

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM



A Project report on

“IMPLEMENTATION OF GRAPHICAL LCD USING ARM7 BASED LPC2129 MICROCONTROLLER”

A dissertation submitted to the Department of Electronics & Communication Engineering of Visvesvaraya Technological University, in the partial fulfillment for the Award of Degree of Bachelor of Engineering during the academic year 2011-2012.

PROJECT ASSOCIATES

- | | |
|--------------------------------|-------------------|
| 1. SHIVAKUMAR.M | 3VC08EC094 |
| 2. P.NAVEEN KUMAR REDDY | 3VC08EC074 |
| 3. SHAILA.V.L | 3VC08EC089 |
| 4. J.SRINIVAS REDDY | 3VC07EC426 |

This Project has been carried out under Guidance of

Mrs.ANUPAMA.H.R M.Tech



V.V SANGHA'S
RAO BAHADUR Y. MAHABALESWARAPPA ENGINEERING COLLEGE
[Formerly VIJAYANAGAR ENGINEERING COLLEGE]
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
BELLARY-583 104

CONTENTS	Page No
Chapter 1: Introduction	5
1.1 Aim of our project	5
1.2. Basic principle	5
1.3. Project technology	8
1.4. Introduction to embedded systems	9
1.5. History and future	10
1.6. Real time systems	11
1.7. Application areas	11
Chapter 2: Overview of Embedded System Architecture	16
2.1. CPU	16
2.2. Memory	17
2.3. Input devices	17
2.4. Output devices	17
2.5. Communication interface	17
2.6. Application specific circuitry	18
Chapter 3: BLOCK DIAGRAM	20
3.1. Block description	20
3.2. Power supply	21
Chapter 4: ARM7TDMI PROCESSOR BASED LPC2129 CONTROLLER	
4.1. LPC2129 description	26
4.2. Features	27
4.3. Applications	
Chapter 5: Architectural overview	29
5.1. ARM7 Processor	29
5.2. On chip flash memory	30

5.3. On chip SRAM	31
5.4. Block diagram of arm	32
5.5. System control block functions	33
5.6. Crystal oscillator	34
5.7. Pin description of LPC2129	38
Chapter 6: DESCRIPTION OF MAX232	47
Chapter 7: UART DESCRIPTION	50
Chapter 8: GRAPHICAL LCD	53
Chapter9: SOFTWARE CODE	56
Chapter10: BIBILOGRAPHY	61
Chapter11: ADVANTAGES AND DISADVANTAGES	62
Chapter12: FUTURE ENHANCEMENTS	63
Chapter13: CONCLUSION	64
Chapter14: APPENDIX	65