error at the time of compilation.

```
public class Test
{
    public void pupAge()
    {
        int age;
        age = age + 7;
        System.out.println("Puppy age is : " + age);
    }
    public static void main(String args[])
    {
        Test test = new Test();
        test.pupAge();
    }
}
```

4.2. Instance Variables

- Instance variables are declared in a class, but outside a method, constructor or any block.
- When a space is allocated for an object in the heap, a slot for each instance variable value is created.

- Instance variables hold values that must be referenced by more than one method, constructor or block, or essential parts of an object's state that must be present throughout the class.

Example

```
import java.io.*;
public class Employee
{
    // this instance variable is visible for any child class.
    public String name;
    // salary variable is visible in Employee class only.
    private double salary;
    // The name variable is assigned in the constructor.
    public Employee (String empName)
    {
        name = empName;
    }
    // The salary variable is assigned a value.
    public void setSalary(double empSal)
    {
        salary = empSal;
    }
    // This method prints the employee details.
    public void printEmp()
    {
        System.out.println("name : " + name );
        System.out.println("salary :" + salary);
    }
    public static void main(String args[])
    {
        Employee empOne = new Employee("Ransika");
        empOne.setSalary(1000);
        empOne.printEmp();
    }
}
```

Chapter-5

BASIC DATATYPE OF JAVA

Variables are nothing but reserved memory locations to store values. This means that when you create a variable you reserve some space in the memory.

Based on the data type of a variable, the operating system allocates memory and decides what can be stored in the reserved memory. Therefore, by assigning different datatypes to variables, you can store integers, decimals, or characters in these variables.

There are two data types available in Java:

- Primitive Datatypes
- Reference/Object Datatypes

Primitive Datatypes

There are eight primitive datatypes supported by Java. Primitive datatypes are predefined by the language and named by a keyword. Let us now look into the eight primitive data types in detail.

Byte:

- Byte data type is an 8-bit signed two's complement integer
- Minimum value is $-128 (-2^7)$
- Maximum value is 127 (inclusive) $(2^7 - 1)$
- Default value is 0
- Byte datatype is used to save space in large arrays, mainly in place of integers, since a byte is four times smaller than an integer
- Example: byte a = 100 , byte b = -50

Short:

- Short datatype is a 16-bit signed two's complement integer
- Minimum value is $-32,768 (-2^{15})$
- Maximum value is 32,767 (inclusive) $(2^{15} - 1)$
- Short datatype can also be used to save memory as byte data type. A short is 2 times smaller than an integer
- Default value is 0
- Example: short s = 10000, short r = -20000

int:

- Int datatype is a 32-bit signed two's complement integer
- Minimum value is $-2,147,483,648 (-2^{31})$

- Maximum value is 2,147,483,647(inclusive) ($2^{31} - 1$)
- The default value is 0
- Example: `int a = 100000, int b = -200000`

long:

- Long datatype is a 64-bit signed two's complement integer
- Minimum value is -9,223,372,036,854,775,808 (-2^{63})
- Maximum value is 9,223,372,036,854,775,807 (inclusive) ($2^{63} - 1$)
- This type is used when a wider range than int is needed
- Default value is 0L
- Example: `long a = 100000L, long b = -200000L`

float:

- Float datatype is a single-precision 32-bit IEEE 754 floating point
- Float is mainly used to save memory in large arrays of floating point numbers
- Default value is 0.0f
- Float datatype is never used for precise values such as currency
- Example: `float f1 = 234.5f`

double:

- double datatype is a double-precision 64-bit IEEE 754 floating point
- This datatype is generally used as the default data type for decimal values, generally the default choice
- Double datatype should never be used for precise values such as currency
- Default value is 0.0d
- Example: `double d1 = 123.4`

boolean:

- boolean datatype represents one bit of information
- There are only two possible values: true and false
- This datatype is used for simple flags that track true/false conditions
- Default value is false
- Example: `Boolean one=true`

char:

- char datatype is a single 16-bit Unicode character
- Minimum value is '\u0000' (or 0)
- Maximum value is '\uffff' (or 65,535 inclusive)
- Char datatype is used to store any character
- Example: `char letterA ='A'`

Reference Datatypes

- Reference variables are created using defined constructors of the classes. They are used to access objects. These variables are declared to be of a specific type that cannot be changed. For example, Employee, Puppy, etc.
- Class objects and various type of array variables come under reference datatype.
- Default value of any reference variable is null.
- A reference variable can be used to refer any object of the declared type or any compatible type.
- Example: `Animal animal = new Animal("giraffe");`

Java Literals

- A literal is a source code representation of a fixed value. They are represented directly in the code without any computation.
- Literals can be assigned to any primitive type variable. For example:
`byte a = 68;`
`char a = 'A'`
- byte, int, long, and short can be expressed in decimal(base 10), hexadecimal(base 16) or octal(base 8) number systems as well.
- Prefix 0 is used to indicate octal, and prefix 0x indicates hexadecimal when using these number systems for literals. For example:
`int decimal = 100;`
`int octal = 0144;`
`int hexa = 0x64;`
- String literals in Java are specified like they are in most other languages by enclosing a sequence of characters between a pair of double quotes. Examples of string literals are:
`"Hello World"`
`"two\nlines"`
`"\"This is in quotes\""`
- String and char types of literals can contain any Unicode characters. For example:
`char a = '\u0001';`
`String a = "\u0001";`

Chapter-6

BASIC OPERATORS IN JAVA

Java provides a rich set of operators to manipulate variables. We can divide all the Java operators into the following groups:

- Arithmetic Operators
- Relational Operators
- Bitwise Operators
- Logical Operators
- Assignment Operators
- Misc Operators

The Arithmetic Operators

Arithmetic operators are used in mathematical expressions in the same way that they are used in algebra. The following table lists the arithmetic operators:

Assume integer variable A holds 10 and variable B holds 20, then:

Sr.No.	Operator and Example
1	+ (Addition) Adds values on either side of the operator Example: A + B will give 30
2	- (Subtraction) Subtracts right-hand operand from left-hand operand Example: A - B will give -10
3	* (Multiplication) Multiplies values on either side of the operator Example: A * B will give 200
4	/ (Division) Divides left-hand operand by right-hand operand Example: B / A will give 2
5	% (Modulus) Divides left-hand operand by right-hand operand and returns remainder Example: B % A will give 0
6	++ (Increment) Increases the value of operand by 1 Example: B++ gives 21

The Relational Operators

There are following relational operators supported by Java language.

Assume variable A holds 10 and variable B holds 20, then:

Sr.No.	Operators and Description
1.	== (equal to) Checks if the values of two operands are equal or not, if yes then condition becomes true. Example: (A == B) is not true.
2.	!= (not equal to) Checks if the values of two operands are equal or not, if values are not equal then condition becomes true. Example: (A != B) is true.
3.	> (greater than) Checks if the value of left operand is greater than the value of right operand, if yes then condition becomes true. Example: (A > B) is not true
4.	< (less than) Checks if the value of left operand is less than the value of right operand, if yes then condition becomes true. Example: (A < B) is true
5.	>= (greater than or equal to) Checks if the value of left operand is greater than or equal to the value of right operand, if yes then condition becomes true. Example: (A >= B) is not true
6.	<= (less than or equal to) Checks if the value of left operand is less than or equal to the value of right operand, if yes then condition becomes true. Example: (A <= B) is true.

The Bitwise Operators

Java defines several bitwise operators, which can be applied to the integer types, long, int, short, char, and byte.

Bitwise operator works on bits and performs bit-by-bit operation. Assume if a = 60 and b = 13; now in binary format they will be as follows:

a = 0011 1100

b = 0000 1101

a&b = 0000 1100

a|b = 0011 110

a^b = 0011 0001

~a = 1100 0011

The following table lists the bitwise operators:

Assume integer variable A holds 60 and variable B holds 13 then:

Sr.No.	Operators and Description
1	& (bitwise and) Binary AND Operator copies a bit to the result if it exists in both operands. Example: (A & B) will give 12 which is 0000 1100
2	 (bitwise or) Binary OR Operator copies a bit if it exists in either operand. Example: (A B) will give 61 which is 0011 1101
3	^ (bitwise XOR) Binary XOR Operator copies the bit if it is set in one operand but not both. Example: (A ^ B) will give 49 which is 0011 0001
4	~ (bitwise compliment) Binary Ones Complement Operator is unary and has the effect of 'flipping' bits. Example: (~A) will give -61 which is 1100 0011 in 2's complement form due to a signed binary number
5	<< (left shift) Binary Left Shift Operator. The left operands value is moved left by the number of bits specified by the right operand. Example: A << 2 will give 240 which is 1111 0000
6	>> (right shift) Binary Right Shift Operator. The left operands value is moved right by the number of bits specified by the right operand. Example: A >> 2 will give 15 which is 1111



ELECTRO-TECH ENGINEER SERVICES

This certificate is awarded to

Mr./ Miss. Apurva Likhare

for his/ her outstanding performance as an intern at ELECTRO-TECH ENGINEER SERVICES for one month in *"TELECOMMUNICATION CONCEPTS AND RECENT TECHNOLOGIES IN WIRELESS COMMUNICATION"*. He / she has accomplished his / her duties and exceeded our expectations.

CERTIFICATE OF INTERNSHIP

BATCH: TEL 114



SEAL

1 DEC - 30 DEC / 2016
TRAINING PERIOD:

Swidha

PROGRAM CO-ORDINATOR
ETES

V.G SAGAR
ETES GROUP (CHAIRMAN)



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

NAAC Accredited

TGPCET/ECE

Department of Electronics & Communication Engineering

To

Date: 10/11/2016

The Principal,

Tulsiramji Gaikwad-Patil College of Engineering & Technology.

Mohagaon, Wardha Rd, Nagpur.

Subject: Application for Attending a Cognitive Radio Network Training at MIT INFOTECH & SOLUTION.

Respected Sir,

I Supratim Saha, working as a Assistant professor in Electronics & Communication Engg Department. I just came to know about a great training on special education **Cognitive Radio Network** and it is most relevant for me. Actually, it is 25days long activity based training seminar for the teachers. As a teacher of Electronics & Communication Engg in your college and for progress in this field as my passion asking me to don't miss the opportunity. I think this for very first time event of this nature in our city where we lack the expertise in this area.

I request you to please allow me for training for 25 days and provide a replacement of teacher for my class during this time period. I will be thankful to you.

Sincerely,

Supratim Saha

Assistant Professor,

Electronics and Communication Engineering

Contact no: 8807619909

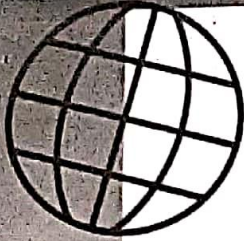
OK

Principal
10/11/2016

Principal

Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur





MIT INFOTECH & Solution

Mahakaleshwar Enclave Gurudev Nagar
Near Rajiv Gandhi Sabhagruh
Nagpur 440009
Contact : 9764801276, 9172782594
E-mail : Mit.infotech.solution@gmail.com

To
The Head, ECE
Gaikwad-Patil Group Of Institutions.

Date: 15/11/2016

Subject: Letter of Training Acceptance.

Dear Sir,

We are pleased to offer you a training program on Cognitive Radio to your faculty members at our organization. The duration of the training program is for 25 days (01/12/2016 to 26/12/2016)

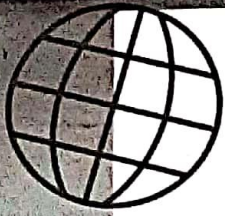
We appreciate your interest in our organization.

Your Sincerely,

Head of Human Resources

MIT-INFOTECH & SOLUTION





MIT INFOTECH & Solution

Mahakaleshwar Enclave Gurudev Nagar
Near Rajiv Gandhi Sabhagruh
Nagpur 440009
Contact : 9764801276, 9172782594
E-mail : Mit.Infotech.solution@gmail.com

CERTIFICATE

THIS IS CERTIFY THAT MR. supratim saha, Assistant prof. at TULSI RAMJI
GAIKWAD PATIL COLLEGE OF ENGINEERING & TECHNOLOGY,
NAGPUR IN ELECTRONICS & COMMUNICATION ENGINEERING
DEPARTMENT ATTENDED THE TRAINING OF GPON TECHNOLOGY
FOR 25 DAYS (Twenty five DAYS) FROM 01/12/2016 TO 26/12/2016 DURING
THE ABOVE MENTIONED PERIOD HIS CONDUCT AND
PERFORMANCE WAS FOUND TO BE SATISFACTORY

DATE: 26/12/2016

PLACE: NAGPUR

Yours faithfully

Mit Infotech & solution





Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

NAAC Accredited

Department of Electronics & Communication Engineering

Application for Internship Training

To

The HoD

Electronics & Communication Engg ,
Nagpur.

Subject: Application for the issue the permission letter for Internship Training

Company Name: ETE Services Pvt. Ltd, Nagpur

Applicant Name: Aakshuti Nashikar (7th) Ashwiniya Nandchode (7th)
Ankita Askar (5th) Shweta Meher (5th)

Respected Sir,

I am the students of ^{7th & 5th} Semester Electronics & Communication Engineering Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is 3/12/16 to 18/12/16

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.


HOD

Department of Electronics & Comm.
Tulsiramji Gaikwad - Patil College
of Engineering & Technology, Nagpur

Department of Electronics & Communication Engineering



Vidarbha Bahu-uddeshiya Shikshan Sanshiha's NAAC Accredited with 'B' grade
TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology
Mohgaon, Wardha Road, Nagpur - 441 106 Tel: 07103-645410 Mob: 09922966173
Approved by AICTE, New Delhi, Govt. of Maharashtra & Affiliated to RTM Nagpur University
E-mail: principal@tgpcet.com Website: www.tgpcet.com
An ISO 9001:2008 Certified Institution

GAIKWAD-PATIL
GROUP OF INSTITUTIONS

Ojaswini Complex
Gayatri Nagar, IT Park Road
Nagpur - 440 022
Tel: 0712 664 0252
Fax: 0712 224 0856
E-mail: vidarbhabuss@yahoo.co.in

Ref. No-/SIP/TGPCET/2016-17/ 51

Date: 15/11/2016

To,
Mr. Sagar Ghormare,
Manager,
ETES, Nagpur.

Subject: Letter regarding Summer Internship Program in your organization.

Respected Sir,

Warm greetings from **GAIKWAD-PATIL GROUP OF INSTITUTIONS**

GAIKWAD-PATIL GROUP OF INSTITUTIONS is one of the most prestigious educational groups in Nagpur. Tulsiramji Gaikwad-Patil College of Engineering & Technology (TGPCET) offers a range of disciplines in Engineering & Technology and Management.

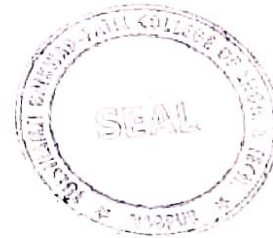
As a professional educational group involved in producing engineers, it is imperative for us that our students are industry relevant and ready and therefore we would like to request you to allow our following Student of 7th Semester Electronics & Communication Engineering, from Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur in your esteemed organization so that it will help us as well as to students to understand what an industry such as yours needs from a fresh engineering graduate. We are hoping to get our students work under your guidance. We will take the responsibility of Students Behavior and assure you that they will not break any regulations of your esteemed company.

1. Ms.Aakruti Nashikar
2. Ms.Ashwariya Narkhede
3. Ms.Ankita Askar
4. Ms.Shweta Meher

Regards,

HOD, ECE 
GAIKWAD-PATIL GROUP OF INSTITUTIONS

HOD
Department of Electronics & Comm.
Tulsiramji Gaikwad - Patil College
of Engineering & Technology, Nagpur





ETE Services Pvt. Ltd., Nagpur

Electro-Tech Engineer Services

CIN - 1174999MH2018PTC310643

To
The Head, ECE
Gaikwad-Patil Group Of Institutions.

Date: 20/11/2016

Subject: Letter of Internship Acceptance.

Dear Sir,

We are pleased to offer you an internship program to your following students for Embedded system at our organization. The duration of the internship program is for 15 days (03/12/2016 to 18/12/2016)

We appreciate your interest in our organization.

Your Sincerely,

Head of Human Resources

Electro-Tech Engineer services Pvt.Ltd.





CERTIFICATE

THIS IS CERTIFY THAT MR/MISS. **AISHWARIYA NARKHEDE** OF TULSIRAMJI GAIKWAD PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR IN ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT ATTENDED THE TRAINING OF EMBEDDED SYSTEM FOR 15 DAYS (FIFTEEN DAYS) FROM 03/12/2016 TO 18/12/2016 DURING THE ABOVE MENTIONED PERIOD HIS/HER CONDUCT AND PERFORMANCE WAS FOUND TO BE SATISFACTORY

DATE: 18/12/2016

PLACE: NAGPUR


YOURS FAITHFULLY

ELECTRO-TECH ENGINEER SERVICE PVT.LTD





ETE Services Pvt. Ltd., Nagpur

Electro-Tech Engineer Services

CIN - 1174999MH2018PTC310643

CERTIFICATE

THIS IS CERTIFY THAT MR/MISS. **ANKITA ASKAR** OF TULSIRAMJI GAIKWAD PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR IN ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT ATTENDED THE TRAINING OF EMBEDDED SYSTEM FOR 15 DAYS (FIFTEEN DAYS) FROM 03/12/2016 TO 18/12/2016 DURING THE ABOVE MENTIONED PERIOD HIS/HER CONDUCT AND PERFORMANCE WAS FOUND TO BE SATISFACTORY

DATE: 18/12/2016

PLACE: NAGPUR

YOURS FAITHFULLY

ELECTRO-TECH ENGINEER SERVICE PVT.LTD





ETE Services Pvt. Ltd., Nagpur

Electro-Tech Engineer Services

CIN - 1174999MH2018PTC310643

CERTIFICATE

THIS IS CERTIFY THAT MR/MISS. **SHWETA MEHAR** OF TULSIRAMJI GAIKWAD PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR IN ELECTRONICS & COMMUNICATION ENGINEERING DEPARTMENT ATTENDED THE TRAINING OF EMBEDDED SYSTEM FOR 15 DAYS (FIFTEEN DAYS) FROM 03/12/2016 TO 18/12/2016 DURING THE ABOVE MENTIONED PERIOD HIS/HER CONDUCT AND PERFORMANCE WAS FOUND TO BE SATISFACTORY

DATE: 18/12/2016

PLACE: NAGPUR


YOURS FAITHFULLY

ELECTRO-TECH ENGINEER SERVICE PVT.LTD





ETE Services Pvt. Ltd., Nagpur

Electro-Tech Engineer Services

CIN - U17499MH2012PTC310643

CERTIFICATE

THIS IS CERTIFY THAT MR/MISS. AAKRUTI NASHIKAR OF TULSIRAMJI GAIKWAD
PATIL COLLEGE OF ENGINEERING & TECHNOLOGY, NAGPUR IN ELECTRONICS &
COMMUNICATION ENGINEERING DEPARTMENT ATTENDED THE TRAINING OF
EMBEDDED SYSTEM FOR 15 DAYS (FIFTEEN DAYS) FROM 03/12/2016 TO
18/12/2016 DURING THE ABOVE MENTIONED PERIOD HIS/HER CONDUCT AND
PERFORMANCE WAS FOUND TO BE SATISFACTORY

DATE: 18/12/2016

PLACE: NAGPUR


YOURS FAITHFULLY

ELECTRO-TECH ENGINEER SERVICE PVT.LTD



NAAC Accredited



TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology
Mohgaon, Wardha Road, Nagpur – 441 108
(Approved by AICTE, Recognized by Govt. of Maharashtra, Affiliated to RTM Nagpur University, Nagpur)
An IAO & ISO 9001:2008 Certified Institution

Embedded System

*This Industrial Case Study report is submitted to
Rashtrasant Tukdoji Maharaj Nagpur University
in partial fulfillment of the requirement
for the award of the degree
of*

Bachelor of Engineering in Electronics and Communication Engineering

By

Ms.AAKRUTI NASHIKKAR

Ms.AISHWARYA NARKHEDE

Ms.ANKITA ASKAR

Ms.SHWETA MEHAR



**ELECTRONICS AND COMMUNICATION ENGINEERING
DEPARTMENT
SESSION 2016-17**

CERTIFICATE OF APPROVAL

This is to certify that the Industrial Case Study entitled **Embedded System** carried out by **MS.AAKRUTI NASHINKAR,MS.AISHWARIYA NARKHEDE,MS.ANKITA ASKAR & MS.SHWETA MEHER** of the Fourth Year Engineering,during the academic year 2016-2017, in partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering in ELECTRONICS AND COMMUNICATION Engineering** offered by the **Rashtrasant Tukdoji Maharaj Nagpur University**.



MS. SUVIDHA DHORE
(Industry Mentor)



HOD
(ECE Engg. Dept.)

HOD

Department of Electronics & Comm.
Tulsiramji Gaikwad - Patil College
Engineering & Technology, Nagpur.

Date: 20/12/2016

Place: Nagpur

DECLARATION

I/WE certify that

- a. The work contained in this project has been done by me under the guidance of my supervisor.
- b. The work has not been submitted to any other institute for any degree or diploma.
- c. I have followed the guidelines provided by the company in preparing the project report.
- d. I have conformed to the norms and guideline given in the Ethical Code of conduct of the company.
- e. Whenever I have used material (data, theoretical analysis, figures and text) from other sources, I have given due credit to them by citing them in the text of the report and giving their details in the references. Further, I have taken permission from the copyright owners of the sources, whenever necessary



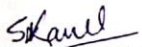
AAKRUTI NASHIKKAR

(Signature)



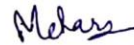
AISHWARYA NARKHEDE

(Signature)



ANKITA ASKAR

(Signature)



SHWETA MEHER

(Signature)

ACKNOWLEDGEMENT

I express my sincere and deep sense of gratitude to our guide **Ms. SUVIDHA DHORE** for her invaluable and affectionate encouragement through the project work. The work was complicated and complex. But her availability, timely discussion, guidance with moral support and constant inspiration made the work successful. Her in-depth knowledge and patience saw us through many unforeseen hurdles. She has generously helped and constantly supervised us throughout the work. I also express my sincere gratitude to **Mr. SAGAR GHORMADE** for his invaluable and helpful guidance and support.

I wish to express my profound thanks to **PROF. ROHINI POCHHI Electronics and Communication Engineering** for his kind assistance. I am also thankful to project coordinator of electronics and communication engineering

I also thanks **DR. G K Awari**, Principal, **TULSIRAMJI GAIKWAD-PATIL College of Engineering and Technology, Nagpur**, who helped in availing the required facilities for the completion of project.

Above all, I wish to thank the **Department of Electronics and communication Engineering, TULSIRAMJI GAIKWAD-PATIL College of Engineering and Technology, Nagpur** and the people in the department and the institute for providing the resources for carrying out this project.

CONTENTS

- **CLOUD COMPUTING**
- **CYBER SECURITY**
- **DOMAIN NAME SERVER**
- **DIGITAL MAKETING**
- **CCNA**
- **OPTICAL FIBER**
- **WIRELESS SENSOR NETWORK**
- **ON SITE TRAINING**
- **REFRENCE**

CLOUD COMPUTING



The practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

Cloud computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. The term is generally used to describe data centres available to many users over the Internet. Large clouds, predominant today, often have functions distributed over multiple locations from central servers. If the connection to the user is relatively close, it may be designated an edge server. Clouds may be limited to a single organization (enterprise clouds), be available to many organizations (public cloud), or a combination of both (hybrid cloud). Cloud computing relies on sharing of resources to achieve coherence and economies of scale.

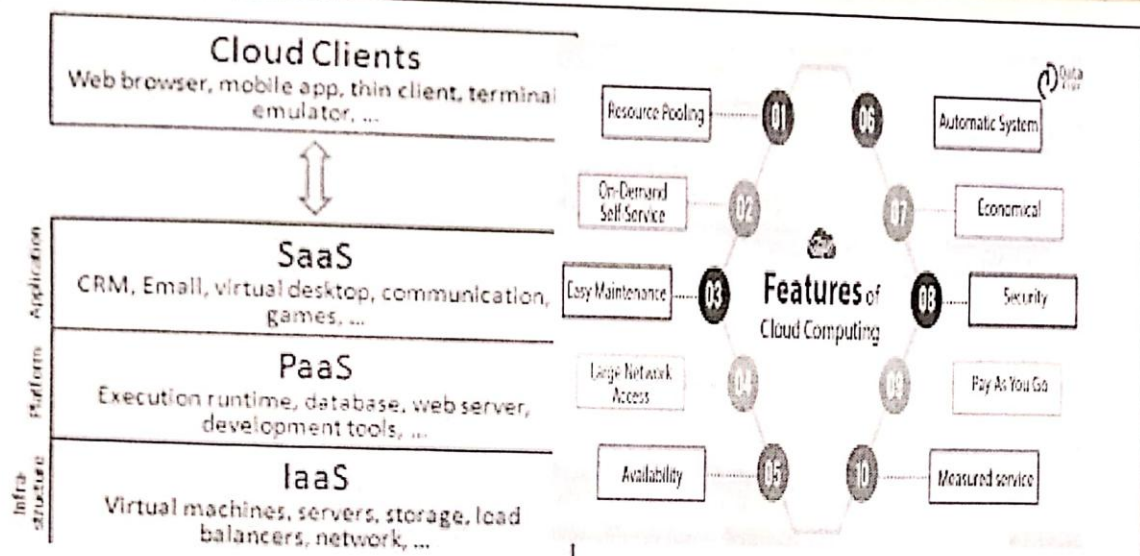
Advocates of public and hybrid clouds note that cloud computing allows companies to avoid or minimize up-front IT infrastructure costs. Proponents also claim that cloud computing allows enterprises to get their applications up and running faster, with improved manageability and less maintenance, and that it enables IT teams to more rapidly adjust resources to meet fluctuating and unpredictable demand. Cloud providers typically use a "pay-as-you-go" model, which can lead to unexpected operating expenses if administrators are not familiarized with cloud-pricing models. The availability of high-capacity networks, low-cost computers and storage devices as well as the widespread adoption of hardware virtualization, service-oriented architecture and autonomic and utility computing has led to growth in cloud computing. By 2019, Linux was the most used type of operating systems used, including in Microsoft's offering and thus described as dominant.

CHARACTERISTICS

Cloud computing exhibits the following key characteristics:

- Agility for organizations may be improved, as cloud computing may increase users' flexibility with re-provisioning, adding, or expanding technological infrastructure resources.

- Cost reductions are claimed by cloud providers. A public-cloud delivery model converts capital expenditures (e.g., buying servers) to operational expenditure. This purportedly lowers barriers to entry, as infrastructure is typically provided by a third party and need not be purchased for one-time or infrequent intensive computing tasks. Pricing on a utility computing basis is "fine-grained", with usage-based billing options. As well, less in-house IT skills are required for implementation of projects that use cloud computing. The e-FISCAL project's state-of-the-art repository contains several articles looking into cost aspects in more detail, most of them concluding that costs savings depend on the type of activities supported and the type of infrastructure available in-house.
- Device and location independence enable users to access systems using a web browser regardless of their location or what device they use (e.g., PC, mobile phone). As infrastructure is off-site (typically provided by a third-party) and accessed via the Internet, users can connect to it from anywhere.
- Maintenance of cloud computing applications is easier, because they do not need to be installed on each user's computer and can be accessed from different places (e.g., different work locations, while travelling, etc.).
- Multitenancy enables sharing of resources and costs across a large pool of users thus allowing for:
 - centralization of infrastructure in locations with lower costs (such as real estate, electricity, etc.)
 - peak-load capacity increases (users need not engineer and pay for the resources and equipment to meet their highest possible load-levels)
 - utilisation and efficiency improvements for systems that are often only 10–20% utilised.
- Performance is monitored by IT experts from the service provider, and consistent and loosely coupled architectures are constructed using web services as the system interface.
- Productivity may be increased when multiple users can work on the same data simultaneously, rather than waiting for it to be saved and emailed. Time may be saved as information does not need to be re-entered when fields are matched, nor do users need to install application software upgrades to their computer.



CYBER SECURITY

Computer security, cybersecurity or information technology security (IT security) is the protection of computer systems from the theft of or damage to their hardware, software, or electronic data, as well as from the disruption or misdirection of the services they provide.

The field is becoming more important due to increased reliance on computer systems, the Internet and wireless network standards such as Bluetooth and Wi-Fi, and due to the growth of "smart" devices, including smartphones, televisions, and the various devices that constitute the "Internet of things". Due to its complexity, both in terms of politics and technology, cybersecurity is also one of the major challenges in the contemporary world.

To secure a computer system, it is important to understand the attacks that can be made against it, and these threats can typically be classified into one of these categories below:

Backdoor

A backdoor in a computer system, a cryptosystem or an algorithm, is any secret method of bypassing normal authentication or security controls. They may exist for a number of reasons, including by original design or from poor configuration.

Denial-of-service attacks

Denial of service attacks (DoS) are designed to make a machine or network resource unavailable to its intended users. Attackers can deny service to individual victims, such as by deliberately entering a wrong password enough consecutive times to cause the victims account to be locked, or they may overload the capabilities of a machine or network and block all users at once.

Direct-access attacks

Computers control functions at many utilities, including coordination of telecommunications, the power grid, nuclear power plants, and valve opening and closing in water and gas networks. The Internet is a potential attack vector for such machines if connected, but the Stuxnet worm demonstrated that even equipment controlled by computers not connected to the Internet can be vulnerable.

Aviation

The aviation industry is very reliant on a series of complex systems which could be attacked. A simple power outage at one airport can cause repercussions worldwide, much of the system relies on radio transmissions which could be disrupted, and controlling aircraft over oceans is especially dangerous because radar surveillance only extends 175 to 225 miles offshore. There is also potential for attack from within an aircraft. The consequences of a successful attack range from loss of confidentiality to loss of system integrity, air traffic control outages, loss of aircraft, and even loss of life.

Consumer devices

Desktop computers and laptops are commonly targeted to gather passwords or financial account information, or to construct a botnet to attack another target. Smartphones, tablet computers, smart watches, and other mobile devices such as self-devices like activity trackers have sensors such as cameras, microphones, GPS receivers, compasses, and accelerometers which could be exploited, and may collect personal information, including sensitive health information. WIFI, Bluetooth, and cell phone networks on any of these devices could be used as attack vectors, and sensors might be remotely activated after a successful breach. The increasing number of home automation devices such as the Nest thermostat are also potential targets.

Automobiles

See also: Autonomous car § Potential disadvantages, Automated driving system § Risks and liabilities, and Automotive hacking. Vehicles are increasingly computerized, with engine timing, cruise control, anti-lock brakes, seat belt tensioners, door locks, airbags and advanced driver-assistance systems on many models. Additionally, connected cars may use WIFI and Bluetooth to communicate with onboard consumer devices and the cell phone network. Self-driving cars are expected to be even more complex.

Government

Government and military computer systems are commonly attacked by activists and foreign powers. Local and regional government infrastructure such as traffic light controls, police and intelligence agency communications, personnel records, student records, and financial systems are also potential targets as they are now all largely computerized. Passports and government ID cards that control access to facilities which use RFID can be vulnerable to cloning.

Internet of things and physical vulnerabilities

The Internet of things (IoT) is the network of physical objects such as devices, vehicles, and buildings that are embedded with electronics, software, sensors, and network connectivity that enables them to collect and exchange data and concerns have been raised that this is being developed without appropriate consideration of the security challenges involved. While the IoT creates opportunities for more direct integration of the physical world into computer-based systems, it also provides opportunities for misuse. In particular, as the Internet of Things spreads widely, cyber-attacks are likely to become an increasingly physical (rather than simply virtual) threat.

Medical systems

Medical devices have either been successfully attacked or had potentially deadly vulnerabilities demonstrated, including both in-hospital diagnostic equipment and implanted devices including pacemakers and insulin pumps. There are many reports of hospitals and hospital

organizations getting hacked, including ransomware attacks, Windows XP exploits, viruses and data breaches of sensitive data stored on hospital servers.

Energy sector

In distributed generation systems, the risk of cyber-attacks is real, according to Daily Energy Insider. An attack could cause a loss of power in a large area for a long period of time, and such an attack could have just as severe consequences as a natural disaster. The District of Columbia is considering creating a Distributed Energy Resources (DER) Authority within the city, with the goal being for customers to have more insight into their own energy use and giving the local electric utility, Pepco, the chance to better estimate energy demand.



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: Code Microsystems Nagpur

Applicant Name: Mr. Amit Prasad

Respected Sir,

I am the students of VIIth Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is Two Months

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.

HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: code microsystem Pvt. Ltd, Nagpur

Applicant Name: ms. Pranali Nandnave

Respected Sir,

I am the students of 6 Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is 2 month

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.


HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.

Department of Information Technology Engineering



Ref. No-/SIP/TGPCET/2016-17/105

Date: 01/06/2016

To,
Operational Manager,
Code Microsystems Pvt. Ltd,
Nagpur.

Subject: Letter regarding Summer Internship Program in your organization.

Respected Sir,

Warm greetings from **GAIKWAD-PATIL GROUP OF INSTITUTIONS**

GAIKWAD-PATIL GROUP OF INSTITUTIONS is one of the most prestigious educational groups in Nagpur. Tulsiramji Gaikwad-Patil College of Engineering & Technology (TGPCET) and Abha Gaikwad-Patil College of Engineering (AGPCE) offers a range of disciplines in Engineering & Technology and Management.

As a professional educational group involved in producing engineers, it is imperative for us that our students are industry relevant and ready and therefore we would like to request you to allow our following Student of **6th Semester Information Technology Department**, from **Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur** in your esteemed organization so that it will help us as well as to students to understand what an industry such as yours needs from a fresh engineering graduate. We are hoping to get our students work under your guidance. We will take the responsibility of Students Behavior and assure you that they will not break any regulations of your esteemed company.

1. **Ms. Pranali Nandanwar**
2. **Mr. Amit Prasad**

Regards,

Training & Placement officer
T.G.P.C.E.T. NAGPUR.

Head, T&P
GAIKWAD-PATIL GROUP OF INSTITUTIONS





< Code Microsystem >

Code Microsystem OPC Pvt. Ltd.

Corporate Office :- 4, Mahakali Nagar, Manewada-Ring Road, Nagpur-34(M.S.)
Mobile : 9822939054, Email : codemicrosystem@gmail.com,
hr@codemicrosystem.com

Visit Us:-<http://www.codemicrosystem.com>

Ref:-CMSOPCPLUGEN/160/2016

Date:- 15/06/2016

TO,

The HOD

Department Of Information Technology.

Tulsiramji Galkwad Patil College of Engineering and Technology, Mohgaon.

Nagpur University, Nagpur.

Subject :- For Industrial Project Training.

Respected Sir/Ma'am,

We are pleased to inform you that the BE 3rd year student Mr. Amit Prasad from your IT department has been selected as an software development trainee in our company Branch Office Rajiv Nagar ,Code Microsystem OPC Pvt. Ltd, Nagpur(M.S) .Duration of Internship training is 2 month (26/06/2016 to 28/08/2016).

For Code Microsystems Opc Pvt.Ltd

Mr.Arvind Sharma

CEO

Email:-arvind@codemicrosystem.com





< Code Microsystem >

Code Microsystem OPC Pvt. Ltd.

Corporate Office :- 4, Mahakali Nagar, Manewada-Ring Road, Nagpur-34 (M.S.)
Mobile : 9822939054, Email : codemicrosystem@gmail.com,
hr@codemicrosystem.com

Visit Us:- <http://www.codemicrosystem.com>

CERTIFICATE OF TRAINING

This is to certify that

Mr. Amit Prasad

Has successfully completed 60 days
internship program on software development
from 26/06/2016 to 28/08/2016 at Code
Microsystems Pvt.ltd, Nagpur.



Mr. Arvind Sharma
CEO



< Code Microsystem >

Code Microsystem OPC Pvt. Ltd.

Corporate Office :- 4, Mahakali Nagar, Manewada-Ring Road, Nagpur-34(M.S)li
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CERTIFICATE OF TRAINING

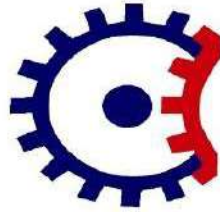
This is to certify that

Ms. Pranali Nandewar

Has successfully completed 60 days
internship program on software development
from 26/06/2016 to 28/08/2016 at Code
Microsystems Pvt.ltd, Nagpur.



Mr.Arvind Sharma
CEO



**TULSIRAMJI GAIKWAD PATIL COLLEGE OF
ENGINEERING AND TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY**



CODE MICRO SYSTEMS OPC Pvt. Ltd.

SESSION 2016-17

INTERNSHIP REPORT

Submitted by:-

Pranali Nandanwar



DECLARATION

During my internship in **Code Micro Systems OPC Pvt. Ltd., Nagpur** and preparation of this report I realized that it is three joint venture guidance, assistance and co-operation. So it would've not been completed without and declaration and help receives. It is a matter of great privileges to express my deep sense of gratitude towards the project head at **Code Micro Systems OPC Pvt. Ltd, Nagpur**. For having this guidance I am extremely thankful to him for constant motivation and inspiration extended throughout during internship work which has made me possible to complete the work in scheduled time. My sincere thanks to all faculties.

Submitted By:-

PranaliNandanwar

ACKNOWLEDGEMENT

I would like to thank my faculty for giving me opportunity to write about this project, awareness about internship, also the technical knowledge and further thinks. I am highly indebted to **Code Micro Systems OPC Pvt. Ltd** for their guidance and also constant supervision as well as for providing necessary regarding the project and also for their support in completing the project. Would like to express my gratitude towards my parents and member of **Code Micro Systems OPC Pvt. Ltd, Nagpur**. For their kind co-operation and also encouragement which help me in completion of this project. Would like to express my gratitude and thanks to industry persons for giving me such attention and time, my thanks and appreciations also go to people who have willingly helps me out with their abilities. I've enjoyed during my internship in multimodule in **Code Micro Systems OPC Pvt. Ltd**. And also learnt about the software I used and also learnt about languages by which I made project. I would also like to thank my team members for motivating me and appreciating my work. Doing 1 month internship in company like **Code Micro Systems OPC Pvt. Ltd**. Is a great opportunity for me. I thanks all members of **Code Micro Systems OPC Pvt. Ltd** for valuable support.

Submitted By:-

Pranali Nandanwar



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

NAAC Accredited

Department of Information Technology

Report on Internship at "CODE MICRO SYSTEMS OPC Pvt.Ltd.Nagpur"

Date: 17-Oct-2016

As a requirement for a student to acquire a Bachelor's degree in information technology, he/she has to go undergo graduate training in order to gain experience necessary in the field and for the job market. This is at least done from a known organization which deals with some computing beyond mere theoretical work and to satisfy this requirement, I trained with *CODE MICRO SYSTEMS OPC Pvt.Ltd..*

Author: Pranali Nandanwar

Aim:

To get knowledge about the industry culture and develop own skills.

Objective:

- To enhance current technical and practical knowledge of students
- To give the student an opportunity to put theoretical knowledge learnt in to practice.
- To make the students aware about Industrial Environment.
- To have strong Industry-Institute Interaction.

About CODE MICRO SYSTEMS OPC Pvt.Ltd.

- The *CODE MICRO SYSTEMS OPC Pvt.Ltd.* is an Indian Private Limited Company deals with Web Design & Software development
- Established in Dec 2004.
- Based In Nagpur

- BIS and ISO 9001:2015 certified with capability to get other products certified as required.

Internship at CODE MICRO SYSTEMS OPC Pvt.Ltd.

I joined *CODE MICRO SYSTEMS OPC Pvt.Ltd.* as an IT officer on 27 June, 2016 for a period of 6 weeks having joined late for not having sent a notification for my placement. In this report, I have highlighted the experience and skills I gained, challenges that I faced and actions taken in solving the problems during my training.

My training focused on various things like software development, web designing, SDLC, maintenance, networking and systems administration. Some of the activities I did during the training include; repairing printers, assembling and disassembling computer systems and adding computers to the domain. During this training, there was an addition of skills acquired and among these were ability to work under minimum supervision, planning to be able to beat deadlines and being a team player.

Lessons learned from *CODE MICRO SYSTEMS OPC Pvt.Ltd.*

- Importance of being Punctual
- In the LAN was able to know learn to create VLANs and to punch in wires into data modules that are on patch panel following the different standards learnt in theory class..
- I was also to learn to clear vivid knowledge about IT security which am yet to learn in my 3rd year. Got to know different tools used in IT security like tcpdump, Wireshark .etc..
- Corporate dressing & etiquette.

Conclusion:

Internship/industrial training has been life changing experience in my information technology career full of lots of things to learn starting from self-discipline to practical application of theory learnt in class, therefore I conclude by saying that the field attachment I carried out at *CODE MICRO SYSTEMS OPC Pvt.Ltd.* was very important and relevant to me, has taught me a lot and expanded on my knowledge in the world of technology. I sincerely thank the company, field supervisors and team members for their support. There has been a spirit of team work and commitment, and I am now an overall better person, both socially and intellectually.

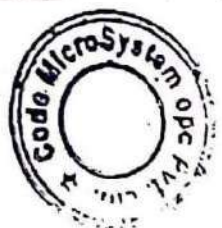
Prandali

Prandali Nandanwar

For Code Microsystems Opc Pvt.Ltd



Mr.Arvind Sharma
CEO





Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: Soft Skill Technology Nagpur

Applicant Name: Ms. Raginee Dongre

Respected Sir,

I am the students of 6th Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is 01 Month.

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.

HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.



Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: Soft skill Technology Pvt. Ltd Nagpur

Applicant Name: Ms. Senal Blunde

Respected Sir,

I am the students of VI Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is 01 Month

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.

HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.

Department of Information Technology Engineering



Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: Soft skill Technology Ltd. Nagpur

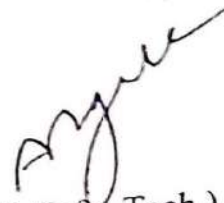
Applicant Name: Ms. Akshay Madame

Respected Sir,

I am the students of 06th Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is one Month

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.


HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.

Department of Information Technology Engineering



Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108

Department of Information Technology Engineering

Application for Internship Training

To

The HoD

Department Information Technology, Nagpur

Subject: Application for the issue the permission letter for Internship Training

Company Name: Soft Skill Technology Nagpur.

Applicant Name: Ms. Sneha Sahu

Respected Sir,

I am the students of 6th Semester Information Technology Department of Tulsiramji Gaikwad Patil College of Engineering & Technology Nagpur, request you to allow me to do internship. The duration of training is one Months.

So kindly permit me as I have been thoroughly preparing industrial working culture under the guidance of experienced employee and gaining practical knowledge will develop my professional level with effectiveness.

Thanking You.

HoD (Info. Tech.)

Head of Dept. (Information Technology)
Tulsiramji Gaikwad-Patil College of
Engineering & Technology, Nagpur.

Department of Information Technology Engineering



Ref. No-/SIP/TGPCET/2016-17/109

Date: 15/06/2016

To,
Operational Manager,
Soft Skill Technology Pvt. Ltd,
Nagpur.

Subject: Letter regarding Summer Internship Program in your organization.

Respected Sir,

Warm greetings from **GAIKWAD-PATIL GROUP OF INSTITUTIONS**

GAIKWAD-PATIL GROUP OF INSTITUTIONS is one of the most prestigious educational groups in Nagpur. Tulsiramji Gaikwad-Patil College of Engineering & Technology (TGPCET) and Abha Gaikwad-Patil College of Engineering (AGPCE) offers a range of disciplines in Engineering & Technology and Management.

As a professional educational group involved in producing engineers, it is imperative for us that our students are industry relevant and ready and therefore we would like to request you to allow our following Student of **6th Semester Information Technology Department**, from **Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur** in your esteemed organization so that it will help us as well as to students to understand what an industry such as yours needs from a fresh engineering graduate. We are hoping to get our students work under your guidance. We will take the responsibility of Students Behavior and assure you that they will not break any regulations of your esteemed company.

1. **Ms. Sneha Sahu**
2. **Ms. Sonal Bharde**
3. **Mr. Akshay Madame**
4. **Ms. Raginee Dongre**



Regards,

Training & Placement officer
T.G.P.C.E.T. NAGPUR.

Head, T&P
GAIKWAD-PATIL GROUP OF INSTITUTIONS



Address: 20, ShivShankar Appt, Behind Sanman Lawn, Shankar Nagar, Nagpur - 10
Office: +91-9764040428 | Email: contact@softskilltechnology.com | Website: www.softskilltechnology.com

Date: 24/06/2016

INTERSHIP LETTER

To,
The HOD
IT Department,
TGPCET Mohgaon Nagpur.

Subject: - For Industry Internship Training

Sir,

We are pleased to inform you that the following are list of students from your IT department has been selected as an Web developer intern in our company Soft Skill Technology Shankar nagar Nagpur. Duration of internship training is one month.

List of Selected Students:

1. Ms. Sneha Sahu
2. Ms. Sonal Bharde
3. Mr. Akshay Madame
4. Ms. Raginee Dongre





Address: 20, ShivShankar Apt, Behind Sanman Lawn, Shankar Nagar, Nagpur – 10,
Office: +91-9764040428 | **Email:** contact@softskilltechnology.com | **Website:** www.softskilltechnology.com

Internship Offer Letter

Soft Skill Technology,
Plot No.20, Shiv Shankar Apartment,
Behind Sanman Lawn,
Shankar Nagar,
Nagpur – 440010.

Miss. Seema Kashyap.

Dear Students,

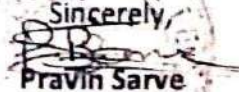
Soft Skill Technology is pleased to offer you employment as a Web Developer Intern. You will be based in our corporate office, located at Plot No. 20, ShivShankar Apartment, Behind Sanman Lawn, Shankar Nagar, Nagpur – 10 and you will report to Mr. Pravin Sarve . Your internship will begin on 1 July 2016, and anticipated to the end of 31 July 2016. You are expected to work 15 hours per week.

As Web Developer Intern, your position will require:

- Work with UI designers and Web Developers to successfully design and develop user interactions in applications.
- Recreating of user reported bugs.
- Writing complete functional and design specs.

We look forward to having you work with us!

Date:- 31/6/16

Sincerely,

Pravin Sarve
(MD)



Address: 20, ShivShankar Apt, Behind Sanman Lawn, Shankar Nagar, Nagpur - 10
Office: +91-9764040428 | Email: contact@softskilltechnology.com | Website: www.softskilltechnology.com

Internship Offer Letter

Soft Skill Technology,
Plot No.20, Shiv Shankar Apartment,
Behind Sanman Lawn,
Shankar Nagar,
Nagpur - 440010.

Miss. Raginee Dongre.

Dear Students,

Soft Skill Technology is pleased to offer you employment as a Web Developer Intern. You will be based in our corporate office, located at Plot No. 20, ShivShankar Apartment, Behind Sanman Lawn, Shankar Nagar, Nagpur - 10 and you will report to Mr Pravin Sarve. Your internship will begin on 1 July 2016, and anticipated to the end of 31 July 2016. You are expected to work 15 hours per week.

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Date:- 30/6/16



SOFT SKILL TECHNOLOGY

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Internship Offer Letter

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Mr.Akshay Madame.

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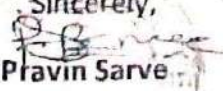
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(MD)

SOFT SKILL TECHNOLOGY

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Internship Offer Letter

Soft Skill Technology,
Plot No.20, Shiv Shankar Apartment,
Behind Sanman Lawn,
Shankar Nagar,
Nagpur - 440010.

Miss. Sneha Sahu.

Dear Students,

Soft Skill Technology is pleased to offer you employment as a Web Developer Intern. You will be based in our corporate office, located at Plot No. 20, ShivShankar Apartment, Behind Sanman Lawn, Shankar Nagar, Nagpur - 10 and you will report to Mr. Pravin Sarve. Your internship will begin on 1 July 2016, and anticipated to the end of 31 July 2016. You are expected to work 15 hours per week.

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Date:- 31/6/16

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Nagpur – 440010.

Miss. Sonal Bharde.

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Date:-





**TULSIRAMJI GAIKWAD PATIL COLLEGE OF
ENGINEERING AND TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY**



Soft Skill Technology Pvt. Ltd.

SESSION 2016-17

INTERNSHIP REPORT

Duration

1st July 2016 to 31th July 2016

Submitted by:-

- 1) Ms. Sneha Sahu**
- 2) Ms. Sonal Bharde**
- 3) Mr. Akshay Madame**
- 4) Raginee Dongre**



Tulsiramji Gaikwad-Patil College of Engineering and Technology
Wardha Road, Nagpur-441 108

Department of Information Technology

Report on Internship at "SOFT SKILL TECHONOLOGY Pvt.Ltd.Nagpur"

Date: 31/6/16

As a requirement for a student to acquire a Bachelor's degree in information technology, he/she has to go undergo graduate training in order to gain experience necessary in the field and for the job market. This is at least done from a known organization which deals with some computing beyond mere theoretical work and to satisfy this requirement, I trained with SOFT SKILL TECHONOLOGY Pvt.Ltd..

Author: Sneha Sahu

Aim:

To get knowledge about the industry culture and develop own skills.

Objective:

- To enhance current technical and practical knowledge of students
- To give the student an opportunity to put theoretical knowledge learnt in to practice.
- To make the students aware about Industrial Environment.
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About SOFT SKILL TECHONOLOGY Pvt.Ltd.

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Established in Dec 2004.
Based In Nagpur



- BIS and ISO 9001:2015 certified with capability to get other products certified as required.

Internship at SOFT SKILL TECHNOLOGY Pvt.Ltd.

I joined SOFT SKILL TECHNOLOGY Pvt.Ltd. as an IT officer on June, 2016 for a period of 4 weeks having joined late for not having sent a notification for my placement. In this report, I have highlighted the experience and skills I gained, challenges that I faced and actions taken in solving the problems during my training.

My training focused on various things like software development, web designing, SDLC, maintenance, networking and systems administration. Some of the activities I did during the training include; repairing printers, assembling and disassembling computer systems and adding computers to the domain. During this training, there was an addition of skills acquired and among these were ability to work under minimum supervision, planning to be able to beat deadlines and being a team player.

Lessons learned from Soft Skill Technology

- Importance of being Punctual

In the LAN was able to know learn to create VLANs and to punch in wires into data modules that are on patch panel following the different standards learnt in theory class..

I was also to learn to clear vivid knowledge about IT security which am yet to learn in my 3rd year. Got to know different tools used in IT security like tcpdump, Wireshark .etc..

- Corporate dressing & etiquette.



Conclusion:

Internship/industrial training has been life changing experience in my information technology career full of lots of things to learn starting from self-discipline to practical application of theory learnt in class, therefore I conclude by saying that the field attachment I carried out at SOFT SKILL TECHNOLOGY Pvt.Ltd.was very important and relevant to me, has taught me a lot and expanded on my knowledge in the world of technology. I sincerely thank the company, field supervisors and team members for their support. There has been a spirit of team work and commitment, and I am now an overall better person, both socially and intellectually.

Sahar



Report on Internship at "SOFT SKILL TECHONOLOGY Pvt.Ltd.Nagpur"

Date: 31/6/2016

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Author: Seema Kashyap

Aim:

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S. Kashyap.
Seema Kashyap



Tulsiramji Gaikwad-Patil College of Engineering and Technology

Wardha Road, Nagpur-441 108

Department of Information Technology

Report on Internship at "SOFT SKILL TECHONOLOGY Pvt.Ltd.Nagpur"

Date: 30/6/16

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Author: Ragini Dongre

Aim:

To get knowledge about the industry culture and develop own skills.

Objective:

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- To have strong Industry-Institute Interaction.

About SOFT SKILL TECHONOLOGY Pvt.Ltd.

- The SOFT SKILL TECHONOLOGY Pvt.Ltd.is an Indian Private Limited Company deals with Web Design & Software development
- Established in Dec 2004.
- Based In Nagpur

- BIS and ISO 9001:2015 certified with capability to get other products certified as required.

Internship at SOFT SKILL TECHNOLOGY Pvt.Ltd.

I joined SOFT SKILL TECHNOLOGY Pvt.Ltd. as an IT officer on June, 2015 for a period of 4 weeks having joined late for not having sent a notification for my placement. In this report, I have highlighted the experience and skills I gained, challenges that I faced and actions taken in solving the problems during my training.

My training focused on various things like software development, web designing, SDLC, maintenance, networking and systems administration. Some of the activities I did during the training include; repairing printers, assembling and disassembling computer systems and adding computers to the domain. During this training, there was an addition of skills acquired and among these were ability to work under minimum supervision, planning to be able to beat deadlines and being a team player.

Lessons learned from Soft Skill Technology

- Importance of being Punctual
- In the LAN was able to know learn to create VLANs and to punch in wires into data modules that are on patch panel following the different standards learnt in theory class..
- I was also to learn to clear vivid knowledge about IT security which am yet to learn in my 3rd year. Got to know different tools used in IT security like tcpdump, Wireshark .etc..
- Corporate dressing & etiquette.

Conclusion:

Internship/industrial training has been life changing experience in my information technology career full of lots of things to learn starting from self-discipline to practical application of theory learnt in class, therefore I conclude by saying that the field attachment I carried out at SOFT SKILL TECHNOLOGY Pvt.Ltd.was very important and relevant to me, has taught me a lot and expanded on my knowledge in the world of technology. I sincerely thank the company, field supervisors and team members for their support. There has been a spirit of team work and commitment, and I am now an overall better person, both socially and intellectually.

P. Bruce

Ragini Dongre