



**Tribhuvan University
Institute of Science and Technolog**

**Scheduling Jobs on a Single Machine to Minimize the Number of
Tardy Jobs with Release Time Constraints**

Dissertation

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By :

**Puja Bhatt
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Supervisor

Asso. Prof. Dr.Tanka Nath Dhamala



Tribhuvan University

Institute of Science and Technology

Central Department of Computer Science and Information Technology

Date: 10-Mar-2010

Supervisor's Recommendation

I hereby recommend that the dissertation prepared under my supervision by Ms. **Puja Bhatt** entitled "**Scheduling Jobs on a Single Machine to Minimize the Number of Tardy Jobs with Release Time Constraints**" be accepted as a partial fulfillment of the requirement for the degree of M.Sc. in Computer Science and Information Technology, from Tribhuvan University, Nepal. In my knowledge this is an original work in Computer Science.

Asso Prof. Dr. Tanka Nath Dhamala
Head of the Department
Central Department of Computer Science
and Information Technology,
Tribhuvan University, Nepal
(Supervisor)



Tribhuvan University

Institute of Science and Information Technology

Central Department of Computer Science and Information Technology

Date: 22-Mar-2010

LETTER OF APPROVAL

We certify that we have read this dissertation work and in our opinion it is satisfactory in the scope and quality as dissertation as the partial fulfillment of the requirement of Master of Computer Science and Information Technology from Tribhuvan University, Nepal.

Evaluation Committee

Prof. Dr. Jeevan Jyoti Nakarmi
Acting Head of the Department
Central Department of Computer Science
and Information Technology,
Tribhuvan University, Nepal

Asso. Prof. Dr .Tanka Nath Dhamala
Head of the Department
Central Department of Computer Science
and Information Technology,
Tribhuvan University, Nepal
(Supervisor)

External Examiner

Internal Examiner

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Puja Bhatt
CDCSIT, T.U.

ABSTRACT

Scheduling though being a classical problem of computer science, it is still an evolving area of research. Unfortunately, many scheduling problems having high practical significance belong to the class of NP-hard, or in simple words, they are not solved exactly by any efficient algorithm on any computer. In this dissertation certain scheduling problems for the case of single machine is studied. Heuristic algorithm and branch and bound method is devised for the single machine scheduling problem $1|r_j| U_j$, where jobs arrive over time, preemption is not allowed, and the objective is to minimize the number of tardy jobs.

Table of Contents

CHAPTER 1 INTRODUCTION.....	1
1.1 Machine Scheduling.....	3
1.2 Scheduling Environments.....	3
1.3 Terminologies.....	4
1.4 Scheduling Problem.....	4
1.5 Three-Field Notation.....	5
1.6 Notation Used in this Thesis.....	5
1.7 Significance of the Problem.....	5
1.8 Organization of this Thesis.....	6
CHAPTER 2 COMPUTATIONAL COMPLEXITY.....	7
2.1 Turing Machine and Algorithms.....	7
2.2 Computational Resources.....	8
2.3 Functions.....	8
2.3.1 Asymptotic Order of Functions.....	9
2.4 Time and Space Complexities of Algorithms.....	9
2.5 Problem and Encoding.....	9
2.6 Complexity Classes.....	11
2.6.1 Classes P and NP.....	11
2.6.2 Classes NP-complete and NP-hard.....	12
CHAPTER 3 SCHEDULING PROBLEMS.....	13
3.1 Representation of Schedule.....	13
3.2 Machine Environment.....	13
3.3 Job description.....	14
3.4 Characteristics of Good Schedule.....	14

3.5 Three field Notation.....	15
3.6 Scheduling in Computer Science.....	17
3.7 Online Problems.....	18
3.8 Just-in-Time and Real-Time Scheduling Problems.....	18
3.9 Other Problems.....	19
3.10 Types of Scheduling Problems.....	20
3.10.1 Single Machine.....	20
3.10.2 Parallel Machines.....	20
3.10.3 Flow Shop	20
3.10.4 Job Shop.....	20
3.10.5 Static.....	21
3.10.6 Dynamic.....	21
3.11 Solution Methodologies.....	21
3.11.1 Dispatching Rules.....	21
3.11.2 Random List.....	21
3.11.3 Longest Processing Time (LPT).....	21
3.11.4 Shortest Processing Time (SPT).....	22
3.11.5 Earliest Due Date (EDD).....	22
3.11.6 Dynamic Programming	22
3.11.7 Branch and Bound Approach.....	22
3.11.8 Simulation Techniques.....	23
3.11.9 Neighborhood Search Techniques.....	23
3.11.10 Meta-Heuristic Search Methods.....	23
3.11.10.1 Tabu Search.....	23
3.11.10.2 Genetic Algorithm Approach.....	23

3.11.10.3 Simulated Annealing	24
3.11.11 Moore –Hodgson’s Algorithm.....	24
CHAPTER 4 SINGLE MACHINE SCHEDULING	25
4.1 Definition, importance and overview of SMS Research.....	25
4.2 Overview of Single Machine Scheduling Problems and Their Complexity...27	
CHAPTER 5 MINIMIZING THE NUMBER OF TARDY JOBS.....	31
5.1 Problem Presentation.....	31
5.2 Historical Development and research overview.....	31
5.3 Similar Problems in the Past.....	33
5.4 Traditional Solution Approaches.....	34
5.4.1 The Basic Moore-Hodgson’s Algorithm.....	34
5.4.2 Similarly Ordered release and due dates –the Kise Algorithm.....	36
CHAPTER 6 PROBLEM STATEMENT AND METHODOLOGY.....	39
6.1 Statement of the Problem.....	39
6.2 Assumptions.....	39
6.3 Objective Function.....	39
6.4 Complexity of the Problem.....	40
6.5 Methodology.....	40
6.5.1 A Heuristic.....	40
6.5.2 A Branch and Bound Procedure Based on a Master Sequence.....	42
6.5.2.1 Master Sequence.....	42
6.5.2.2The Branching Scheme.....	45
6.5.2.3The Bounding Scheme.....	45
CHAPTER 7 COMPUTATIONAL EXPERIMENTS AND RESULTS.....	47
7.1 Data Generation	47

7.2 Experimental Settings.....	47
7.3 Software Implementation.....	47
7.3 Analysis and Discussion of the Computational Results.....	48
CHAPTER 8 CONCLUSION AND FUTURE RESEARCH	
8.1 Summary.....	51
8.2 Conclusions.....	51
8.3 Suggestions for Future Research.....	52
REFERENCES	53
APPENDIX A: Program Source Code of Various Algorithms.....	57

LIST OF TABLES

1. Table 4.1: Complexity of elementary SMS problems.....	27
2. Table 5.1: History.....	34
3. Table 6.1: Comparing the heuristic and an exact branch and bound procedure.....	41
4. Table 6.2: Transforming an optimal sequence into the master sequence – example...	43
5. Table 6.3: Generating the master sequence – example.....	44
6. Table 7.1 Result of Heuristic and B &B	48

LIST OF FIGURES

1. Figure: 3.1 Gantt chart for schedule of four jobs in single machine.....13
2. Figure: 7.1 Numbers of tardy jobs versus number of jobs (min).....49
3. Figure: 7.2 Number of tardy jobs versus number of jobs (max).....50