To be filled by Student			
Course	Microprocessors Systems and Interfacing (CPE342)		
Course Instructor	Dr. Wasiq Ali	**Lab Instructor**	Engr. Iram Shahzadi
Student Name	Arslan Saleem (FA18-BCS-088) Hamza Umar (FA19-BCE-026) Muhammad Kaleem Ullah (FA19-BCE-007)		
Project Title	Electronic Voting Machine (EVM) Using 8051 Microcontroller		
Project Proposal Summary	Electronic Voting Machine (EVM) is a simple electronic device used to record votes in place of ballot papers and boxes which were used earlier in conventional voting system. Fundamental right to vote or simply voting in elections forms the basis of democracy. All earlier elections be it state elections or central elections a voter used to cast his/her favorite candidate by putting the stamp against his/her name and then folding the ballot paper as per a prescribed method before putting it in the Ballot Box. This is a long, time-consuming process and very much prone to errors. This situation continued till election scene was completely changed by electronic voting machine. No more ballot paper, ballot boxes, stamping, etc. all this condensed into a simple box called ballot unit of the electronic voting machine. Because biometric identifiers cannot be easily misplaced, forged, or shared, they are considered more reliable for person recognition than traditional token or knowledge-based methods. So, the electronic voting system must be improved based on the current technologies viz., biometric system.		
Recommendations by Instructor			
Range of Complex	Range of Conflicting Requirements	• An electronic voting machine which displays the count of votes on a 16x2 LCD interface. • A user can get his/her vote register through a set of switches. After every cast of votes, the subsequent count can be seen on LCD. • A prototype for preferential electronic voting machine that serves the election process where preferential is conducted with low cost of implementation and to carry out a highly effective polling process. • Work as a team, and efficiently communicate the concept, design, and results both orally and as a report.	
	Depth of	• A full duplex serial port, on-chip oscillator, and clock	

Problem Solving	Analysis Required	circuitry. • A five-vector two-level interrupt architecture • Properly commented and understandable code. • Calculation of timer value for trigger and echo pulse. • Display the results on connected LEC.
	Depth of Knowledge Required	• Pin configuration and working requirements of AT89C51 microcontroller. • 128 bytes of RAM for storing running program. • Integration of various components microcontroller, ultrasonic sensor, resistors, capacitors, transistors, crystal oscillator and LED. • Usage of Keil uVision for assembly-based programming. • Hardware Design and physical implementation
	Interdependencies	• **Indicators:** LED • **Controller:** AT89C51 Microcontroller • **Other Component:** registers, oscillator, variable registers, push button • **Programming Languages:** Assembly, C-based controller programming All above mentioned components acts as a subsystems and work independently. However, in the proposed system they will act and coordinate as a single system to provide the desired results.
Range of Complex Problem Activities	Range of Resources	• Hardware Components: (Crystal Oscillator, Resistors, Capacitors, transistors, LED, 8051 Microcontroller) • Modern Tools: Keil uVision IDE, Proteus, Assembly & C-based programming. • Literature review from different online resources
	Level of Interactions and Innovations	• This system can be used for the elections in a advance way instead of that typical way of casting your vote.
	Familiarity	• The project enables students to get familiar with interfacing of sensors with microcontroller. Necessary to document and communicate how principle-based approaches address the project requirements