

# SECURED INTEGRITY AND BATCH AUTHENTICATION IN VEHICULAR Ad-Hoc NETWORK

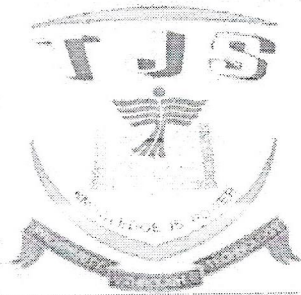
A PROJECT REPORT

Submitted by

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In partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING  
IN  
COMPUTER SCIENCE AND ENGINEERING



**T.J.S ENGINEERING COLLEGE**

PERUVOYAL (NEAR KAVARAIPETTAI)

GUMMIDIPOONDI TALUK

THIRUVALLUR DISTRICT - 601206

Approved by AICTE and Affiliated to Anna University, Chennai



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JUNE 2022

PERUVOYAL, KAVARAIPETTAI,  
GUMMIDIPOONDI TALUK,  
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**BONAFIDE CERTIFICATE**

Certified that this project report "SECURED INTEGRITY AND BATCH AUTHENTICATION IN VEHICULAR Ad-Hoc NETWORK" is the bonafide work of the following students.

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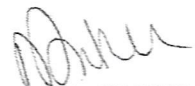
**SIGNATURE**

**Ms. V. Pavithra, M.E.,**

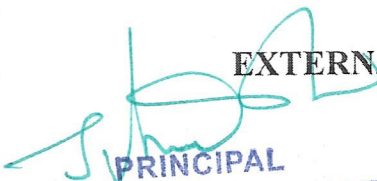
**SUPERVISOR**

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Submitted for the viva voce examination held on 22/06/22 at T.J.S Engineering College, Peruvoyal.



**INTERNAL EXAMINER**



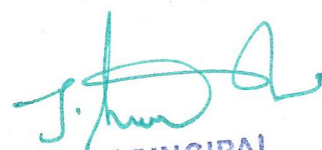
**EXTERNAL EXAMINER**

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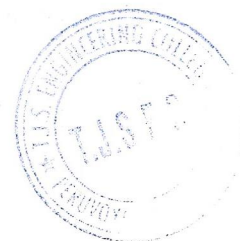


## ABSTRACT

Recent development in intelligent transport systems (ITS) has led to the improvement of driving experience in vehicular ad-hoc network (VANET) systems. Providing a low computational cost with high serving capability, however, is a critical phenomenon in the current VANET system. In the existing scenario, when the authenticated vehicle user moves from one roadside unit (RSU) to another RSU region, re-authentication of the vehicle user is required by the current RSU, which increases the computational complexity. To overcome the above-mentioned challenge, a 6G enabled authentication protocol is developed in this work. In this suggested process, 6G enabled batch authentication is integrated with VANET, which enables the authentication of the vehicle user without the involvement of a trusted authority. Moreover, the integrity of the message and privacy of vehicle users are preserved in the batch authentication network. Even though many Secured integrity preservation scheme have been proposed recently, the existing schemes were not focused on conditional anonymity. However, in our proposed scheme, conditional privacy is introduced to revoke the malicious vehicles in the case of disputes and to avoid further damage to the VANET system. As a result, the proposed scheme provides an efficient mechanism for anonymous authentication, privacy, and integrity preservation with conditional tracking. Finally, the defense against different security threats is explained in the security analysis section, and the performance investigation section shows the competence and efficacy of our method with similar related methods.



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**OBJECTIVES:**

- To understand different Internet Technologies.
- To learn java-specific web services architecture

**UNIT I WEBSITE BASICS, HTML 5, CSS 3, WEB 2.0 9**

Web Essentials: Clients, Servers and Communication – The Internet – Basic Internet protocols – World wide web – HTTP Request Message – HTTP Response Message – WebClients – Web Servers – HTML5 – Tables – Lists – Image – HTML5 control elements – Semantic elements – Drag and Drop – Audio – Video controls - CSS3 – Inline, embedded and external style sheets – ~~File cascading~~ – Inheritance – Backgrounds – Border Images – Colors – Shadows – Text – Transformations – Transitions – Animations.

**UNIT II CLIENT SIDE PROGRAMMING 9**

Java Script: An introduction to JavaScript–JavaScript DOM Model–Date and Objects,- Regular Expressions- Exception Handling-Validation-Built-in objects-Event Handling- DHTML with JavaScript- JSON introduction – Syntax – Function Files – Http Request – SQL.

**UNIT III SERVER SIDE PROGRAMMING 9**

Servlets: Java Servlet Architecture- Servlet Life Cycle- Form GET and POST actions- Session Handling- Understanding Cookies- Installing and Configuring Apache Tomcat Web Server- DATABASE CONNECTIVITY: JDBC perspectives, JDBC program example - JSP: Understanding Java Server Pages-JSP Standard Tag Library (JSTL)-Creating HTML forms by embedding JSP code.

**UNIT IV PHP and XML 9**

An introduction to PHP: PHP- Using PHP- Variables- Program control- Built-in functions-Form Validation- Regular Expressions - File handling – Cookies - Connecting to Database. XML: Basic XML- Document Type Definition- XML Schema DOM and Presenting XML, XMLParsers and Validation, XSL and XSLT Transformation, News Feed (RSS and ATOM).

**UNIT V INTRODUCTION TO AJAX and WEB SERVICES 9**

AJAX: Ajax Client Server Architecture-XML Http Request Object-Call Back Methods; Web Services: Introduction- Java web services Basics – Creating, Publishing, Testing and Describing a Web services (WSDL)-Consuming a web service, Database Driven web service from an application –SOAP.

**TOTAL 45 PERIODS****OUTCOMES:****At the end of the course, the students should be able to:**

- Construct a basic website using HTML and Cascading Style Sheets.
- Build dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.
- Develop server side programs using Servlets and JSP.
- Construct simple web pages in PHP and to represent data in XML format.
- ~~Use the~~ ~~the~~ ~~AJAX~~ ~~and~~ ~~web~~ ~~services~~ ~~to~~ ~~develop~~ ~~interactive~~ ~~web~~ ~~applications~~

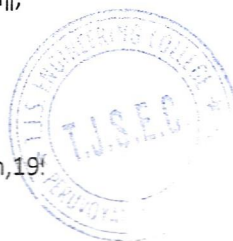
**TEXT BOOK:**

1. Deitel and Deitel and Nieto, –Internet and World Wide Web - How to Program||, Prentice Hall, 5th Edition, 2011.

**REFERENCES:**

1. Stephen Wynkoop and John Burke –Running a Perfect Website||, QUE, 2ndEdition,19

  
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2. Chris Bates, Web Programming – Building Intranet Applications, 3rd Edition, Wiley Publications, 2009.
3. Jeffrey C and Jackson, —Web Technologies A Computer Science Perspective||, Pearson Education, 2011.
4. Gopalan N.P. and Akilandeswari J., —Web Technology||, Prentice Hall of India, 2011.
5. UttamK.Roy, —Web Technologies||, Oxford University Press, 2011.

CS8661

### INTERNET PROGRAMMING LABORATORY

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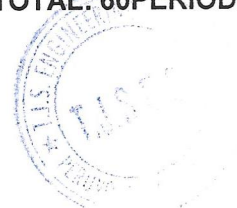
- To be familiar with Web page design using HTML/XML and style sheets
- To be exposed to creation of user interfaces using Java frames and applets.
- To learn to create dynamic web pages using server side scripting.
- To learn to write Client Server applications.
- To be familiar with the PHP programming.
- To be exposed to creating applications with AJAX

#### LIST OF EXPERIMENTS

2. Create a web page with the following using HTML
  - a. To embed a map in a web page
  - b. To fix the hot spots in that map
  - c. Show all the related information when the hot spots are clicked.
2. Create a web page with the following.
  - d. Cascading style sheets.
  - e. Embedded style sheets.
  - f. Inline style sheets. Use our college information for the web pages.
3. Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.
4. Write programs in Java using Servlets:
  - iii. To invoke servlets from HTML forms
  - iv. Session tracking using hidden form fields and Session tracking for a hit count
5. Write programs in Java to create three-tier applications using servlets for conducting on-line examination for displaying student mark list. Assume that student information is available in a database which has been stored in a database server.
6. Install TOMCAT web server. Convert the static web pages of programs into dynamic web pages using servlets (or JSP) and cookies. Hint: Users information (user id, password, credit card number) would be stored in web.xml. Each user should have a separate Shopping Cart.
7. Redo the previous task using JSP by converting the static web pages into dynamic web pages. Create a database with user information and books information. The books catalogue should be dynamically loaded from the database.
8. Create and save an XML document at the server, which contains 10 users Information. Write a Program, which takes user Id as an input and returns the User details by taking the user information from the XML document
9.
  - iii. Validate the form using PHP regular expression.
  - iv. PHP stores a form data into database.
10. Write a web service for finding what people think by asking 500 people's opinion for any consumer product.

  
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**TOTAL: 60 PERIODS**



**OUTCOMES:**

**Upon Completion of the course, the students will be able to:**

- Construct Web pages using HTML/XML and style sheets.
- Build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.
- Develop dynamic web pages using server side scripting.
- Use PHP programming to develop web applications.
- Construct web applications using AJAX and web services.

**SOFTWARE REQUIRED:**

- Dream Weaver or Equivalent, MySQL or Equivalent, Apache Server, WAMP/XAMPP



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