

A PROJECT REPORT

On

**ENHANCED IDLE BUSY BASED TASK ROUTING APPROACH FOR  
DECENTRALIZED DISTRIBUTED SYSTEMS**

Submitted in partial fulfillment of the  
requirements for the degree of  
**BACHELOR OF TECHNOLOGY**

In  
**Information and Communication Technology**

Submitted by

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**Under the Guidance of**

Prof. Lavanya M

APII / ICT

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**SHANMUGHA ARTS, SCIENCE, TECHNOLOGY & RESEARCH ACADEMY**

**SASTRA UNIVERSITY**

**(A University Established under section 3 of the UGC Act, 1956)**



**TIRUMALAISAMUDRAM, THANJAVUR – 613401**

**SCHOOL OF COMPUTING**

**BONAFIDE CERTIFICATE**

This is to certify that the project entitled

**ENHANCED IDLE BUSY BASED TASK ROUTING APPROACH FOR  
DECENTRALIZED DISTRIBUTED SYSTEMS**

is a work done by

116014045 – Janani T N

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**BACHELOR OF TECHNOLOGY**

**IN**

**INFORMATION AND COMMUNICATION TECHNOLOGY OF**

**SASTRA UNIVERSITY, Thanjavur during the year 2015-2016**

**Internal Guide**

**Associate Dean/ICT**

**Submitted for the university examination held on:**

**Internal Examiner**

**External Examiner**

**SHANMUGHA ARTS, SCIENCE, TECHNOLOGY & RESEARCH ACADEMY**

**SASTRA UNIVERSITY**

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**TIRUMALAISAMUDRAM, THANJAVUR – 613401**

### **DECLARATION**

We submit this project entitled **ENHANCED IDLE BUSY BASED TASK ROUTING APPROACH FOR DECENTRALIZED DISTRIBUTED SYSTEMS** to Shanmugha Arts, Science, Technology & Research Academy, SASTRA University, Tirumalaisamudram, Thanjavur-613402 in partial fulfillment of the requirement for the award of the degree of **“BACHELOR OF TECHNOLOGY IN INFORMATION AND COMMUNICATION TECHNOLOGY”** and declare that it is my original and independent work carried out under the guidance of Prof. Lavanya M.

Date:

Place: THANJAVUR

Signature: <sup>1</sup> , <sup>2</sup>

Name: <sup>1</sup>Janani T N, <sup>2</sup> Sushmita S

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## SYNOPSIS

Distributed computing is a field of computer science that studies distributed systems. The components interact with each other in order to achieve a common goal. In distributed computing, a problem is divided into many tasks, each of which is solved by one or more computers. Distributed computing platforms are widely spread, harnessing the power of many computers to solve problems with heavy resource needs.

The major issue of distributed computing is scheduling of tasks over billions of nodes. The apportionments of the millions of tasks over the nodes are not secure in centralized scheduling models. The decentralized novel distribution scheme proposes three kinds of scheduling policies which can be enhanced further.

We present two algorithms which further enhances the efficiency of the decentralized novel distribution scheme. The basic criterion is that the memory and disk requirements of the task should always be lesser than the disk and memory of the nodes. The number of tasks to be submitted and task length of each task is accepted from the user. The node capacity is calculated and the task is routed to the most efficient node available of performing it. In Idle Busy Policy, we adopt a method of checking the computing efficiency of the execution nodes if two or more available nodes have same memory and disk space requirements. This minimizes the waiting time for the tasks. We also propose a mechanism for minimizing the make span by allocating tasks to those nodes in which queues remain the shortest. Make-span minimization policy is implemented to reduce the completion time of the currently executing nodes.

## TABLE OF CONTENTS

Chapter No.	Contents	Page No
1	Introduction 1.1 Introduction 1.2 Project Background 1.3 Existing System	 1 1 2
2	Software Project Plan 2.1 Time schedule for various phases 2.2 Team Members' Responsibility 2.3 Proposed System	 3 3 4
3	Software Requirement specification 3.1 Functional requirements 3.2 Non- Functional requirements	 6 6
4	System Analysis 4.1 Work flow Diagram 4.2 Use case Diagram	 9 10
5	Design 5.1 Front-End Design 5.2 Back-End Design	 11 12
6	Coding 6.1 Algorithm 6.2 Sample code 6.3 Experiments and Results	 13 15 36

7	Testing  7.1 Unit testing  7.2 Validation Testing	  37  39
8	Implementation  8.1 Problems Faced  8.2 Lesson Learnt	  46  46
9	Future plans	47
10	Conclusion	48
11	References  11.1. Web References	  49  50
12	Papers Published	

## TABLES AND DIAGRAMS

Sl. No.	Contents	Page no.
1	Work flow Diagram	9
2	Use case Diagram	10
3	Diagnosis result displayed	37

