SOFTWARE ARCHITECTURE

SHARED DATA STYLE

Software Architecture describes the major components , the relations between them and how they interact with each other . It provides an abstraction to manage the system complexity.

One among various Architectural styles is the “SHARED DATA STYLE”.

Basically there are two components in this shared data style :

* Data Repository
* Data Accessors

The components of the data repository are something like which stores the data .For example files , data bases etc..

The components of data accessor type access the data from the repositories , perform computation on the data obtained and if they want to share the data with the others they put it back to the central repository. In the simple words the accessors are the computational elements that receive the data from the repository and save their data in the repository as well.

These components no need to communicate with each other and not required to know each others presence even .Generally BLACK BOARD style is followed in this where any change or modification will be updated to the data accessors.

So in LIBRARY MANAGEMENT SYSTEM the modules identified comes under the following components.

Data Repository:

* INVENTORY
* LIBRARY CATALOG

Data Accessors:

* LOGIN
* REGISTER
* SEARCH
* ISSUE
* RETURN
* FEEDBACK
* ACCOUNT MAINTENANCE

APPLICATION TO LIBRARY MANAGEMENT

This Shared Data Style is one of the most suited Architectural style for library management system. This System involves authentication of users , book transactions , report generation , feedback as it’s services.

Here the data accessors may not be the human directly ,they can also be module.In our library management system the above mentioned are the modules identified.

ACCOUNT MAINTENANCE

RETURN

FEEDBACK

ISSUE

SEARCH

INVENTORY

REGISTER

LOGIN

Here INVENTORY acts as central repository. All the data will be available in the inventory , any change or update in the inventory updated the data in the modules.So all the modules can communicate with each other but not directly ,through inventory as central means of communication.

For example if we consider login , in that we will have forgot password then reset password will be done.That updated password should get updated in the user for the purpose of login the next time.The change will not be done directly by updating the password in the account.

First the changed password will be updated in the inventory and that data will be accessed by the Account Maintenance module. So there is no need of communication between Login nd Account Maintenance module directly , they can communicate through inventory indirectly. So there is data sharing between Login and Account Maintenance module through inventory.

So in this way SHARED DATA STYLE will be suitable for LIBRARY MANAGEMENT SYSTEM as inventory acts as central repository.