



Revolutionizing Cotton Wool Management: MIS Portal for Woolboard, Ministry of Textiles

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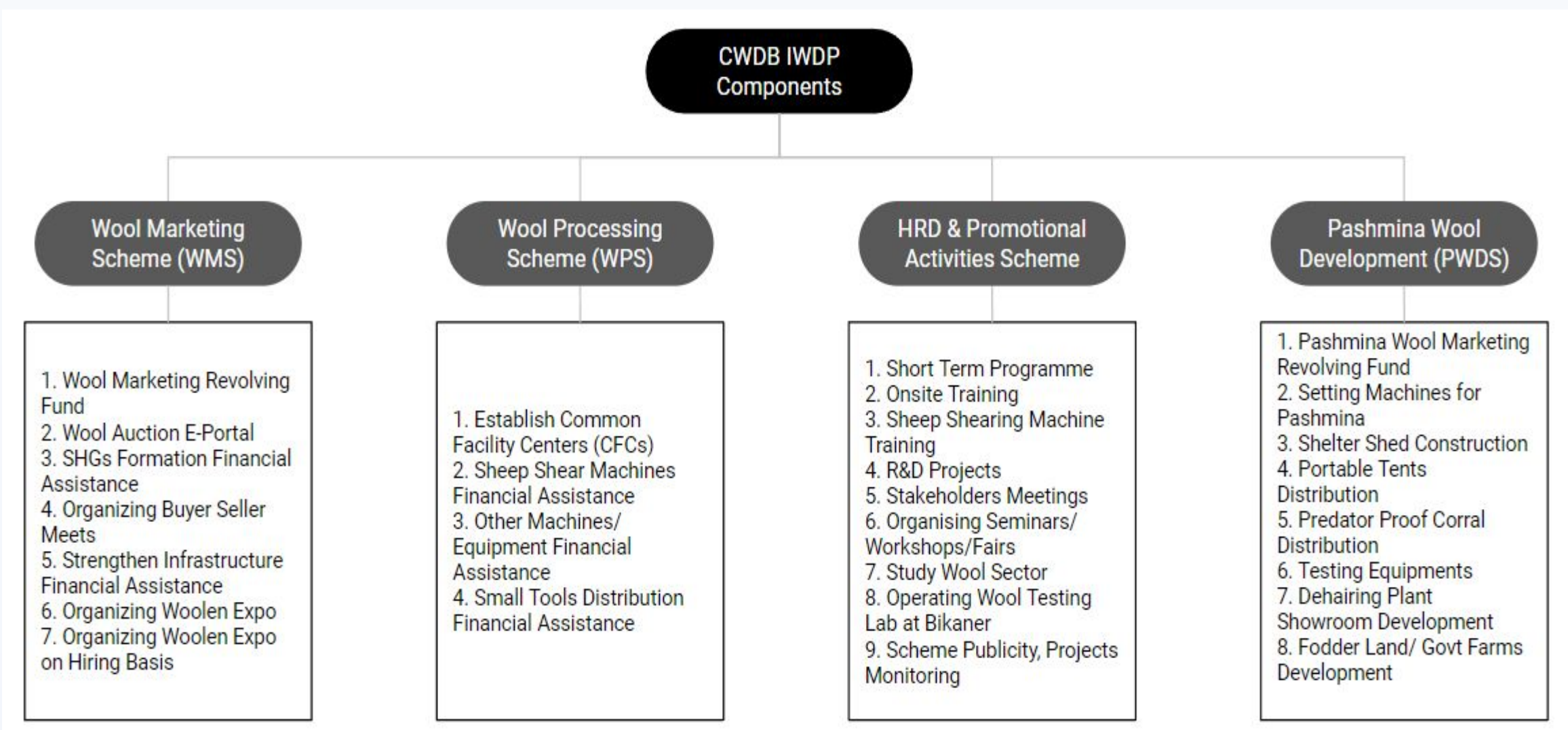
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ABSTRACT

In today’s rapid technological advancements, incorporating modern Information Systems has become essential for boosting the efficiency and transparency of governmental operations. This thesis focuses on implementing a Management Information System (MIS) customized for the Wool Board under the Ministry of Textiles, Government of India. The main goal is to move beyond traditional document-based methods, introducing a digital transformation for project proposal submission, scheme approval, and fund releases. This bold initiative takes the form of a web application designed to revolutionize the ministry’s workflow, simplifying bureaucratic processes and enabling better-informed decision-making.

INTRODUCTION

Our endeavor focuses on modernizing project management practices through the introduction of a specialized Management Information System (MIS). This web application aims to revolutionize key project processes, enhancing efficiency and transparency. Grounded in empirical research, our MIS undergoes rigorous testing for reliability, incorporates scalability, and features a robust backup architecture, ensuring adaptability to evolving demands.



METHODOLOGY

Our methodology initiated by exploring dynamic website development across various stacks, including Django, MERN, and Drupal. Following a meticulous comparative analysis, we strategically chose Django for the MIS Portal and Drupal for the dynamic website, prioritizing efficiency and scalability. The development phase focused on designing systems for schemes' progress reports, fund management, release mechanisms, and implementing a multi-role authentication framework.

The results of the tests are in the tables below:

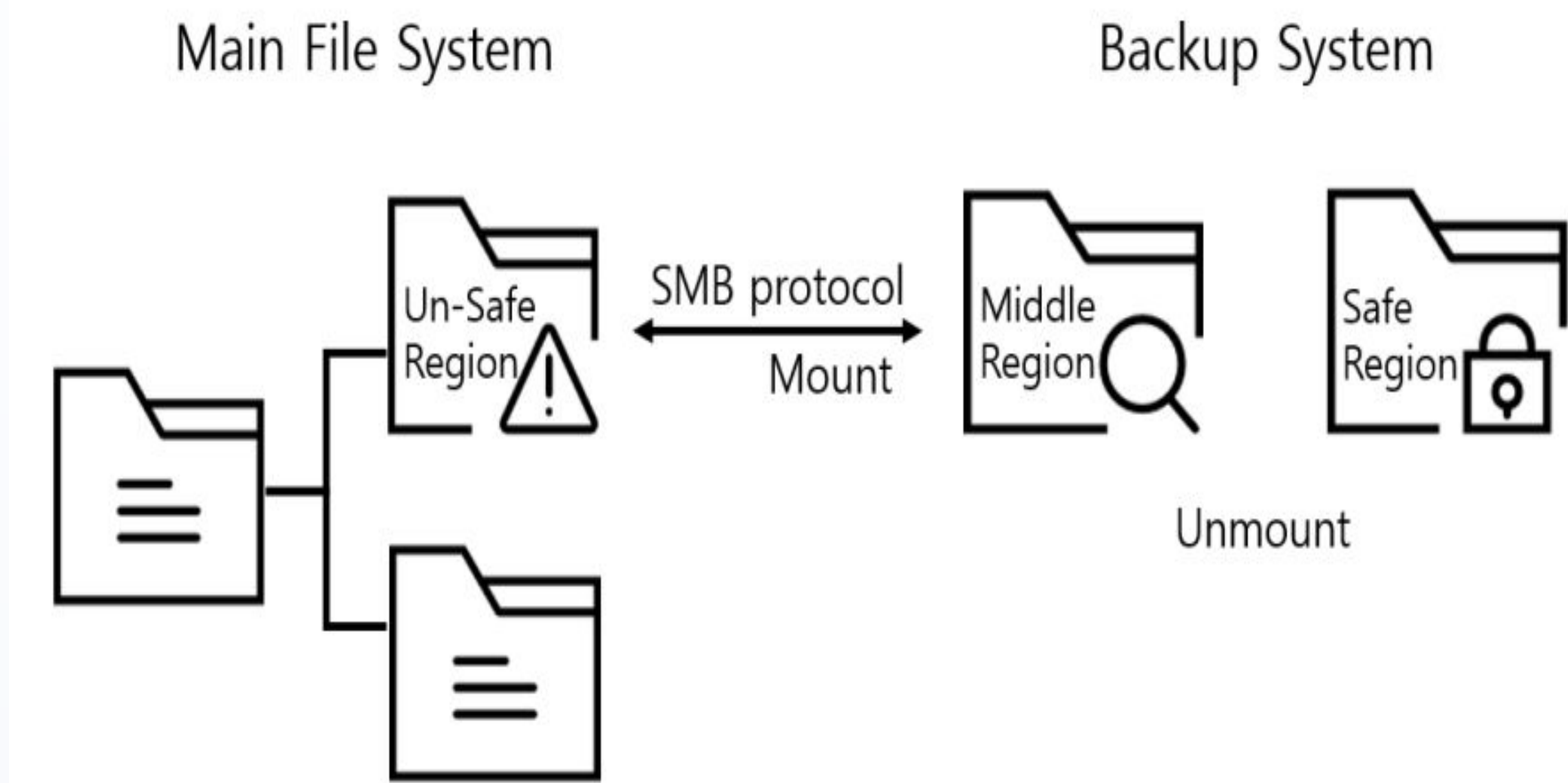
CMS	Page Load time	Page size	No. of Requests	CSS Files Requested	JS Files Requested	Load Time with Cache
Drupal	545 ms	58 KB	20	7	0	353 ms
Joomla	891 ms	521 KB	28	9	7	704 ms
WordPress	2961 ms	98 KB	13	3	4	441 ms

Table 5.2: Results of text only page

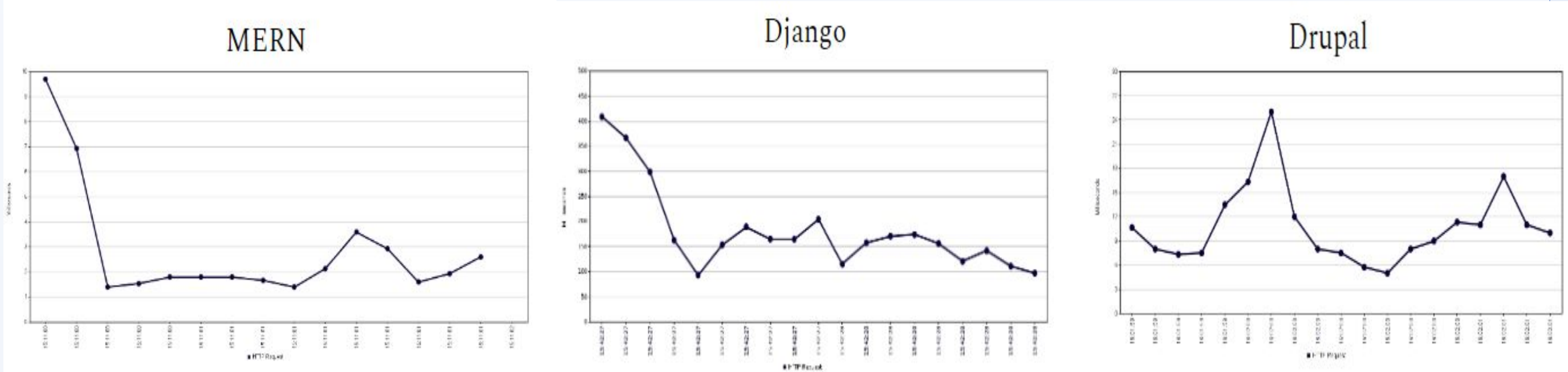
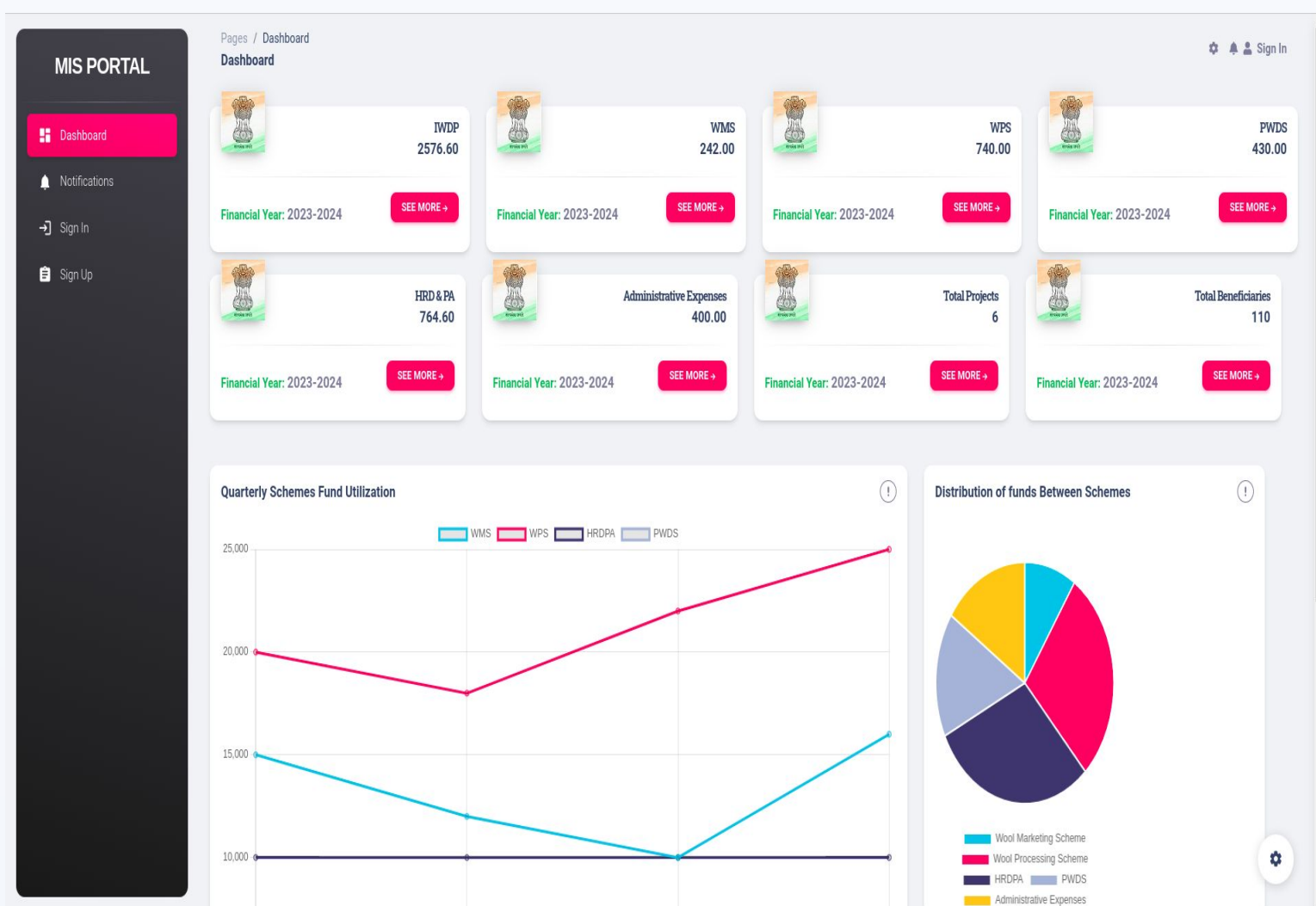
CMS	Page Load time	Page size	No. of Requests	CSS Files Requested	JS Files Requested	Load Time with Cache
Drupal	721 ms	107 KB	34	9	4	421 ms
Joomla	1032 ms	525 KB	29	9	7	724 ms
WordPress	3170 ms	103 KB	13	3	4	467 ms

Table 5.3: Results of texts and images page

Backup architecture was proposed for the same, which involved taking differential backups after segregating the backup into 3 regions minimum. Apache Testing and production level feasibility was checked for all 3 stacks.



RESULTS



FUTURE SCOPE

1. Implementation of the given backup architecture is in progress.
2. Scalability and stress testing is to be done.
3. Another module called “inspections” module is already under works, which involves inspection of gpal completed and data submitted by IAs (Implementing Agencies.)

REFERENCES

1. M. Shon, H. Kim, K. Park, J. W. Park, K. Won, and J. Hong, “A robust and secure backup system for protecting malware,” in 34th ACM/SIGAPP Symposium on Applied Computing, 2018.
2. L. Luo, D. Yu, Y. Lv, and L. Shiuchi, “Critical data backup with hybrid flash-based consumer devices,” in ACM Transactions on Architecture and Code Optimization, 2023