Shopping Cart & Inventory Management

**Introduction**

Create a role based, web application to support online shopping cart to support online transactions including inventory management. We can use a real business as an example and extend to other businesses in the future. E.g. Online Dish Order System for Restaruant.

**Business Requirements and Modules**

* Registration: Provide a secure online registration to collect end user information. User information includes some required fields such as FirstName, LastName, Phone, Email, UserName and Password, and some optional fields such as Address Info. You may add other optional fields as necessary.
* Login: Provide a secure login process to allow users to access this web application based on their registered role. Understand forms login, authentication, and authorization. Suggested, predefined roles are SuperAdmin - Can do anything within site; CallCenterAdmin- Can manage inventory info, manage orders placed online. AppUser- Client users that can navigate products, place into shopping cart, place orders, and view his/her own orders.
* Inventory management:
* Restricted to super admins to manage product to sell. Authorized users can add/delete/update product items including product category, name, description, images, price, availability, etc.
* Restricted to super admins to review orders received, update order status or cancel orders
* Shopping cart: end users can navigate, search, and pick up interested product to add to their shopping cart, and can edit it at any time before check out. Shopping cart will be cleaned after it is move to order.
* Order:
* End users can place orders from their shopping cart. Bill to address and Ship to address are required before order can be submitted.
* Upon check in, users are required to pick up payment options. BTW, we will not include payment process at this time.
* After order is placed, auto email order summary to customer
* End user can review order summary, and cancel order before it is closed.
* Define several order status to reflect real business workflow, e.g. Submitted, Confirmed, Shipped, Cancelled, Closed.

**Development Tools & Technologies**

* Development IDE: Visual Studio
* Database: SQL Server, Azure DB to share and local DB as development.
* Technologies: ASP.Net, HTML5, CSS, and any 3rd party client side libraries such as Bootstrap, JQuery.
* We will use github or bitbucket to manage source code

**Test and Deployment**

* Design and development a simple Unit Test project
* Deploy it to your local IIS

**Project Team**

We will work on this project as a team to simulate the real working environment.

We will give each team member to play each role in project life cycle and project development life cycle (PDLC). We will make assignment on module/feature based so that everybody can participate, but have a focus and responsibility.

We will use loosely couple solution to make assignments per layer.

**Project Life Cycle and Time Table**

Project requirement analysis: I(or other instructors) will work as a BA (Business Analysis) and PM (Project Manager) to review project reqirements collected from business with you (Developer). The process is to let develop understand the business, and convert business requirments into project design. During this process, developers will ask questions, analysis design & implementation limits, proposal improvments or changes as necessary. Estimated 1.5 hours

Project Design: Usually architect or lead will design project architecture, select development tools & IDE, test and deployment tools. Select base libraries if there are. A solution with projects will be created at the end of this step. Estimated 2.5 hours

Database Design: Module based database design (Logic & Physical), convert each business module into database tables, design constraints. This step is usally by Database developer and/or application developer. We will have a database diagram ready at the end of this step. Estimated 2.5 hours

Application Development: Will be module based, and make assignment by layers (e.g. UI/Presentation, Entity and Business, Data Access, Database development). Estimated ???

Test: To be decided depending on previous step.

Deployment: TBD. We will deploy a team project on Azure. You can use it as a real project for your resume.