

Design Justification

Explanation of the DFD:

- Our application has 2 types of users: A normal user and an event manager/participant. A normal user can only watch the results of various events. Where an event manager creates/updates an event.
- The level 1 DFD has 5 processes authentication, sports-event management, View message log, Send Message, Maintenance.
- Authentication has various processes such as validate user, register user which are used to register a first-time user into the system database so that they can use the application. Login User is another sub-process of authentication which logs the users into the system who have previously registered into the system.
- View message Log displays the messages sent by the various users during an event. Send Message creates a form through which the user sends a message during an ongoing event.
- Maintenance maintains the event manager list and has administrator privileges that allow him to edit/delete any event or remove a user/event Manager. It also verifies and grants the event manager the privileges to create/update an event.
- Sports event management has processes such as Create and update events, Notify users which are used by event managers to create events, and then update information about the event after the event ends.

Balance of Coupling and Cohesion:

1. **Coupling:** Our application has low degree coupling namely data coupling, in data coupling there is a dependency between the modules based on the fact that they communicate by passing data only. The only connectivity and dependency between any two modules are through the stored data in the database.
2. **Cohesion:** Our application has a moderate degree of cohesion namely communicational cohesion, in communicational cohesion, two components of a module operate on the same data. Here in our application, most of the components in a module share common resources.