SYSTEM & ANALYSIS DESIGN (SAD)
Pertemuan 12

Modelling Data & Operation with Class Diagram & User Interface Design

Puspita Kencana Sari

Prodi MBTI – Fakultas Ekonomi & Bisnis

OUTLINE

1. Review Class Diagram on Project
2. User Requirement for Class Diagram
3. Making Class Diagram
4. Review User Interface Design on Project
5. User requirement for User Interface Design
6. Making User Interface Design
7. Summary Class Diagram and User Interface Design

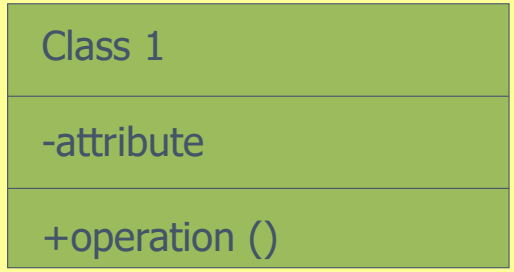
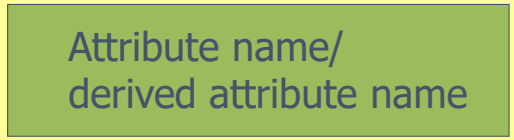
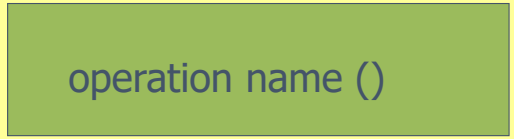
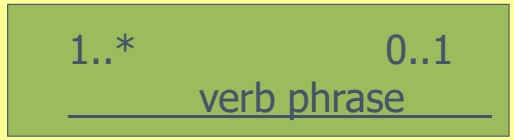
1 Review Class Diagram on Project

Class Diagram Components

- Class & Object
  - Attributes & Operation
- Associations
  - Association Class
- Aggregation & Composition
- Generalization

Sumber : Kendal & Kendal (2014)

Class Diagram Syntax

A CLASS	
AN ATTRIBUTE	
AN OPERATION	
AN ASSOCIATION	

Sumber : Kendal & Kendal (2014)

2 User Requirement for Class Diagram

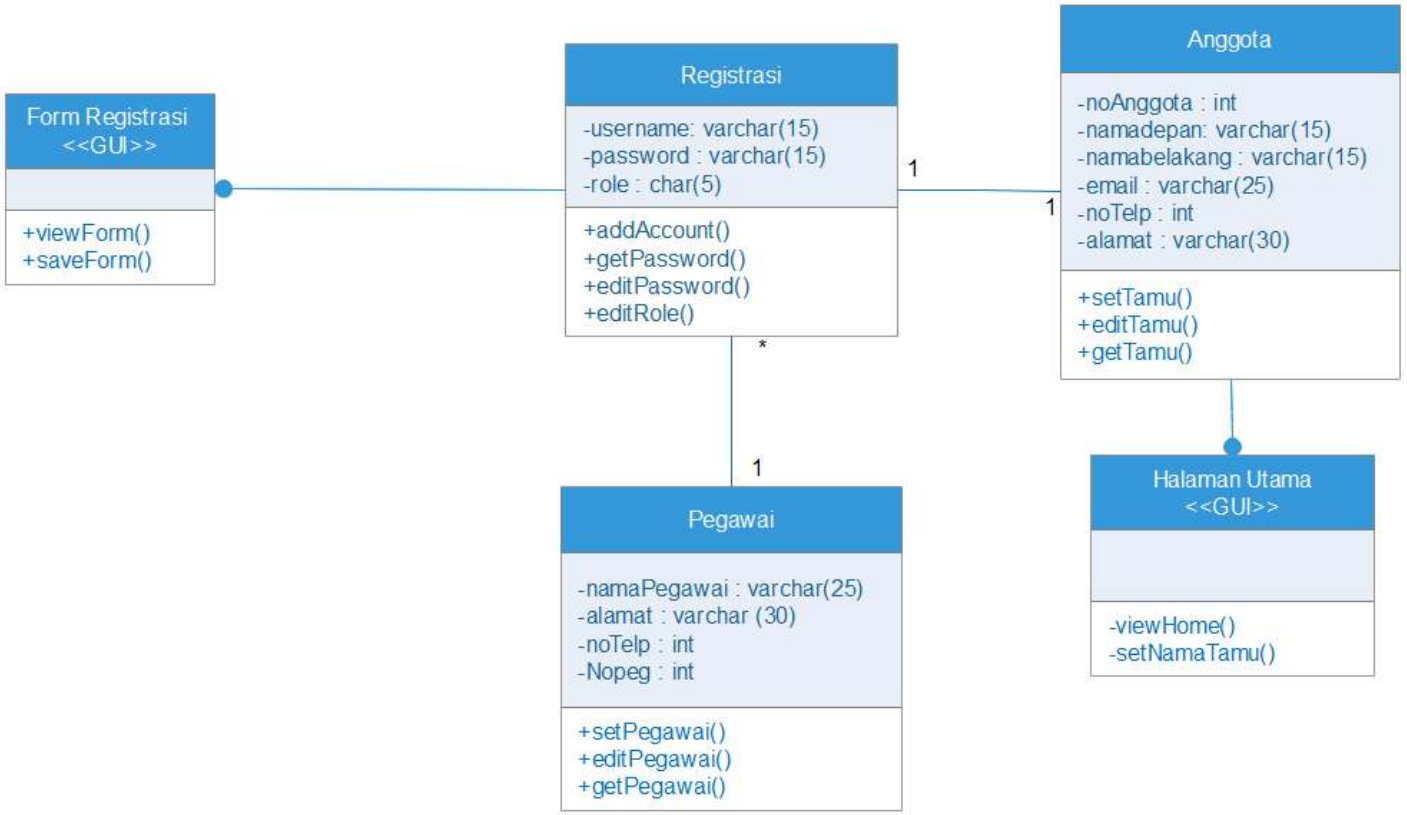
Nama Usecase	: Registrasi
Aktor : Tamu	
Pre-Condition	: Tamu telah memasuki menu penjelasan registrasi
Post-Codition	: 1. Data anggota tersimpan ke dalam database sistem. 2. Tamu sudah dapat melakukan login sebagai anggota.

Skenario Normal	
Aksi Aktor	**Reaksi Sistem**
1. Tamu memilih menu registrasi	
	2. Sistem menampilkan *form* registrasi
3. Tamu memasukkan data registrasi	
	4. Sistem memvalidasi masukan data kemudian menampilkan isi masukan
5.Tamu memeriksa data-data yang ditampilkan, dan menekan tombol OK	
	6. Sistem menyimpan data Tamu dan menampilkan halaman Utama

Skenario Alternatif 1 : Gagal Melakukan Registrasi	
Aksi Aktor	**Reaksi Sistem**
1. Tamu memilih menu registrasi	
	2. Sistem menampilkan *form* registrasi
3. Tamu memasukkan data registrasi	
	4. Sistem memvalidasi masukan data dan sistem menampilkan *form* registrasi kembali karena ada data penting yg tidak diisi pelanggan, yaitu nama, alamat, nomor telepon, e-mail, username dan password

3 Making Class Diagram

Class Diagram (part of)



4 Review User Interface Design on Project

Principles

Principle	Description
Layout	The interface should be a series of areas on the screen that are used consistently for different purposes—for example, a top area for commands and navigation, a middle area for information to be input or output, and a bottom area for status information.
Content awareness	Users should always be aware of where they are in the system and what information is being displayed.
Aesthetics	Interfaces should be functional and inviting to users through careful use of white space, colors, and fonts. There is often a tradeoff between including enough white space to make the interface look pleasing without losing so much space that important information does not fit on the screen.
User experience	Although ease of use and ease of learning often lead to similar design decisions, there is sometimes a tradeoff between the two. Novice users or infrequent users of software will prefer ease of learning, whereas frequent users will prefer ease of use.
Consistency	Consistency in interface design enables users to predict what will happen before they perform a function. It is one of the most important elements in ease of learning, ease of use, and aesthetics.
Minimal user effort	The interface should be simple to use. Most designers plan on having no more than three mouse clicks from the starting menu until users perform work.

Sumber : Dennis, Wixom & Tegardem (2001)

5 User Requirement for User Interface Design

Case : Restaurant System

Functional Requirement:

1. Tamu melakukan registrasi untuk membuat akun
2. Pengguna (anggota dan pegawai) melakukan login ke sistem
3. Anggota melakukan reservasi melalui sistem
4. Anggota membuat pesanan
5. Pegawai memproses pesanan

Case : Restaurant System

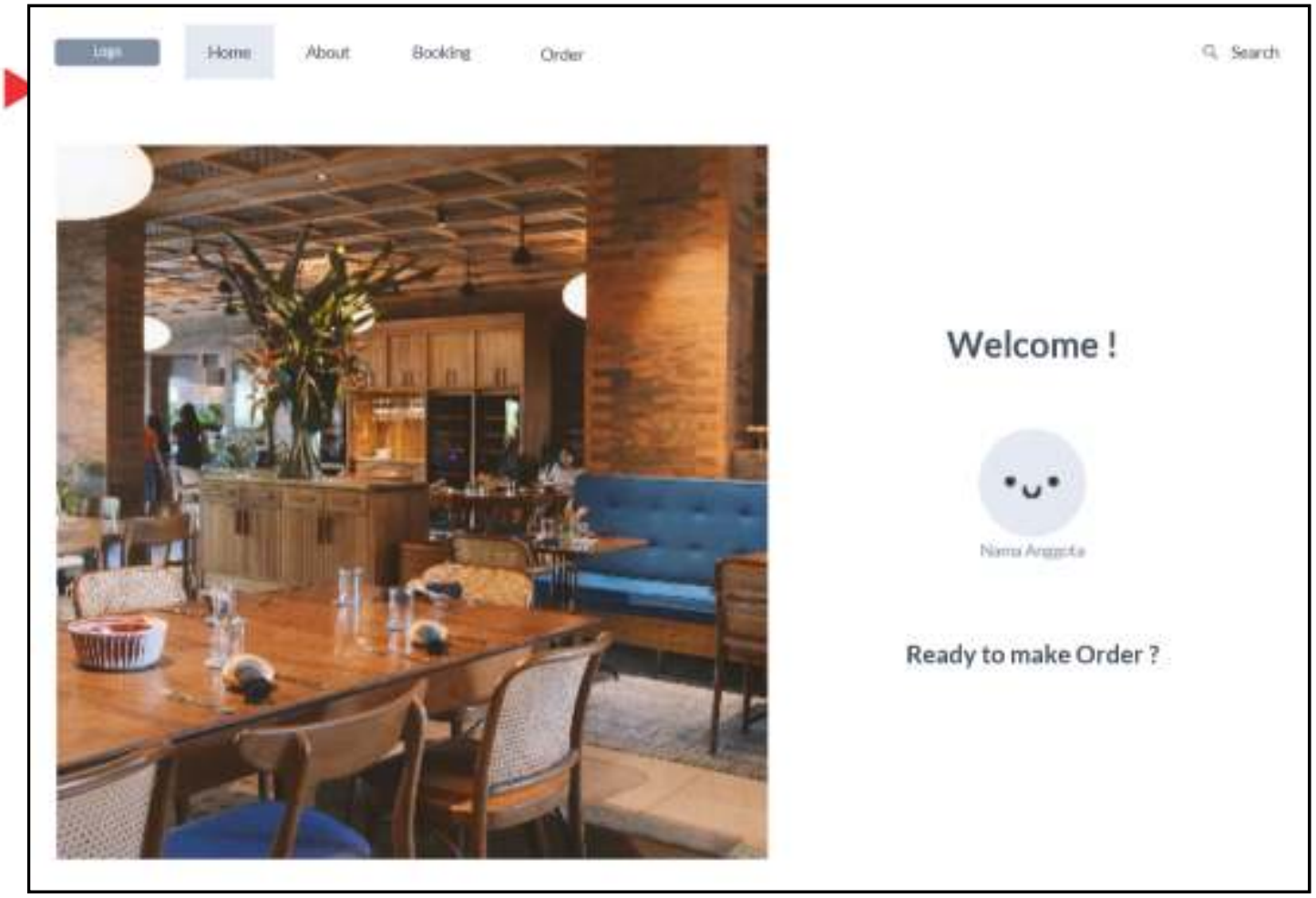
Non-functional requirement

1. Sistem dapat beroperasi di beberapa tipe browser (web-based system)
2. Pengguna sistem dapat diverifikasi
3. Tampilan sistem menyesuaikan tema perusahaan
4. Sistem memberikan respon yang cepat dalam memproses input

6 Making User Interface Design

GUI Design : Registration Form

GUI Design : Main Page



7 Summary Class Diagram and User Interface Design

Summary

- Class diagram is a diagram that depicts objects
  - ❑ graphically describes what data stored in the system and how the objects operated within the system.
- Class diagram should depict all objects in sequence diagram
- User interface design should consider functional and non-functional requirements.
- Design of system flow should consider user interface objects interaction in sequence diagram.

Sumber : Kendal & Kendal (2014)

References

Main

Kenneth E. Kendall, Julie E. Kendall (2014), Systems Analysis and Design, 9th Edition, Prentice Hall

Support

- Howard Podeswa (2010), UML for IT Business Analyst, Second Edition, Cengage Learning
- Whitten & Bentley (2007) Systems Analysis and Design Methods, 7th Edition, McGraw-Hill
- Alan Dennis, Barbara H Wixom, David Tegarden (2005), System Analysis and Design with UML Version 2.0