CMS Design

Outline

Welcome to our **Companies Management System Website** for company data management. This platform offers intuitive tools for administrators to effortlessly handle company information.

From *Adding* and *Editing* company details to *Managing* employees and tracking transactions, our user-friendly interface simplifies complex tasks. Explore the demo to experience streamlined company management firsthand.

System Design - Structured Design

Context Diagram (DFD Level 0)

A *Data Flow Diagram* (*DFD*) (*Figure 1*) provides a visual representation of the flow of information (i.e. data) within a system.
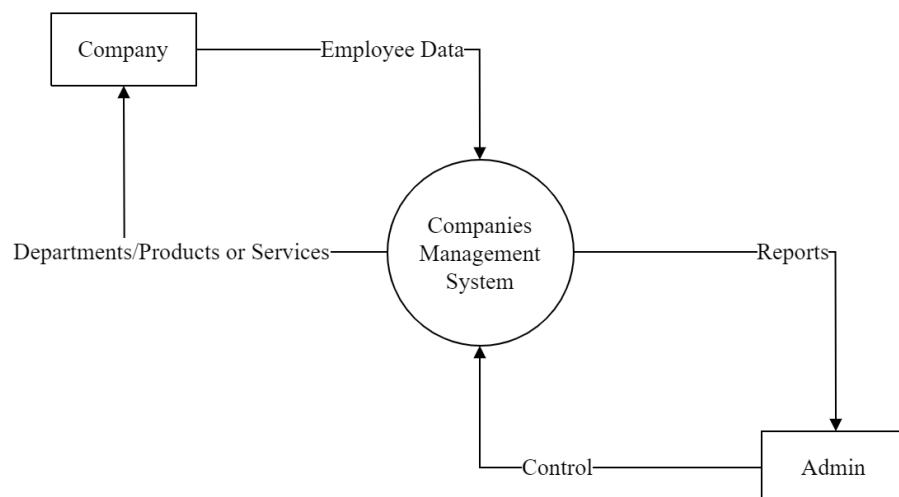

Figure 1. Context Diagram

By drawing a *Data Flow Diagram* you can tell the information provided by and delivered to someone who takes part in system processes, the information needed in order to complete the processes and the information needed to be stored and accessed.

Entity Relationship Diagram (ERD)

The *ER Diagram* (*Figure2*) defines the conceptual view of a database. It works around real-world entities and the associations among them. At view level, the *ER Diagram* is considered a good option for designing databases.
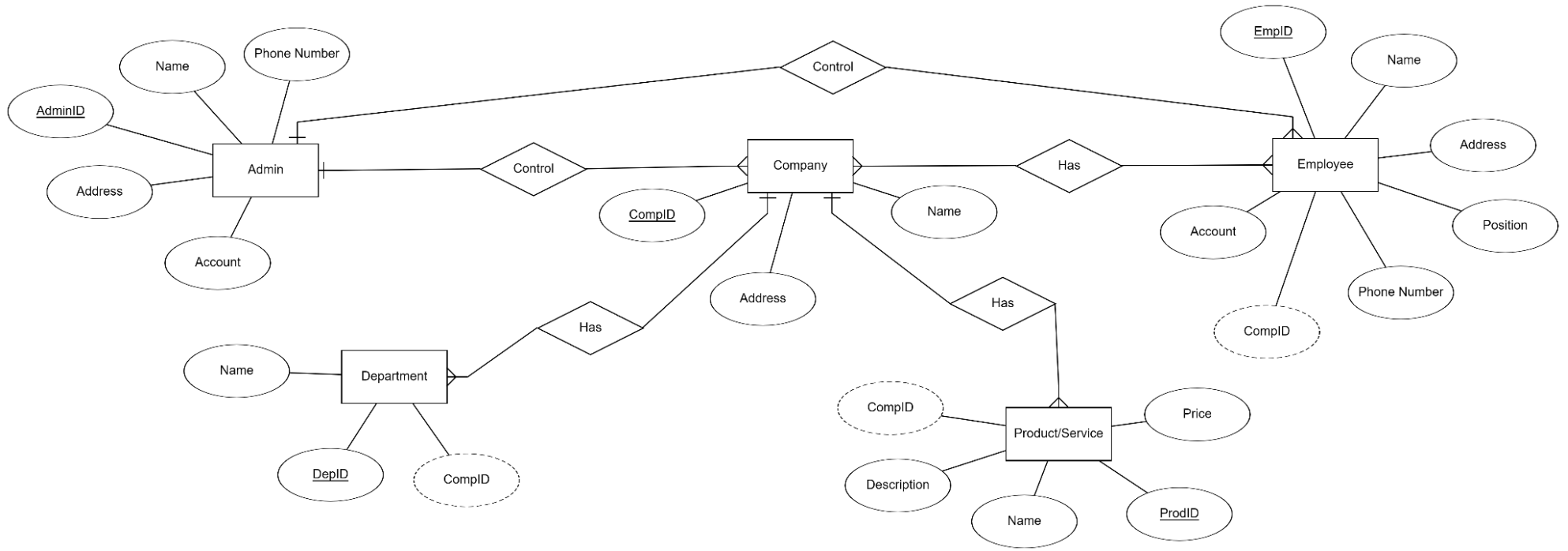
Figure 2. ER Diagram

Database Representation

In the following section, screenshots of the **Database Tables** along with their entries are provided to visually illustrate the structure and content of the database. These tables represent the core entities of the system, including companies, employees, departments, and products/services.

	AdminID	Name	Account	PhoneNumber	Address
1	0	Khaled	admin@mail.com	0000000000	Cairo, EG

Figure 3.1. Admins Table

	CompID	Name	Address
1	56	ABC Corporation	123 Main Street, Houston, TX
2	57	XYZ Industries	456 Oak Avenue, San Francisco, CA
3	58	Tech Innovations Ltd.	789 Elm Street, Chicago, IL
4	59	Global Solutions Inc.	101 Maple Avenue, New York, NY
5	60	Innovate Enterprises	202 Pine Street, Los Angeles, CA

Figure 3.2. Companies Table

	DepID	Name	CompID
1	1	Sales	56
2	2	Marketing	56
3	3	Engineering	57
4	4	Human Resources	57
5	5	Research and Development	58

Figure 3.3. Departments Table

	ProdID	Name	Description	Price	CompID
1	1	Smartphone X	A powerful smartphone with advanced features.	799	56
2	2	Laptop Y	A lightweight laptop perfect for work and entertainm...	1299	56
3	3	Headphones Z	Premium wireless headphones with noise-cancellat...	299	57
4	4	Tablet W	A versatile tablet for productivity and entertainment o...	499	57
5	5	Smartwatch V	Stay connected and track your fitness with this stylish...	199	58

Figure 3.4. Products Table

	EmpID	Name	Position	Account	PhoneNumber	Address	CompID
1	1	Clark	Sales	clark@mail.com	0000000000	Houston, CA	56
2	2	Emma	Marketing	emma@mail.com	1111111111	New York, NY	56
3	3	John	Engineer	john@mail.com	2222222222	San Francisco, CA	57
4	4	Sophia	HR Manager	sophia@mail.com	3333333333	Los Angeles, CA	57
5	5	William	Developer	william@mail.com	4444444444	Chicago, IL	58

Figure 3.5. Employees Table

Note: All IDs depicted in the screenshots of the database tables are for illustration purposes only. In the actual database, IDs are generated using the '*Guid*' data type to ensure uniqueness and maintain data integrity.

References:

1. *[Colleger Website - Graduation Project](#)*
2. *[ERDPlus](#)*
3. *[Microsoft SQL Server 2022 Tutorial for Beginners | Amit Thinks](#)*
4. *[ASP.NET Core MVC CRUD Operations using .NET 8 and Entity Framework Core](#)*
5. *[MVC Tutorial](#)*