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|  | King Saud UniversitySchool of Business AdministrationManagement Information Systems Department | Lab Syllabus Winter 15 |

**MIS 215: Information Systems Analysis and Design (1)**

### Instructor: Nourah A. Albanamy

### Office: 146, 2nd floor, Building 3

**E-mail:** nalbanamy@ksu.edu.sa

### Website: http://fac.ksu.edu.sa/nalbanamy

**Lab Description:**

You will perform System Analysis and Design of a particular project. The project will deal with developing a new system, which runs through subsequent phases. The focus will be on the Planning, Analysis, and Design phases of the project.

The lab component will expose students to practical knowledge on how to use different software platforms to draw the Unified Modeling Language (UML) diagrams and “use case”.

**Systems Development Methodology:**

We will follow the Systems Development Life Cycle (SDLC) methodology in the lab. A methodology includes the following elements: Models, Tools and Techniques for systems development.

**Models:**

In this class, we will be using UML.

**Software:**

* Microsoft  Project 2010 or later
* Microsoft Visio Professional 2010 or later
* Smartdraw at [www.smartdraw.com](http://www.smartdraw.com)
* Creately Software at [www.creatly.com](http://www.creatly.com)
* MySQL 5.0 or later
* Microsoft Office 2010 or later

**To download the software:**

Software will be available in the lab for students to work on the project. Otherwise, you can download a trial version from the specific software website.

**Systems Development Project**

With your team members, choose a real or a virtual company and develop a web based Information System, which will automate one or more business functions. You will conduct all activities and prepare all deliverable products associated with the development process. At the conclusion of your project, you will prepare a project report presenting your results. You will also design a working prototype model of your system (if applicable).

**Project Initiation:**

Locate a company that is interested in either automating a manually based information system or enhancing its current computer-based system. For the project purpose, try to choose a small-size company, which would help you to cover a small range business function. It is better to have a deeper, more comprehensive analysis of a narrow-sized application scope. Perform a quick feasibility analysis to ensure that the potential project is feasible.

Here are some things to consider:

* Your “use case” diagram must have at least three meaningful processes (Actors).
* Your project must result in deliverable software in one of the following forms:
	+ Automated replacement of current manual system
	+ Substantial reprogramming of an existing automated system
	+ New automated interface to be placed on existing automated system
* Your project must be web- based
* DBMS must be MySQL

**Advice for a Successful Project**

* Try to find a company that has a manual process that your team may automate.
* The proposed automated system should be designed for a PC rather than a mainframe.
* Spread the workload by breaking the team up into smaller units, and assign specific tasks to each of these units.

**Submission Standards:**

* All assignments must be submitted via e-mail by the group leader to the lab instructor.
* Late assignments will NOT be accepted.
* All assignments should include the cover page (available on BB) as the first page of the document.
* For the final report submission, attach a single CD which contains all the submitted documents in an electronic format.

**PROJECT DELIVERABLES**

**1**. **TEAM FORMATION**

Each team will consist of five to six members; each member assigned one of the following roles:

* Project Manager/Lead Systems Analyst
* Database Developer
* Web Developer
* Software Developer
* Network Designer

All members should be involved in all project activities. However, each member is expected to lead in the activities within her primary role.

**Deliverable:**

* Choose your team members
* Agree on a project
* Each member must fill out the “Team Information Form” in the following link:

<https://docs.google.com/forms/d/1_x2pbjThOmcESM4jgPatAdW4RGUjTckp9QFy0AEk4Hs/viewform?usp=send_form>

**2. PROJECT MANAGEMENT PLAN**

Use Microsoft Project software to create this deliverable.

From the description of the project deliverables,

1. Create a project *Gantt chart* that:
	* Include all project deliverables (as stated in this syllabus).
	* Beginning day for activities is the day after the previous deliverable is due.
	* Ending day for activities is the deliverable due date.
	* Include all tasks within each activity.
* Provide the estimated time to complete each task.
* For each task, provide the name of the developers responsible.
* Make each deliverable a milestone.
1. Create a *PERT diagram* for your project.

**Deliverables:**

E-mail the lab instructor a softcopy of your file. Note that you should save your MS Project file on a CD for final submission of the project.

**3. SYSTEM PROPOSAL**

In this deliverable, you will provide detailed history of the chosen company. Also, write detailed information of the problem and opportunities to understand the project.

**Deliverables:**

***Project Charter (Service request)***

1. Background Information about the company that includes: name of Client Company, address, line of business, company contact phone number, and contact's e-mail address.
2. Organization current system
3. Problem Statement
4. Project Opportunities
5. Project Description
	1. Scope
	2. Objectives
	3. Requirements
	4. Deliverables
6. Milestone Schedule
7. Summary Budget

***Candidates Matrix***

***Feasibility Study***

1. Operational Feasibility
2. Technical Feasibility
3. Economic Feasibility
4. Schedule Feasibility

**4. BUSINESS ANALYSIS**

In this deliverable, you will provide documentations related to the system analysis activities of your project.

**Deliverables:**

***Conduct of Analysis***

1. Source of System Requirements
2. Data collection instruments
3. Synopsis of interviews

***System Requirements***

1. System Description
2. System Constraints
3. System Capabilities
4. System Prototype
5. Context DFD

***Cost Benefit Analysis***

***Infrastructure Analysis***

1. Hardware
2. Software
3. Networking
4. Personnel

**5. SYSTEM MODELING**

In this deliverable, you will provide documentations regarding the structure of the proposed systems.

**Deliverables:**

***UML Diagrams of the Proposed System***

1. One Use Case Diagram, which will show all processes
2. Detailed description of each use case in the Use Case Diagram
3. Create an Activity Diagram for each use case in the Use Case Diagram
4. Design Level Sequence Diagrams
5. Design Level Class Diagrams
6. Create ER Diagrams

**6. SYSTEM PROTOTYPE & INTERFACE**

This deliverable requires building a working prototype of your system and design the system interfaces.

**Deliverables:**

***The prototype includes:***

1. MySQL database to store the data defined in your UML diagrams
2. Using any GUI design software:
* The main GUI
* Output screens samples
* Input screen samples
* All sub-menus (interfaces)
1. Using MS Access:
	* One form that should make an update
	* One report generated by your system

**7. SUPPORT & EVALUATION**

By this deliverable, your new system is installed and your project should be closed.

**Deliverables:**

1. User training plan
2. User documentation (Manuals)
	* Information describing how the system works to perform specific tasks for future reference.
3. System and data conversion plan
4. Support and maintenance plan

**Final Report**

The final report should be 20-25 pages long that includes all parts of the deliverables in this following format:

1. Cover page that includes:
	* Students’ name and university ID
	* Section number
	* Organization name and logo
2. Abstract
	* A brief summary of your project
3. Table of contents
4. Body of paper

### Introduction

### All project deliverables

### Conclusion

1. Reference page
	* The paper should follow the APA 5th edition guidelines.  There are several web sites available online that guide you through.
2. Appendices “if any”

Make sure that you write your final report using single spaced with 1 inch margins and Times New Roman 12 font size. The due date will be in the presentations day as shown in the course schedule.

**Peer Evaluation:**

At the end of this class, you must complete the peer evaluation form that will be provided by you instructor. Each team member will evaluate the contribution of other members of the team. Be aware that a portion of your project grade will be drawn from your peer evaluation so work with your team members.

**Presentation Guidelines:**

Each team will make a short (15 minutes + QA) project presentation on the final day of class.

All group members should participate equally in the presentation. Use of PowerPoint slides is encouraged. The presentations will be evaluated by your classmates and the instructor. Each presentation must be 10 slides or less which has to cover the following:

1. Introduction/Overview
2. Current System (the Problem)
3. Proposed System (the solution)
4. Demonstration of the system analysis
5. Demonstration of the system design

**Note:**

* Send the presentation PP slides to the course instructor one day prior to presentation due date.
* Printed copy of the PowerPoint slides and the final report should be handed to the instructor prior to the presentation.

**Project Grading**

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|  | Points |
| Project | 15 % |
| Presentation | 3 % |
| Peer-evaluation | 2 % |

**Lab Grading:**

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| --- | --- |
|  | Points |
| Quiz | 3 |
| Project Management Exercise | 3 |
| Use Case Exercise | 3 |
| Attendance | 1 |

**Lab Tentative Schedule**

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| --- | --- | --- | --- |
| Week # | Topic | Handouts | Homework |
| 2 | Introduction Project initiation | SyllabusLink to the form | Team Formation |
| Planning Phase |
| 3 | Project scheduling  | MS Project softwareGantt chartPERT diagram |  |
| 4 | Project scheduling | Project schedule example  | Project Management Plan |
| 5 | System requirements | Project cover pageProject charter template  |  |
| 6 | System requirements  | Feasibility analysis templateNPV | System Proposal |
| Analysis Phase |
| 7 | System analysis | Cost - Benefit analysisBusiness analysis template | Business Analysis |
| 8 | Object-Oriented Modeling | Modeling system requirements template UML diagramsCreately software |  |
| 9 | **Break** |
| 10 | Object-Oriented Modeling  | Use CasesSmartdraw software | System Modeling |
| Design Phase |
| 11 | Designing Database | SQL MS Access  |  |
| 12 | Designing User Interfaces | Edraw software | System Prototype and Interface |
| Maintenance Phase |
| 13 | System Support and Evaluation |  |  |
| 14 | Review |  | System S&E |
| 15 | **Project Presentation** |