Acknowledgements

I thank all who in one way or another contributed in the completion of this thesis. First, I thank God for guiding me always and driving me towards newer challenges

It is a matter of privilege and pleasure to express my appreciation towards my guide Prof. Harshad J. Patel for his motivation, technical guidance and constant support throughout this work. His vision and direction helped me select this subject of research and his critical comments and innovative suggestions encouraged me to complete this work successfully.

I am highly indebted to Prof. Ms. Anjali G. Jivani, the Head of my department for her sincere support and co-operation during this period. Her silent and strong assistance in providing me all the required facilities has made it possible for me to complete this work in time. Her encouraging words have always made me stay optimistic.

My sincere gratitude to my parents who have been instrumental in making me truthful, independent and responsible in life and to my in laws who have been always present to support and encourage me. My husband's critical suggestions have been very helpful. Together, their unconditional love and moral support are the main reasons for all that has kept me going. I take this opportunity to thank my colleague, A K Ajay who has supported me during this research. I also thank my friends – Manjiri and Manisha in their consistent encouragement.

My college department – Department of Computer Science and Engineering has been a place of worship as well as a place of great joy and encouragement for me because of all my teachers as well as non-teaching staff members. I would like to thank all of them for their cooperation and assistance during this work.

I would like to express my special gratitude and thanks to Mr. Amrut Marathey and my father for their timely suggestions and interest in my work.

Swapna S Kolhatkar