Lab 1. Specification of system requirements

Objective: To explore the possibilities to describe the requirements for the designed software

Tasks

1. Choose one of the company type from the excel list. Or use your own company type.

2. Collect, analyze, and define list of high-level needs and capacities of the projected information system. Not less than 10 wishes-need in list.

3. Add description of the predictors of these needs.

4. Identify the key problems of the future lack of software and how to solve them.

5. Study the quality assessment system of the designed software. Describe in a pair of proposals – what actions will be taken to provide the joy of the customer.

6. The output should be documented in a report file.

Lab 2. Specification of system requirements

Objective: To explore the possibilities to describe the requirements for the designed software

Tasks

1. Create valid IDEF0 diagrams for the general company processes up to 3d level detailing. At 3d decomposition level should be at least one process with at least two actors collaboration.

2. Create ppt-report with IDEF0/BPMN diagrams images.

For IDEF0 diagram plotting you can use Ramus Educational (http://www.ramussoftware.com/en/index.php?option=com_docman&Itemid=6) or another available software tools.

For BPMN diagram plotting you can use Bizagi Modeler (http://www.bizagi.com/en/products/bpm-suite/modeler) or another available software tools

Model level	Notation	
0	IDEF0	Top level A0, one block. Arrows show object connection with environment.
1	IDEF0	First level, contain top processes.
2	IDEF0	Second level, top processes decompositions.
3	BPMN	Third level, contain smallest possible processes, actors

3. The output should be documented in a report file.

Lab 3. Use Case diagram

Objective: To study the basic features for creating and editing use case diagrams

Tasks

1. Describe the scenario execution software. Create Use Case diagram for the general company use cases. Diagram should include situation with at least two actors collaboration.

2. Create ppt-report with Use Case diagram image.

For UML diagram plotting you can use StarUML, draw.io or another available software tools.

Lab 4. Class diagram

Objective: To study the basic features for creating and editing class diagrams

Tasks

1. Study the possibility of describing the static structure of the information system. Learn how to allocate in the system of the basic classes and describe their properties and behavior. Create Class diagram. At leasts 5 classes with relations.

2. Create ppt-report with Class diagram image.

Lab 5. Sequence diagram

Objective: To study the basic features to create and edit sequence diagrams

Tasks

1. Create Sequence diagram for chosen operation, which include collaboration of at least 2 actors.

2. Create ppt-report with Sequence diagram image.

Lab 6. Activity diagram

Objective: To study the basic features for creating and editing activity diagrams

Tasks

1. Create activity diagram for chosen operation.

2. Create ppt-report with Activity diagram image.

Lab 7. Component diagram

Objective: To study the basic features for creating and editing components diagrams

Tasks

1. Create Component diagram for general enterprise system components.

2. Create ppt-report with Component diagram image.

Lab 8. Deployment diagram

Objective: To study the basic features for creating and editing the deployment diagrams

Tasks

1. Create Deployment diagram for general enterprise system components.

2. Create ppt-report with Deployment diagram image.

Lab 9. Entity-Relationship diagram

Objective: To study the basic features for creating and editing the ER diagrams

Tasks

1. Create Entity-Relationship diagram for general system entities. At leasts 5 entities with relations.

2. Create ppt-report with ER diagram image.