3.1 overall system design

From figure 1, you can see that our web application are consisted of three tier that include: Client Tier, Logic Tier(Application Server) and Database Tier. Client Tier plays a role of interface between our clients and application server. This Tier collects user's input using HTML forms and using post method to send it to the Application Sever. Logic Tier plays a role of manipulating users input, processing it using PHP, JavaScript and XML technologies. Then, it creates a connection to MYSQL database for data storage and sends a response to the user such as telling them your tickets have been booked successfully. The Database saves the data that have been processed in the Application Server and also provides methods to retrieving and manipulating the data, ensuring the data persistence across the whole system.

3.2 Data flow chart:

In order to achieve data security and data integrity, we use the following data flow chart shown in figure 2. When user types their tickets information in the HTML form, our system collects and converts the input data into an XML file. By using XSD and javaScript to validate the input data, we can tell if these input data are correct or not. If the result is incorrect, we will return alert window to the user, reminding them to type it again. If the result is correct, we save these data in the database and local xml files.

In Web Application, we have provided back-end data storage in MYSQL. We use this relational database management system to manage data. PHP script help us to create a connection to the database and use SQL statement to create, retrieve, query, delete, update and define the records.