

CS 319 - Object Oriented Software Engineering

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BilHealth Design Report

Iteration 1



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1 Introduction

1.1 Purpose of the System

1.2 Design Goals

2 High-Level Software Architecture

2.1 Subsystem Decomposition

2.2 Hardware-Software Mapping

2.3 Persistent Data Management

2.4 Access Control and Security

2.5 Boundary Conditions

3 Low-Level Design

3.1 Object Design Trade-Offs

3.2 Final Object Design

3.3 Packages

- `Microsoft.AspNetCore:`
This package is the framework supporting the entire web application.
- `Microsoft.EntityFrameworkCore.Design:`
This package allows the EF Core migration tool to work on the project.
- `Microsoft.AspNetCore.Diagnostics.EntityFrameworkCore:`
This package allows debugging EF Core migrations.
- `npgsql.EntityFrameworkCore.PostgreSQL:`
This package is the database driver providing EF Core its interoperability with PostgreSQL.
- `Microsoft.AspNetCore.Identity.EntityFrameworkCore:`
This package provides authentication and authorization of users through integration with EF Core.
- `BCrypt.Net-Next:`
This package provides the BCrypt algorithms which are currently among the best in securing user passwords.
- `Microsoft.AspNetCore.Mvc.NewtonsoftJson:`
This package is the most popular JSON library for .NET, used as the default solution in most cases.

- `Microsoft.AspNetCore.SpaProxy`:

This package allows the .NET build process to launch and proxy with the client application.

3.4 Class Diagrams of Layers

3.4.1 Data Access Layer

3.4.2 Business Logic Layer

3.4.3 User Interface Layer

4 Glossary