Module Three Assignment

1. **Outputs** –
   1. Limited members will be restricted access to activities that they shave selected
   2. Payments should be deposited to a local bank everyday
   3. Daily report with the list of all the sales transactions for the day
   4. Additional trend reports to show maintenance cost, member additions per month, contract termination per month.
   5. Send notification to members on request
2. **Inputs**
   1. The facility can have 300 -500 members
   2. Types of memberships
      1. Full – access to all the activities
      2. Limited – only access selected number of activities
   3. Limited members can pay for additional activities access
   4. Charges are maintained on a charge slip signed by the member
   5. Cash and sales are entered daily into the BumbleBee accounting software
3. **Processes**
   1. Website for members to login to the fitness center and access their activities. The webpage should have access to enter their email and social media details. The site should will also have an option for the member to request notifications to email or social media.

Member with full and limited access should have the access to the right screens and should only see the data or the activities that belongs to them. Management will be using the same webpage to access reports and check the various trend charts.

* 1. Back end process to store and mange member activities, preferences and activities.
  2. Payment process to update the member payment to the BumbleBee accounting software.
  3. Notification process – email and social media notifications could be sent using this service. This process will be sending emails to not just the members but also management with reports and the administrators in case of any incidents with the webpage or any of the services that serve on the backend

1. **Performance** – A webpage serving about 500 member should be designed with a load balancers and a failover server that makes sure that the webpage is always up and never goes down. The response time for the webpage is a very critical aspect when it comes to a webpage that is hosted, a notification process should be set to send notifications to the administrators on any slowness in the response time.

All the back end services use database to store and retrieve data. This also becomes another point of failure. Notifications have to be send when the file system is running out of disk space and constant health checks have to be put in place so that the webpage and the back end systems are always up and functioning.

The payment process cannot have duplicate or miss transactions. The service should actively check BumbleBee system to make sure that the transaction has been sent through and the payment has been registered.

1. **Controls** – There are various controls that are required for this project. A brief description is given below.
   1. User authentication – Personal information is very private and should be treated in a very secure way. At no point can one member’s data be visible to another member accidentally. Extreme care should be taken on how to handle member authentication. Emphasis on testing this accurately is required for security purposes.
   2. Secured connection – The connection from the client machine to the server machine should follow SSL secure connection protocol.
   3. Transactions for payments – the transaction for the payment is another process which should follow secure protocols. The format that these transactions being sent should also be standard with what bank would expect.

This task could be accomplished by starting the project with a very minimum scope. The first phase of the project will be to make a website no authentication and a back end service to maintain the member information. Payment service and notification process can also be worked on parallel.

After phase one the project will be presented to the management and made any adjustments that the management desires. Phase two, would be a little more rapid. The development process will be done with more interactions with the management and demoing the product every few weeks. This will make sure that there are less errors between the management and development team understanding what is required for the project complete. Phase two will be the critical part where the application will almost be complete. As the phase two is done a final review with the management and members of the facility is done and reviews will be noted down.

Phase three will be to deploy the agreed on application to production only for few members and managers to get a feedback on the application. Support structure is also determined in a better way with this approach. This period will also be done to make the final tweaks that the management had put forward during the review and any minor defects that may have been discovered.