INTRODUCTION

* “Inventory Management System” software is a web-based application that offers a system to organize and manage stock registers, stock levels & also stock related files.
* This system is implemented to replace the manual system i.e. the traditional register based inventory recording system.
* There would be four-different-level users to the system namely, Super-admin, College-admin, Department-admin & Expert-user. Each of them will see different contents & can manage different things according to their levels.
* By using this system the users can handle their inventory in a more systematic manner, so that later they get the information of these stored records in a short span of time.
* The system will provide a good management tool as it allows different categories of stock to be managed differently.
* The system will cater to all the requirements required by Assam Agricultural University.
* This system will help all the users to maintain their inventory related information. At the same time it allows management task to be done on the system.

OBJECTIVE

* To handle the entire activities of an inventory management system like adding stock, issuing stock, tracking stock levels, maintaining damaged stock separately, searching any stock related information, viewing all the details etc in an efficient way.
* To help the user of this system to manage their department’s inventory more effectively and in a well organized manner.
* To reduce the workload and effort of the users by allowing different categories of stock to be managed separately.
* To facilitate stock-related file upload to the system and to view those files at any point of time.
* To provide security to the stock related information maintained by users as only authorized user are allowed to access the data.
* The system contains a database where all the information stored safely.

CONCLUSION

Doing works like maintaining stock registers, adding & issuing stock, tracking stock levels, keeping stock related files safely, searching & viewing all the details manually takes so much effort and at the same time it’s very time consuming. In simple words, keeping the records all together in an organized way is very hard with paper. It’s facing a lot of problems in managing the stock records.

So it is required to design a computerized inventory management system to speed up the processes and also make it easy for the authorized users to use the system more effectively.

Hence, the project aims to develop an inventory management system in order to provide solutions to current problems and increase efficiency. This system has been developed with much care and it meets the very basic and necessary needs of the users making it easier to handle all the information. Thus, our system has overcome some of the drawbacks of traditional paper-based system. As the system also provides a facility of simple calculator, the users don’t have to spend a lot of time in calculation & other managing staff. They can now easily monitor their stock related information in just a few minutes without any effort so that the system becomes more useful.

SECURITY MEASURES

* **Password Hashing:** Hashing is the process of converting a given key into another value. It is the transformation of a string of characters into a fixed length value or key that represents the original string. Hashing a password is good because instead of storing the user’s password as plaintext, which is open for anyone to read, it is stored as a hash which is impossible for human to read. Password hashing protects passwords in the event of a security breach. For any reason the database may get compromised and its data may be obtained by someone else. So by hashing we can ensure that the passwords are much safer, even if someone gets their hands on the database, it’s computationally infeasible to calculate the passwords. We are hashing the super-admin, college-admin, department-admin and expert-user’s passwords and storing them in the database securely. As hash functions are one way functions, we cannot get the original text back from the hash. So we can hash any attempted password and compare the result to the saved hash to verify a user’s authentication attempt.
* **Secure Password Recovery:** In any website there should be a Forgot Password service that allows the user to request a password reset so that they can securely recover their passwords. When a user uses the forgot-password service to reset their password, we first ask them to enter their valid email address, if the email is registered, we send them an OTP to their email address which will get expired in 5 minutes. After entering the OTP system will check and verify if it matched and then they can easily reset their password and get access to their account.
* **Role Based Authorization:** Role based authorization is a method of restricting access based on the roles of individual users. Our system have multiple levels of users i.e. super-admin, college-admin, department-admin and expert-user, each one having access to some specific functions. By implementing this mechanism, the users have access rights only to the information they need to do their jobs and prevent them from accessing information that doesn’t pertain to them. It can regulate who can view or use resources in a system. Security is more easily maintained by limiting unnecessary access to information based on each user’s established role within the system.
* **Authentication using cookies:**