

**PES UNIVERSITY**  
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**100-ft Ring Road, Bengaluru – 560 085,**  
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**PROJECT BASED LEARNING - COMPUTER NETWORKS**  
**UE16EC351**

**“ELECTRONIC VOTING SYSTEM”**

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## **INTRODUCTION/BACKGROUND**

The rapid advancement in information and communications technologies has given rise to new applications that were impossible just few years ago. One of these applications is e-voting. The term “e-voting” is defined as any voting method where the voter’s intention is expressed or collected by electronic means. This report details the design and implementation of a generic and secure electronic voting system where voters can cast their votes anytime, anywhere and using a number of electronic devices including private computer networks, web and mobile phones.

## **SOFTWARES USED**

### **1)Node.js**

Node.js is a JavaScript runtime built on Chrome's V8 JavaScript engine. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js' package ecosystem, npm, is the largest ecosystem of open source libraries in the world. I/O refers to input/output. It can be anything ranging from reading/writing local files to making an HTTP request to an API.

### **2)ejs**

E in EJS is for Embedded, ejs is simple and effective template engine for JavaScript. EJS is the simple template which allows developers to create the HTML page with plain JavaScript. ejs provide fast compilation and rendering and include both server and browser support.

### **3)MongoDB**

MongoDB allows us to easily organize, use and enrich data – in real time, anywhere. MongoDB Atlas delivers the world's leading database for modern applications as a fully automated cloud service. Proven operational and security practices are built in, automating time-consuming administration tasks such as infrastructure provisioning, database setup, ensuring availability, global distribution, backups, and more.

## **ILLUSTRATION/SNAPSHOT-PACKET ANALYSIS**

1. DNS Query(Type A) was sent
2. DNS Response was received with 8 Answer RRs and zero Authoritative RRs and zero Additional RRs
3. Connection established with the host having ip address of 52.5.226.222
4. TCP connection established successfully and SYN, SYN-ACK and ACK messages was exchanged successfully
5. Client Hello and Server Hello messages are exchanged between the hosts successfully
6. Certificate, Server Key Exchange and Server Hello Done is received by the client over SSL connection.
7. Client Key Exchange, Change Cipher Spec and Encrypted Handshake Message were successfully exchanged between the hosts for secured data transfer(communication).
8. Required data is being transferred between client and server.
9. TCP Connection is closed once the session expires.

## **CONCLUSION**

Elections allow the populace to choose their representatives and express their preferences for how they will be governed. Naturally, the integrity of the election process is fundamental to the integrity of democracy itself. The election system must be sufficiently robust to withstand a variety of fraudulent behaviors and must be sufficiently transparent and comprehensible that voters and candidates can accept the results of an election. However, this cannot be said for conventional voting systems. Electronic voting is emerging as significant alternative to these conventional systems in the delivery of reliable and trusted elections.