Assignment – Group Project

- **Focused Learning Objectives**: LO1, LO2, LO3, LO4, LO6
- **Weightage**: 25%
- **Deadline**: 12th week – 3rd May 2019
- **Submission**: As explained in the text

Specification

SellNBye is an e-commerce system, which provides a platform for the registered sellers to advertise their products and registered buyers to order and purchase them. The engineering team has decided to implement the system based on micro-services architecture, using RESTful communication.

Things to do

- Identify possible web services to be implemented as micro-services (at least 5 – service per team member)
- Design the architecture for the **SellNBye** system, indicating the identified web services
- Design the API for each web service
- Design the class diagram per web service (use styles and patterns like MVC)
- Identify the DB requirements, then design the DB
- Select the tools (methods, technologies, frameworks, libraries, plugins, IDEs, etc…) to develop each web service and justify the selection
- Develop the system and test (using test clients) - Web services may intercommunicate to complete the overall features
- Each service should perform CRUD operations on DB via relevant features

Project management

- All the documents, source, and related artefacts should be maintained in a public repo of a VCS
- Document the roles and the workload of each member in the team
- Each member has to take care of a dedicated web service, including documentations, designing, development, and testing
- Each web service needs a client app to test the service. There should be a test client to test the overall system

Submission

- Prepare reports, following the given templates and submit to the course web, before the deadline. [A submission link will be created in course web]
- Submit hard copies of the reports at the viva time

Report template (overall report) – Max 5 pages including the cover page

- Cover page (with project title, assignment details, and team number and name + any other related detail)
- Members' details (student ID, name, workload + any other related details)
- Clickable link to the public VCS repo
- SE methodology/methods (with justification)
- System's overall design (the diagrams should be followed by descriptions)
    - Stakeholder analysis (onion diagram)
    - Requirements analysis (Functional, Non-functional, Technical requirements)
    - Requirements modelling (Use case diagram)
    - Overall architecture
    - Activity diagrams (to show the overall workflows)
    - Any other relevant design diagrams for the overall system
- Time schedule (Gantt chart)
- PDF file name: IT3030PAF2019 – Group project – Group <group number>

Report template (Individual report) – Max 5 pages including the cover page

- Cover page (with project title, assignment details, and team number and name + any other related detail)
- Member's details (student ID, name, workload + any other related detail)
- Service design (focusing only on your service. The diagrams should be followed by descriptions)
    - API
    - Internal logic (Class diagram, activity diagrams, flowcharts, etc…)
    - Database for the service (ER)
    - Any other relevant design diagrams
- Service development and testing
    - Tools used, including justifications for their selection (recommend to use ORM)
    - Testing methodology and results
- Assumptions and any other relevant discussions on relevant sections
- References (including any assistance gained for development)
- PDF file name: IT3030PAF2019 – Group project – Group <group number> - <student ID>

Marking scheme

Group mark (based on the overall report and demonstration)

Criteria	Weight
1. Presentation (formatting, neatness, arrangement, proper sectioning and discussions)	10
2. Member details and roles	10
3. VCS repo management	10
4. SE methodology	10
5. Requirements (stakeholders, analysed requirements, use case diagram)	10
6. System architecture	10
7. Any other design artefacts	10
8. Realistic time plan	10
9. Development (Demonstrate the overall workflows using a test client)	20

Individual mark (based on the overall report, demonstration, and viva)

Criteria	Weight
1. Report presentation (formatting, neatness, arrangement, proper sectioning and discussions)	5
2. API	10
3. Internal logic design	10
4. Database design	10
5. Any other relevant design	10
6. Development tools selection and justification	10
7. Testing methodology and results	10
8. References	5
9. Development (CRUD operations. Features should work without bugs. Demonstrate the functionality using the test client)	20
10. Viva	**10**

Final mark of the student = (Group mark x 40%) + (Individual mark x 60%)

NOTE:

- If you have good individual mark but do not perform well for the viva, 50% of your individual mark will be given based on the assumption that you have completed your part getting some help but you do not have enough knowledge
- If you do not contribute enough for the group work (have complaints and issues), 50% of the group mark will be given