

A  
Project Report  
On  
**MULTI CONTROL BANKING SYSTEM**

*Submitted to*  
Department of  
**Computer Science and Engineering**

By  
DAMERUPPULA SANJANA (206Y1A6613)  
PONNAM RUCHITHA (206Y1A6644)  
KURNA PRERANA (206Y1A6630)  
GADDAM SATHWIK (206Y1A6619)

Under the guidance  
Of  
**Mrs.S.VISHALI**  
Asst.Professor



**Department of Computer Science & Engineering**  
**SUMATHI REDDY INSTITUTE OF TECHNOLOGY for WOMEN**

*(Approved by AICTE, New Delhi; Affiliated to JNTU, Hyderabad)*  
Ananthasagar(Vill), Hasanparthy(M), Warangal – 506 371 (A.P.), Website : [www.sritw.org](http://www.sritw.org)  
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*Rajani*

**PRINCIPAL**  
Sumathi Reddy Institute of Technology for Women  
Ananthasagar (V), Hasanparthy (M)  
WARANGAL - 506 371 (T.S.)

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## **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



### **CERTIFICATE**

This is to certify that the project entitled “**MULTI CONTROL BANKING SYSTEM**” is submitted by DAMERUPPULA SANJANA(206Y1A6613), PONNAM RUCHITHA(206Y1A6644), KURNA PRERANA(206Y1A6630) and GADDAM SATHWIKA(206Y1A6619) to the department of Computer Science and Engineering during academic year 2022-23.

**Mrs.S.VISHALI**  
Project Guide

**Dr.E.SUDARSHAN**  
Head of the Department



**PRINCIPAL**

Sumathi Reddy Institute of Technology for Women  
Ananthasagar (V), Hasanparthy (M)  
WARANGAL - 506 371 (T.C.)

## ABSTRACT

Online shopping is becoming more and more common in our daily lives. Understanding users' interests and behaviour is essential in order to adapt e-commerce websites to customers' requirements. The information about users' behaviour is stored in the web server logs. The analysis of such information has focused on applying data mining techniques where a rather static characterization is used to model users' behaviour and the sequence of the actions performed by them is not usually considered. Therefore, incorporating a view of the process followed by users during a session can be of great interest to identify more complex behavioural patterns. To address this issue, this paper proposes a linear-temporal logic model checking approach for the analysis of structured e-commerce web logs. By defining a common way of mapping log records according to the e-commerce structure, web logs can be easily converted into event logs where the behaviour of users is captured. Then, different predefined queries can be performed to identify different behavioural patterns that consider the different actions performed by a user during a session. Finally, the usefulness of the proposed approach has been studied by applying it to a real case study of a Spanish e-commerce website. The results have identified interesting findings that have made possible to propose some improvements in the website design with the aim of increasing its efficiency.

**Key words**—Data mining, e-commerce, web logs analysis, behavioural patterns, model checking



*Rijan*

**Principal**

Sumathi Reddy Institute of Technology for Women  
Ananthasagar (V), Hasanparthy (M)  
WARANGAL - 506 371 (TS)