

**Instructor:** Ivor D. Addo, Ph.D.

**This individual final project is due in the dropbox folder labeled “Final Individual Project” no later than Friday, December 18: 11:59pm**

This is an **INDIVIDUAL PROJECT**. Avoid any form of plagiarism.

### **BUSINESS SCENARIO - FUNCTIONAL REQUIREMENTS**

You have been recently hired as the E-Commerce Development Manager at a startup company named Mimi Studios. Mimi Studios is interested in building an E-Book (electronic book) platform that allows patrons to find and checkout E-Books of interest. When a user checks out an EBook, he or she can read a PDF version of the book via a custom Mobile App.

Your company's CIO insists on using Open Source and Cloud hosting technologies to help minimize hardware and software CapEx (upfront) costs. The CIO is also interested in having minimal liability for storing credit card information. As an E-Commerce consultant, you have been asked to develop a business strategy, a technical architecture, and a working prototype for an MVP (minimum viable product).

The MVP solution must include the following product features:

- **Custom E-Business web site** with:
  - The ability to **view** for an E-Book on a product list page that shows a Book **Title** and an associated cover **Image** for each **valid book**. When a user **clicks** on a given **Book Title** hyperlink in the book list, the system should redirect the user to a product detail page for the selected product
  - The ability to **view a product detail page** displaying a cover **image** of the selected book, the book **Title**, **ISBN**, **Publication Date**, and a **short description** of the book
  - On the **product detail** page, a user can click on a button named “**Read Now**” to open a PDF version of the e-book

- **Custom E-Book Reader Mobile App:**
  - Ability to **login** to the App
  - A logged-in user can **view a list of recommended EBooks**
  - A logged-in user can view a list of EBooks in his/her **Checkout list**
  - From the **Checkout list** a user can view details about an EBook and download the EBook as a PDF to read within the App
  - A logged in user can also **check out recommended EBooks**

## NON-FUNCTIONAL REQUIREMENTS

- **Technology Stack:** jQuery, HTML5, Bootstrap, CSS3, Heroku Cloud, NodeJS, MySQL, WAMP, PHPMyAdmin, MS Visio or LucidCharts

## DELIVERABLES:

### *Hands-On Exercise*

1. Provide a **normalized logical data model (ERD)** for the overall solution using **Crow's Foot notation** (i.e. using lucidcharts.com, etc.)
2. Build an **interactive mockup** of the custom **E-Book Reader Mobile App** (i.e. using mockingbot.com or a similar tool)
3. Build a **responsive custom web site** for the MVP using the NodeJS, Bootstrap and jQuery stack.
  - i. Implement **Google Analytics** on your custom web site.
  - ii. Publish your web site code to a public-facing **Heroku cloud** web site.

### *Strategy Recommendations*

4. Recommend an appropriate **Mobile Commerce platform** or **strategy** for building the Mobile App. How can you **monetize** this App? Justify the recommendation
5. Recommend an appropriate **Social Media strategy** for supporting this solution
6. Recommend an appropriate **Payments solution** (Payment Processor/Vendor)
7. Name 3 key **privacy and security compliance laws** that your company should keep in mind in the design of this E-Business solution

8. Provide a **Software Architecture diagram** to support the entire E-Business solution
9. Your CIO is interested in setting up a computer network that will connect the main office to the internet and also allow employees to share files between 2 of the office computers. **Provide a network diagram illustrating how the proposed computer network** (involving 2 computers and a printer) can be designed with internet connectivity. Identify all the networking devices involved.
10. In no more than 1 paragraph, **reflect on what you have learned** in this class and summarize how your newfound knowledge will support you in your future career path.

*You must complete all 10 steps and provide the required artifacts to receive full credit*

### **Instructions for the Deliverables:**

Provide a **URL** to your published web site on Heroku, and **upload a zip file** containing your project folder. Include a **document** with your response to the strategy questions

**Any form of plagiarism** on the final project will result in forfeiting the full credit awarded for the entire exam.