

LKS SMK
Tingkat Nasional Ke-XXV
Tahun 2017



LKS SMK

Tingkat Nasional XXV
2017

Soal

BIDANG LOMBA

IT-Software Application



KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN

DIREKTORAT JENDERAL PENDIDIKAN MENENGAH

DIREKTORAT PEMBINAAN SEKOLAH MENENGAH KEJURUAN

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PROJECT OVERVIEW

In this Test Project, you are required to develop an information system following the requirement given on the Test Project. In general, there will be 4 project resources given to you, which is:

1. ERD and Data Dictionary for Test Project

This will be used to guide you to create the database files. Ensure that all entities created on the database are related with the given ERD, following the relationship and also the criteria in Data Dictionary for each entity!

2. Navigation Diagram for the Application

Use the Navigation Diagram to develop the form interaction inside the application. You are free to add new interaction between forms, without neglecting the defined interaction in this diagram.

3. Example Design (Wireframe) of desired Information System

This file is used to give you design guidelines of all required forms. Please note that your form designs are not limited to these examples!

4. Data files (*if any*)

The data files will be used to support you test and develop the information system on each module. Please use this data files in the development, you are allowed to use another resources outside the given data files only if instructed in the module.

TESTING ENVIROMENT

Your work will not be tested on your development machine. Use the following instructions to make sure that your project can be moved to the testing computer.

FILE/FOLDER STRUCTURE

Profile picture images are stored in the database as filenames (string), not as images (binary data). This means that you will need to use the filenames stored in the database to access the files that are stored elsewhere on the computer.

The testing computer will have the following folders set up on it with the relevant images inside:

- **bin/Debug/ of Your project folder.**
All profile picture images as provided in images.zip

Create these folder on your development machine to make sure that your project can be tested on the testing computer.

DATABASE CONNECTION

Use the following details when connecting to your database.

SQL SERVER

Database name:	cptxx (e.g. cpt01, cpt02, cpt22)
Server:	.\SQLEXPRESS
Username:	Windows authentication
Password:	

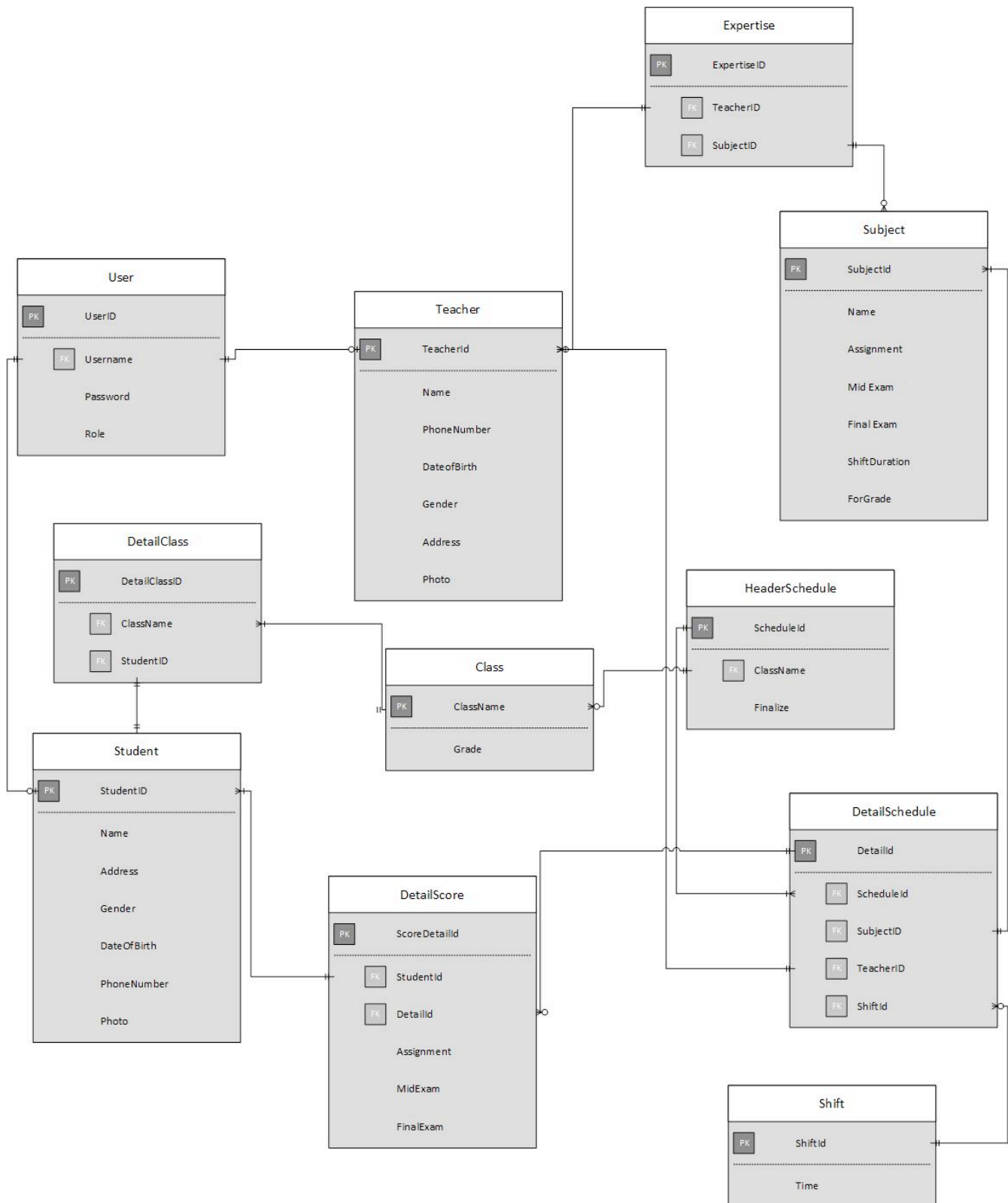
FILES TO SUBMIT AFTER EACH SESSION

For module 1 -5 , please submit the following items on Drive **E:\COMPXX** (XX is computer number) to make sure that your work can be tested:

- SQL script to recreate your database (must create all tables, insert data, define relationships and create any other objects such as stored procedures and views)
- All source code
- A compiled executable of your application (EXE file)
- Any other relevant files

SMK NUSANTARA INFORMATION SYSTEM

ENTITY RELATIONSHIP DIAGRAM



SMK NUSANTARA INFORMATION SYSTEM

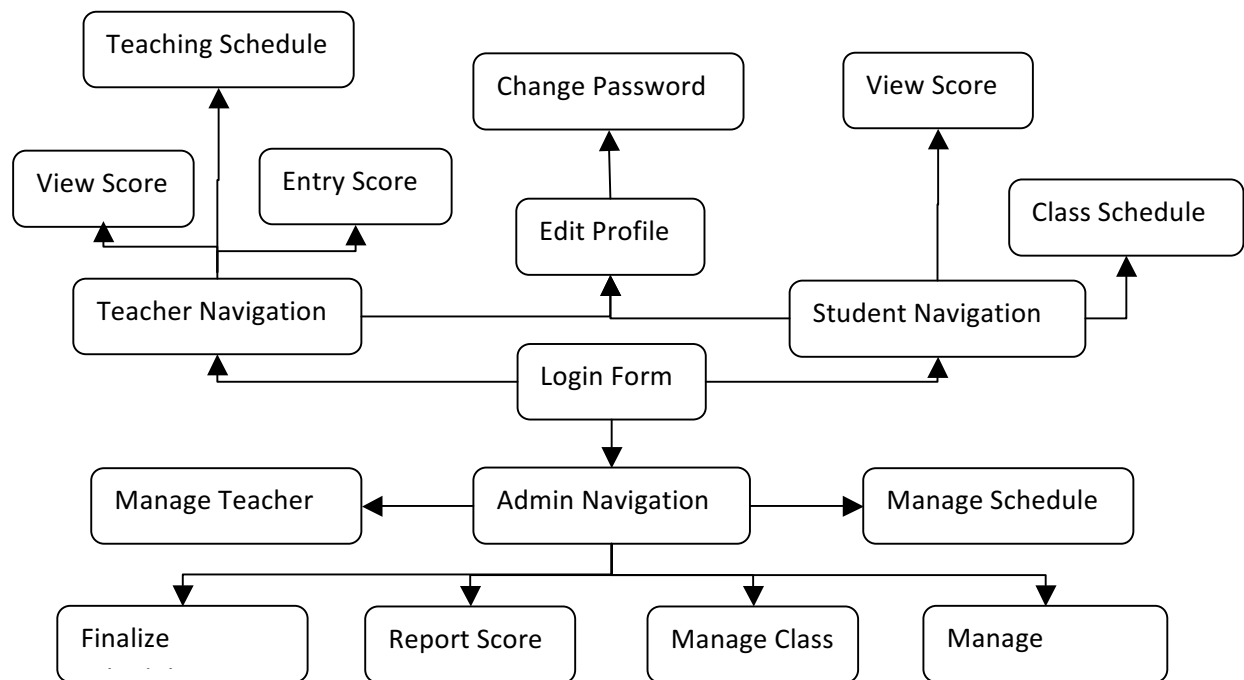
DATA DICTIONARY

Tabel	KEY	Kolom	Type Data	Required?	Notes
Teacher	PK	TeacherID	VARCHAR(8)	Y	
		Name	VARCHAR(50)	Y	
		PhoneNumber	VARCHAR(12)	Y	
		DateofBirth	Date	Y	
		Gender	VARCHAR(7)	Y	
		Address	VARCHAR(100)	Y	
		Photo	VARCHAR(100)	N	
Subject	PK	SubjectID	CHAR(5)	Y	
		Name	VARCHAR(50)	Y	
		Assignment	INTEGER	Y	
		Mid Exam	INTEGER	Y	
		Final Exam	INTEGER	Y	
		ShiftDuration	INTEGER	Y	
		Grade	INTEGER	Y	
Class	PK	ClassName	VARCHAR(5)	Y	
		Grade	INTEGER	Y	
Student	PK	StudentID	VARCHAR(8)	Y	
		Name	VARCHAR(50)	Y	
		Address	VARCHAR(150)	Y	
		Gender	VARCHAR(7)	Y	
		DateofBirth	DATE	Y	
		PhoneNumber	VARCHAR(12)	Y	
		Photo	VARCHAR(100)	N	
User	PK	Userid	INTEGER	Y	Auto Increment
	FK	Username	VARCHAR(8)	Y	
		Password	VARCHAR(10)	Y	
		Role	VARCHAR(8)	Y	
HeaderSchedule	PK	ScheduleID	INTEGER	Y	Auto Increment
	FK	ClassName	VARCHAR(5)	Y	
	FK	Finalize	INTEGER	Y	
DetailSchedule	PK, FK	DetailID	INTEGER	Y	Auto Increment
	FK	ScheduleID	INTEGER	Y	
	FK	SubjectId	CHAR(5)	Y	
	FK	TeacherId	VARCHAR(8)	Y	
	FK	ShiftId	INTEGER	Y	
		Day	CHAR(10)	Y	
Shift	PK	ShiftId	INTEGER	Y	
		Time	CHAR(13)	Y	
DetailScore	PK	ScoreDetailId	INTEGER	Y	Auto

					Increment
	FK	DetailId	INTEGER	Y	
	FK	StudentId	VARCHAR(8)	Y	
		Assignment	INTEGER	N	
		MidExam	INTEGER	N	
		FinalExam	INTEGER	N	
DetailClass	PK	DetailClassId	INTEGER	Y	Auto Increment
	FK	ClassName	VARCHAR(5)	Y	
	FK	StudentId	VARCHAR(8)	Y	
Expertise	PK	ExpertiseId	INTEGER	Y	Auto Increment
	FK	TeacherId	VARCHAR(8)	Y	
	FK	SubjectId	CHAR(5)	Y	

SMK NUSANTARA INFORMATION SYSTEM

NAVIGATION DIAGRAM



SMK NUSANTARA INFORMATION SYSTEM

WIREFRAME

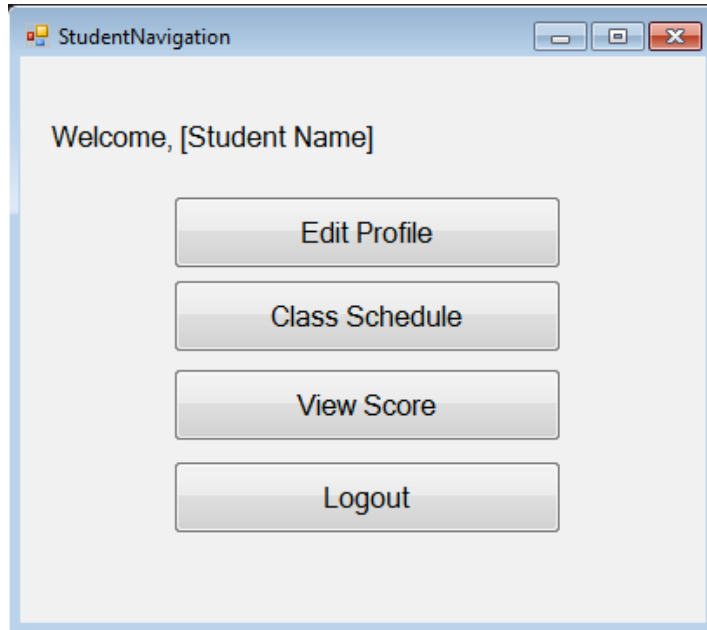
01 Login Form

The wireframe shows a window titled "FrmLogin" with a standard Windows-style title bar (minimize, maximize, close buttons). The main content area has a light gray background. At the top center, the text "SMK Nusantara" is displayed. Below this, there are two input fields: one labeled "username" and one labeled "password". Both labels are positioned to the left of their respective input boxes. At the bottom center, there is a button labeled "Login".

02 Teacher Navigation Form

The wireframe shows a window titled "TeacherNavigation" with a standard Windows-style title bar (minimize, maximize, close buttons). The main content area has a light gray background. At the top, the text "Welcome, [Teacher Name]" is displayed. Below this, there are four buttons arranged vertically: "Edit Profile", "Teaching Schedule", "Input Score", and "Logout". Each button is a rectangular box with a light gray gradient and a thin border.

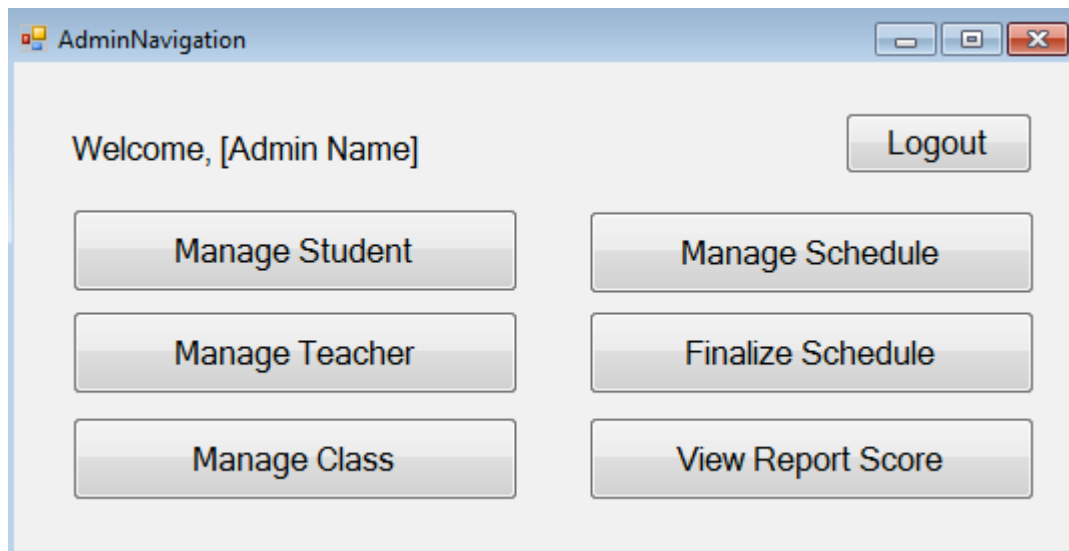
03 Student Navigation Form



The screenshot shows a window titled "StudentNavigation" with a standard Windows-style title bar (minimize, maximize, close buttons). The main content area has a light gray background. At the top, it says "Welcome, [Student Name]". Below this, there are four buttons stacked vertically, each with a gradient and a drop shadow:

- Edit Profile
- Class Schedule
- View Score
- Logout

04 Admin Navigation Form



The screenshot shows a window titled "AdminNavigation" with a standard Windows-style title bar. The main content area has a light gray background. At the top left, it says "Welcome, [Admin Name]". At the top right, there is a "Logout" button. Below the welcome message, there are two columns of buttons, each with a gradient and a drop shadow:

Manage Student	Manage Schedule
Manage Teacher	Finalize Schedule
Manage Class	View Report Score

05 Manage Student Form

The screenshot shows a window titled "FrmStudent" with a "Form Student" header. Below the header is a search bar. A table with 7 columns (StudentID, Name, Address, Gender, Date of Birth, Phone Number) and 1 row (marked with an asterisk) is displayed. Below the table is a large gray rectangular area. The form fields include: Student ID (text box), Student Name (text box), Address (text box), Gender (radio buttons for Male and Female), Date Of Birth (date picker showing 14 Mei 2017), and Phone Number (text box). At the bottom are buttons for insert, update, delete, Save, and Cancel.

	StudentID	Name	Address	Gender	Date of Birth	Phone Number
*						

Student ID:

Student Name:

Address:

Gender: ☐ Male ☐ Female

Date Of Birth: 14 Mei 2017

Phone Number:

insert update delete

Save Cancel

06 Manage Teacher Form

The screenshot shows a window titled "FrmTeacher" with a "Form Teacher" header. Below the header is a search bar. A table with 7 columns (TeacherID, Name, Address, Gender, Date of Birth, Phone Number) and 1 row (marked with double asterisks) is displayed. Below the table is a large gray rectangular area. The form fields include: Teacher ID (text box), Teacher Name (text box), Address (text box), Gender (radio buttons for Male and Female), Date Of Birth (date picker showing 13 Mei 2017), and Phone Number (text box). At the bottom are buttons for insert, update, delete, Save, and Cancel.

	TeacherID	Name	Address	Gender	Date of Birth	Phone Number
**						

Teacher ID:

Teacher Name:

Address:

Gender: ☐ Male ☐ Female

Date Of Birth: 13 Mei 2017

Phone Number:

insert update delete

Save Cancel

07 Edit Profile Form

The screenshot shows a Windows application window titled "FrmEditProfile". The main content area is titled "Form Profile". At the top center is a placeholder for a profile picture, represented by a white silhouette on a gray square background, with a small edit icon (pencil) to its right. Below the picture is a button labeled "Change Password". Underneath this are four input fields: "ID", "Name", "Phone Number", and "Address". At the bottom of the form are two buttons: "Save" and "Cancel".

08 Change Password Form

The screenshot shows a Windows application window titled "FrmChangePassword". The main content area is titled "Change Password Form". It contains three input fields: "Old Password", "New Password", and "Confirm Password". At the bottom of the form is a single button labeled "Save".

09 Manage Class Room

Manage Class Form

Class Name: XA

Student List

Student ID	Name
»*	

Participate Student

Student ID	Student Name
*	

>> <<

10 Manage Schedule Form

Manage Schedule Form

Class ID: XA Day: Monday

Subject ID	Subject	TeacherID	Teacher Name	Shift
S1001	Agama	T0001	Deren	1
*				

Subject: S1001-Agama View Subject Needed

Shift: 1

Teacher: T0001-Deren

insert update delete

Save Cancel

11 Finalize Schedule Form

Class ID: Finalize

	Subject ID	Subject	TeacherID	Teacher Name	Day	Shift
*						

12 Teaching Schedule Form

Teaching Schedule

	Subject ID	Subject	Class Name	Day	Time
▶	S1001	Matematika	SMK 1A	Monday	07:00 - 07:45
	S1001	Matematika	SMK 1B	Monday	08:30 - 09:15
	S2001	Matematika	SMK 2A	Monday	09:30 - 10:15
	S3001	Matematika	SMK 3A	Monday	11:00 - 11:45
*					

Student List

	Student ID	Student Name	Gender
▶	201600001	Mami	Female
	201600002	Sorja Tabun	Female
	201600003	Bryan Sentosa	Male
	201600004	Honda Katsuki	Male
	201600005	Merly	Female
	201600006	Brandon Wijaya	Male
	201600007	Marco	Male
	201600008	Elsa	Female
	201600009	Windy	Female

13 View Schedule Form

FrmViewSchedule

View Schedule

Day: Monday Class Name: X A

	Subject ID	Subject	Day	Time	Teacher Name
▶▶					

14 Input Score Form

InputScoreForm

Form Input Score

Subject: S1001-Agama I Class Name: Xa

Assignment : 20%, Mid Exam : 30%, Final Exam : 50%

	Student ID	Student Name	Assignment	MidExam	FinalExam	Final
▶▶						

Entry Score

15 Entry Score Form

Entry Score

[Student ID] - [Nama]

Assignment

Mid Exam

Final Exam

16 View Score Form

View Score

Assignment : 20%, Mid Exam : 30%, Final Exam : 50%

	Subject ID	Subject Name	Assignment	MidExam	FinalExam	Final
▶▶						

17 View Report Score Form

