Deliverables: Design/Architecture

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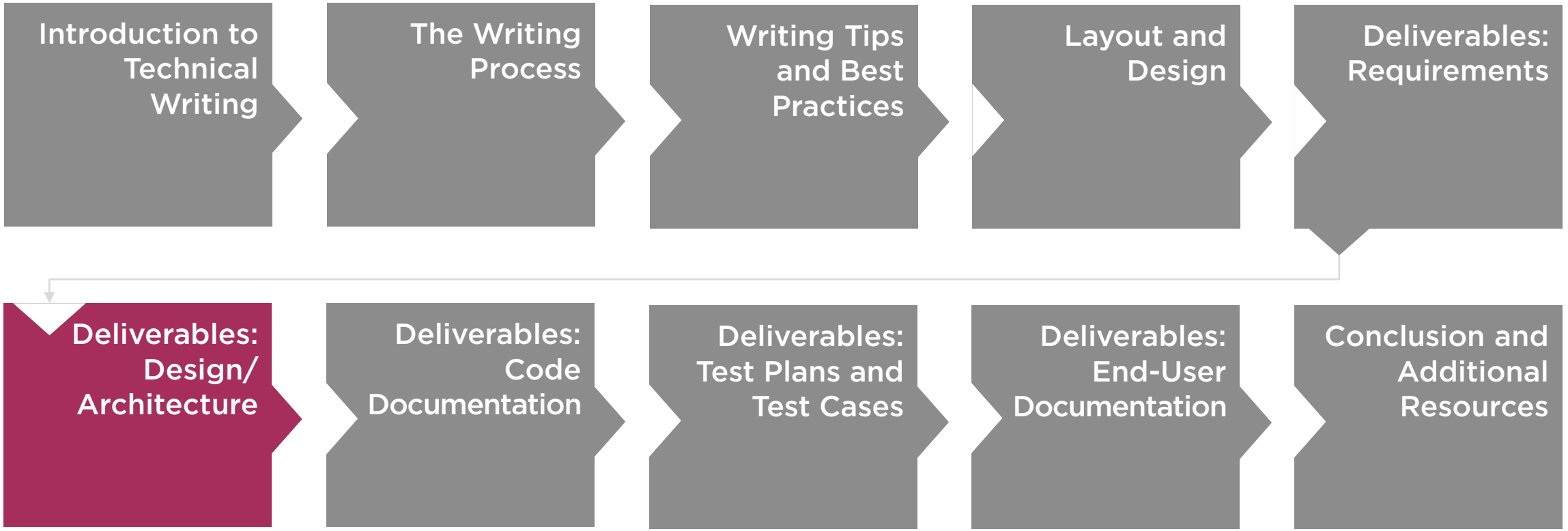
Course Outline




LOGIN
<script>
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</php>
<html>
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SEARCH
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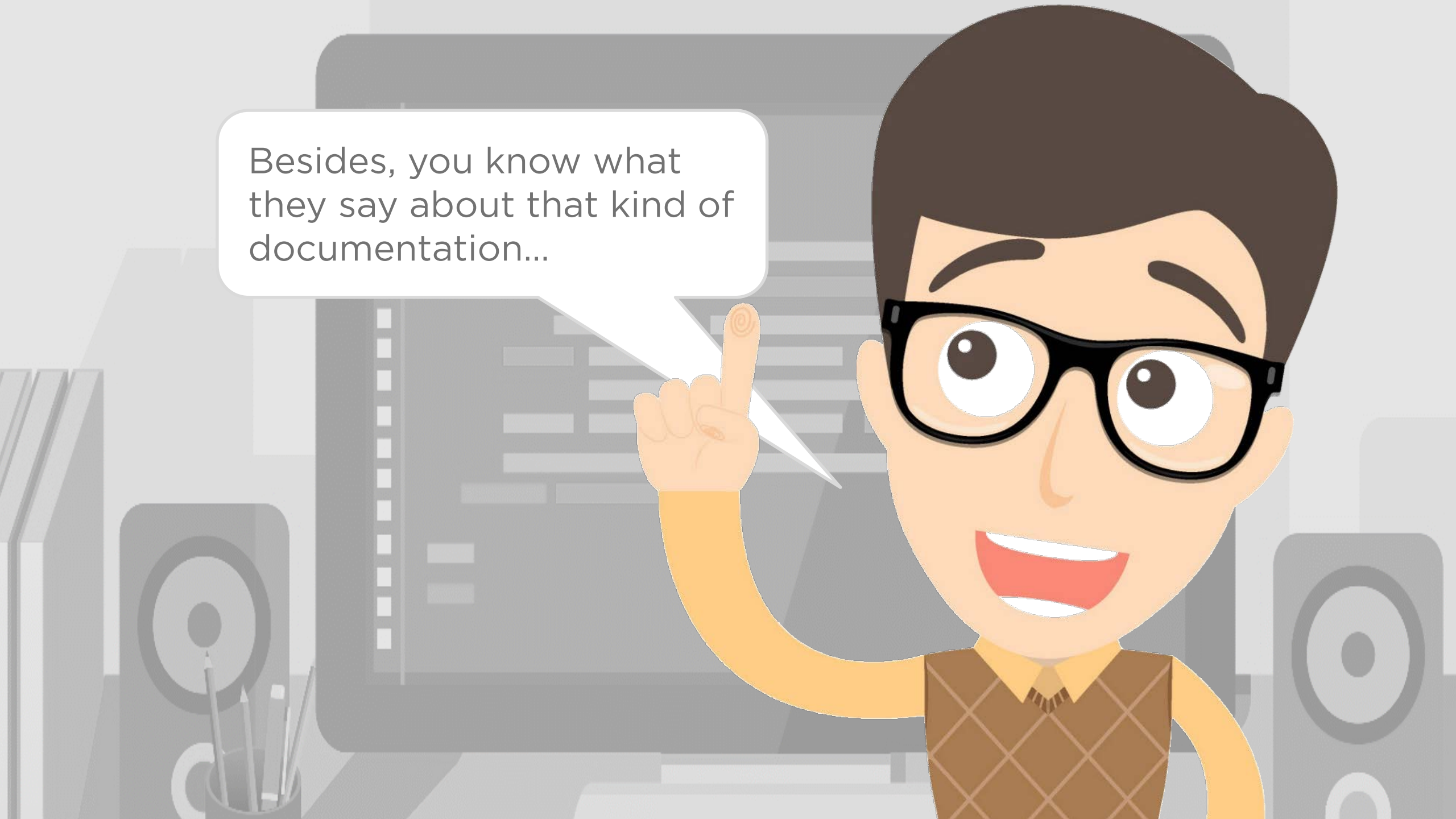
Morning Carl. How's the Software Design Document coming along?


Ummm...are we doing one of those? I think everyone on the team knows what they're doing.


Besides, you know what they say about that kind of documentation...

"If I'm writing documentation, I'm not writing code."

"I don't trust it. It's always out of sync with the code."

"Nobody reads documentation."

"We already know what we're doing. Why do we need to document it?"


Those arguments don't work here. We *will* do documentation.


So if you could just go ahead and get started on it, that would be great.


PHARMALANTIS
Search
email
NEW MESSAGE
Folder 1
Folder 2
Folder 3
Notes
More >
More
View
1-50 of 143
Subject: Help!
Anne,

Software Design Document (SDD)


Let’s talk about the design document.

Software Design Document (SDD)

A written description of a software product that gives a development team overall guidance to the architecture of the software project

Why Write a Software Design Document?

Manager/Stakeholders

Establish clear design goals

Show that you understand the requirements and have a plan to meet them

Establish common understanding and terminology

Help with time and resource estimation

Fellow Developers

Communicate the design to the team

Validate design decisions

Ensure the approach works with what others are doing

Onboarding documentation for new team members and/or successors

Historical reference/starting point for future projects

Regulatory reasons

Advice for Documenting on an Agile Project

Question the need for the information

Don’t state the obvious

The goal is to avoid needless refactoring or rehashing a previously made decision

Don’t rely solely on documentation; promote knowledge sharing through other means

Source: http://www.agilemodeling.com/essays/agileDocumentation.htm

Introduction

- Purpose
- Scope
- Intended audience
- Design goals and rationale

System Architecture

- High-level overview of functionality and responsibilities of the system
- Describe high-level components and how they work together
- Diagrams, flowcharts, models, scenarios and high-level use cases showing system behavior or structure

Detailed System Design

- Describe in detail the functionality and responsibilities for each component of the system
- Use class diagrams and sequence diagrams to show relationships and flows

Data Design

- Describe data structures, databases and storage units and their relationships
- Entity Relationship Diagram (ERD) to show structure and relationships

User Interface

- Describe functionality from the user's perspective
- Wireframes or mockups of what the UI will look like
- Describe the controls and their behaviors
- Supported orientations and dimensions

Glossary/Appendix

May also include:

- Roles and responsibilities
- Milestones
- Risks
- Policies and tactics
- Migration
- Deployment/installation
- Operation
- User types
- Upgrades
- Licensing
- Interoperability with other systems
- Open issues

SDD Sections: Introduction

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May also include:

- **References to other pertinent documents (e.g., requirements, background, project charter, test plans, etc.)**
- **Definitions of important terms, acronyms or abbreviations**

perspective

- Wireframes or mockups of what the UI will look like
- Describe the controls and their behaviors
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Glossary/Appendix

Introduction

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"This document defines the design of the Pharmalantalert system, as set forth in the Software Requirements Specification (SRS). It contains details of the web application as well as the mobile app, including system architecture, component design and data design."

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"Pharmalantalert consists of two major sub-systems: a web application to be used by pharmacists, and a mobile app to be used by patients. This document will provide the blueprint for developers to implement both systems. The document does not contain details of the third-party SMS service to be used by Pharmalantalert."

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May also include:

- **A brief description of what the system will do**
- **Benefits, objectives and goals of the system**
- **Associated risks (e.g., security)**

Data Design

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- Describe the controls and their behaviors
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"This document is intended to be used by the software development team, including developers and project managers."

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"The web application will be designed using the Model-View-Controller (MVC) architectural style.

The reasons for implementing the MVC architecture are twofold. First, the MVC architecture allows information hiding and separation of concerns. This allows for high cohesion and low coupling. The system is therefore "tighter," more secure, and easier to maintain and debug.

Secondly, the system is largely user-driven..."

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Also include:

- **Assumptions and dependencies**
- **Constraints**
- **Goals and guidelines**
- **Development methods**

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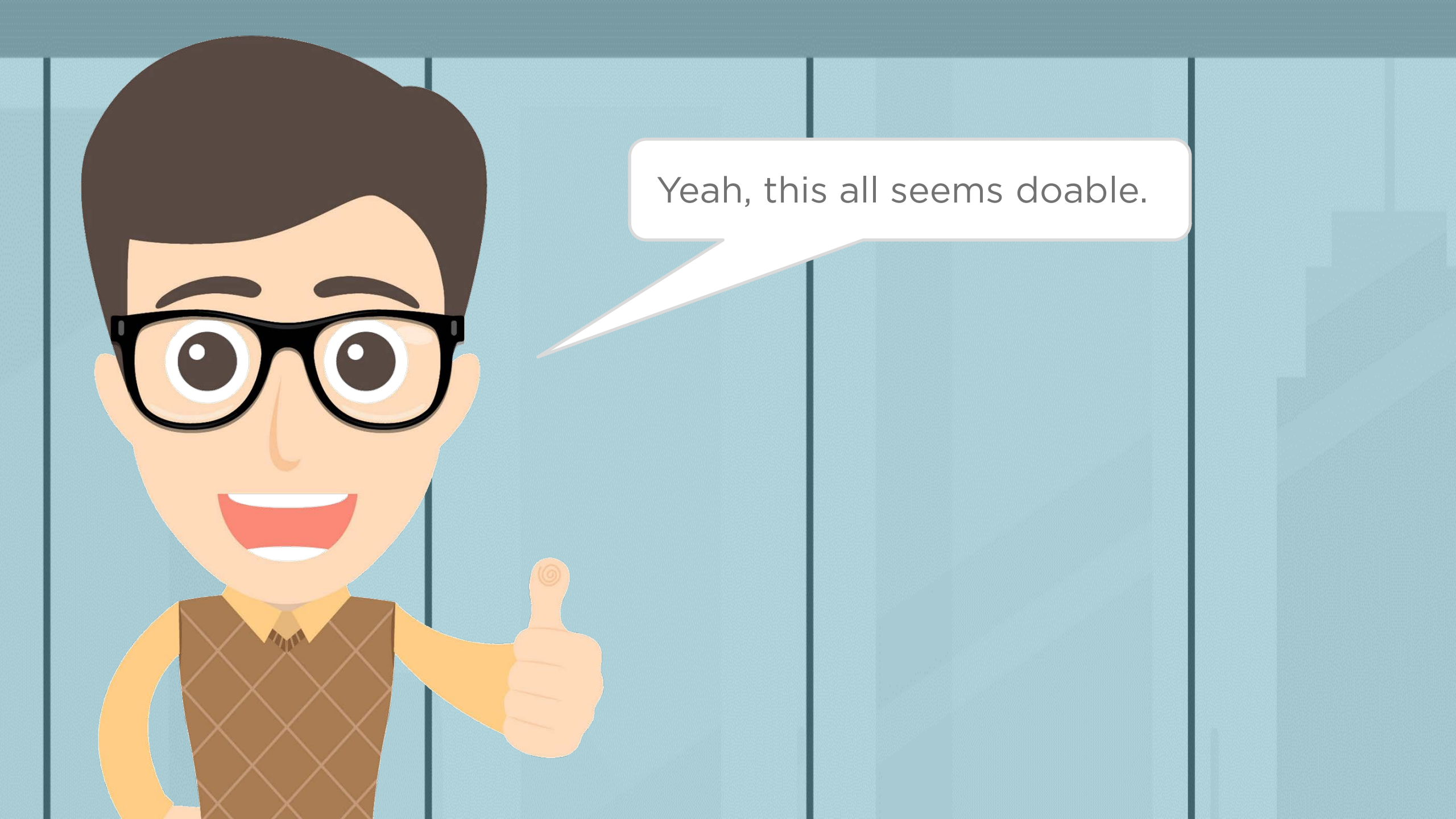
Glossary/Appendix


Everything making sense so far?


Yeah, this all seems doable.

SDD Sections: System Architecture

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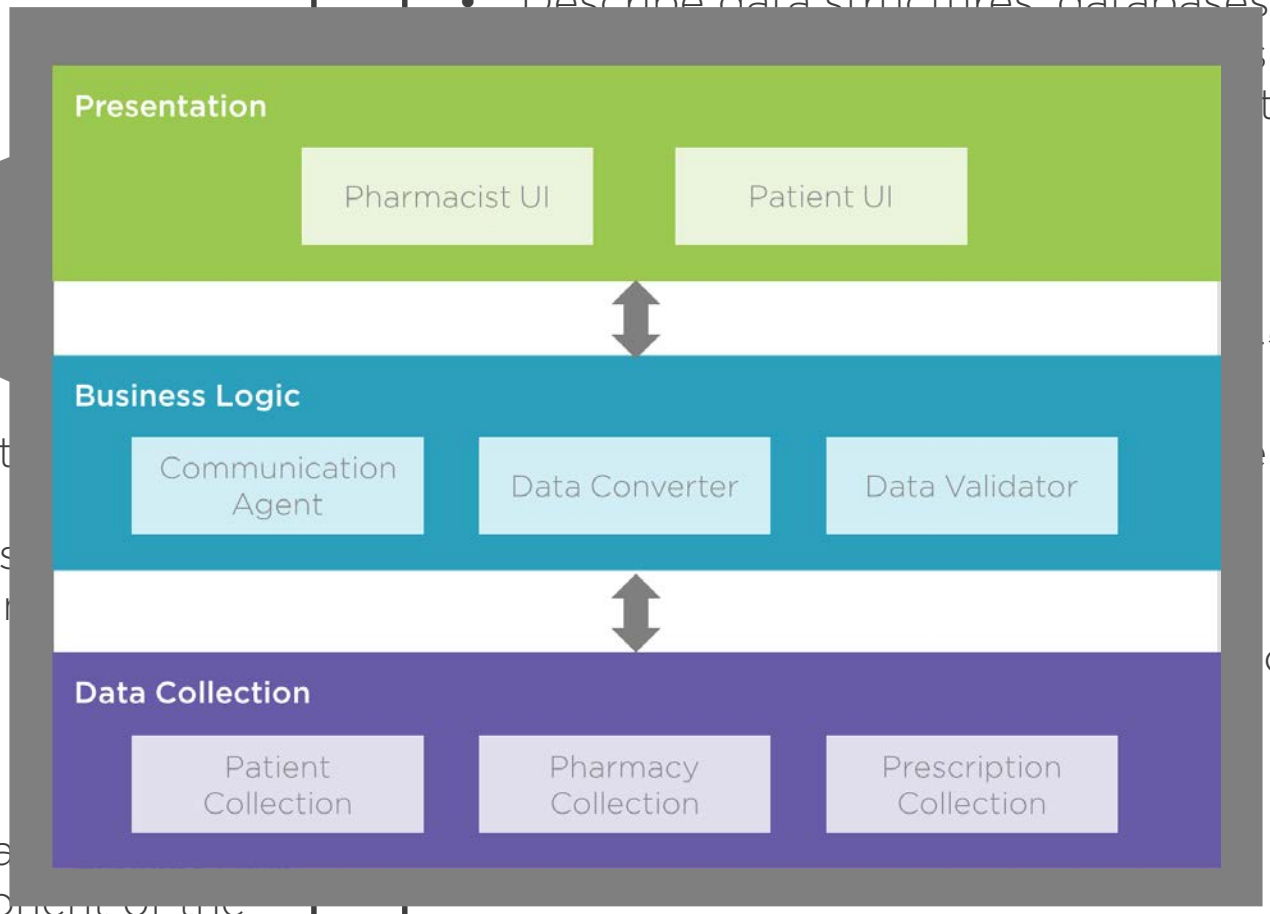

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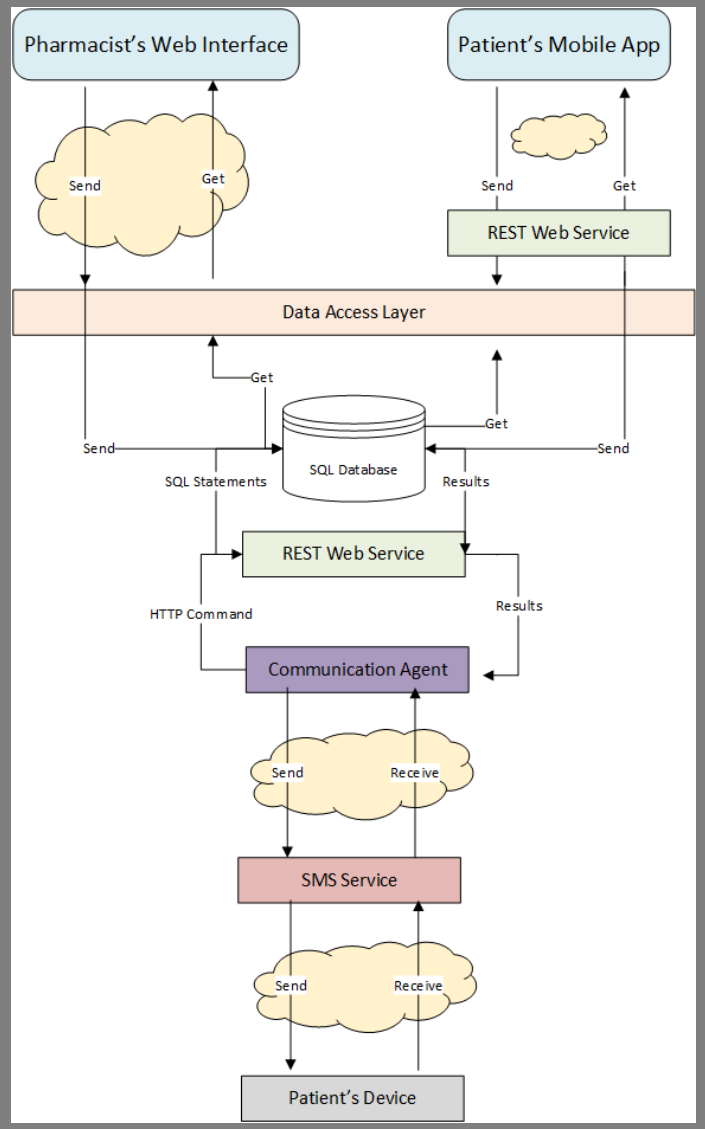

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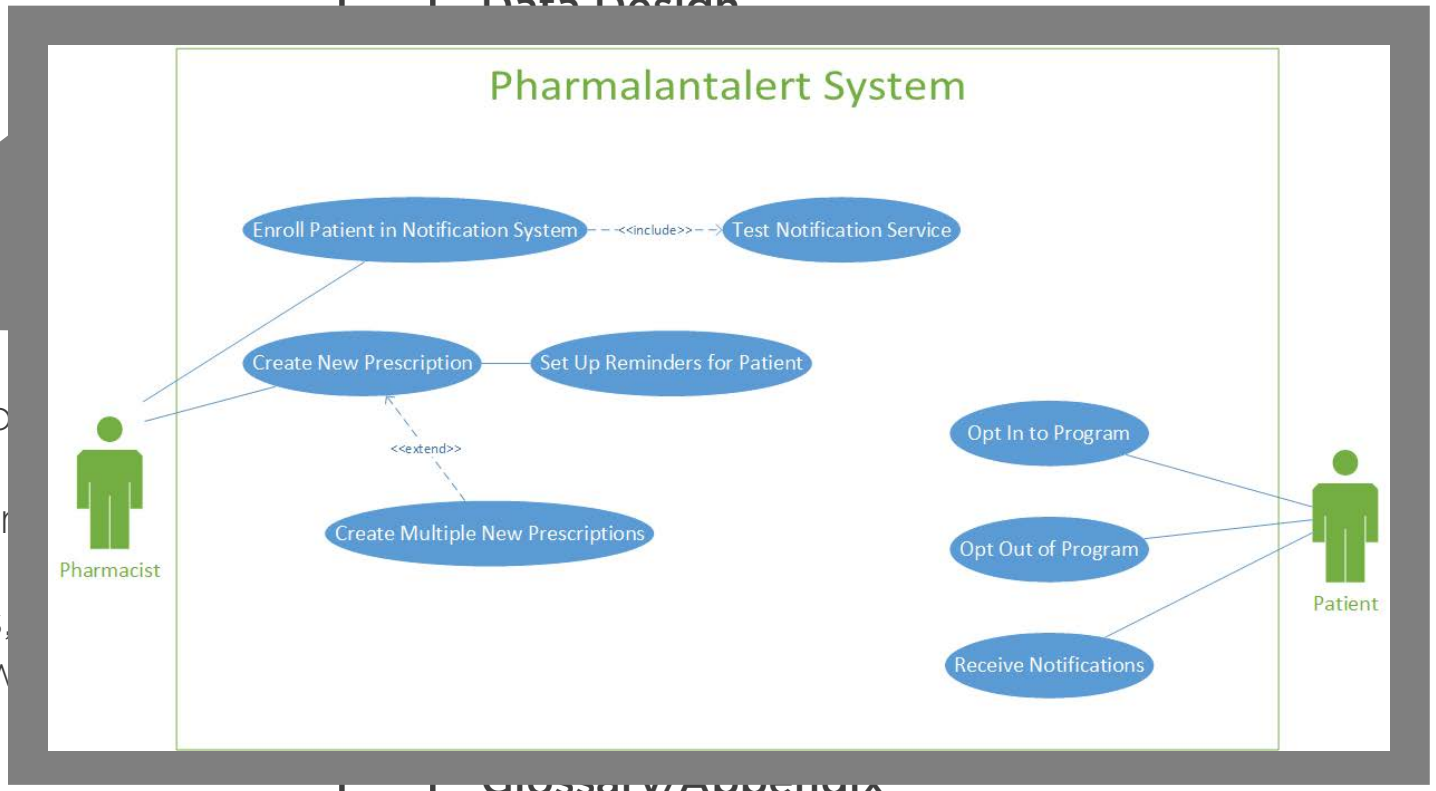

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SDD Sections: Detailed System Design

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Include:

- **Design patterns and techniques**
- **Modules, classes, files, etc.**
- **Data structures**
- **Algorithms**
- **Interfaces**

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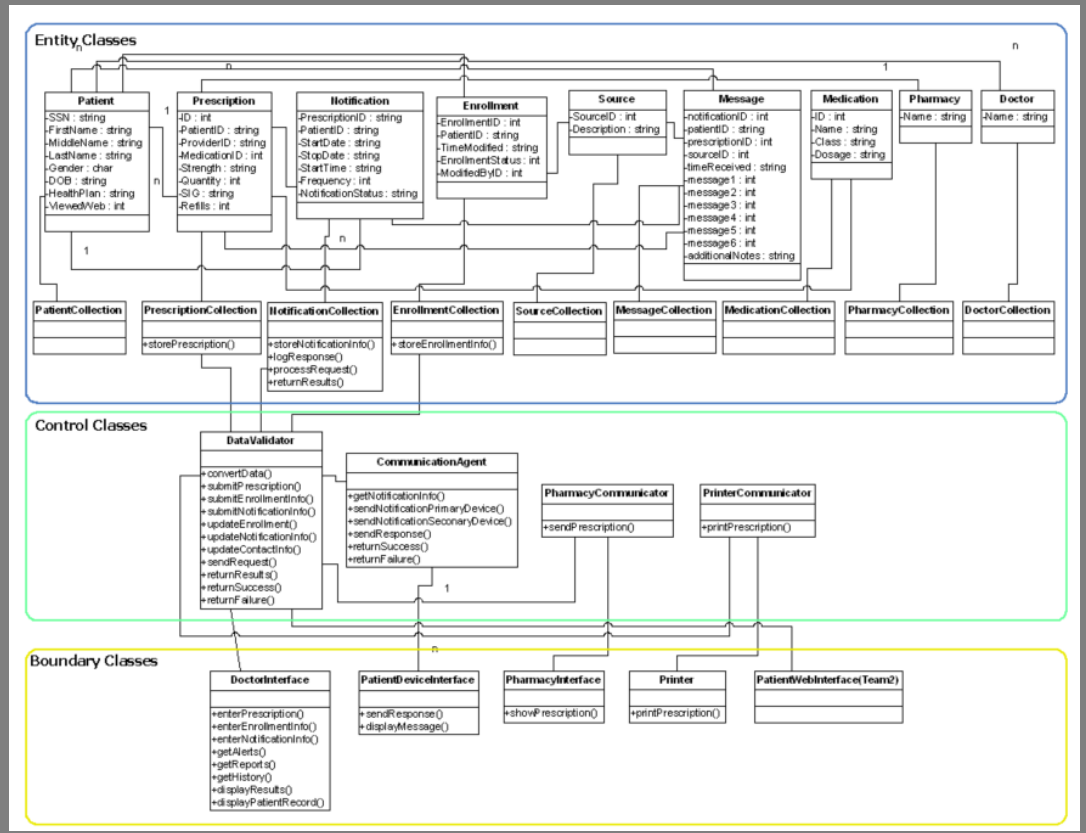

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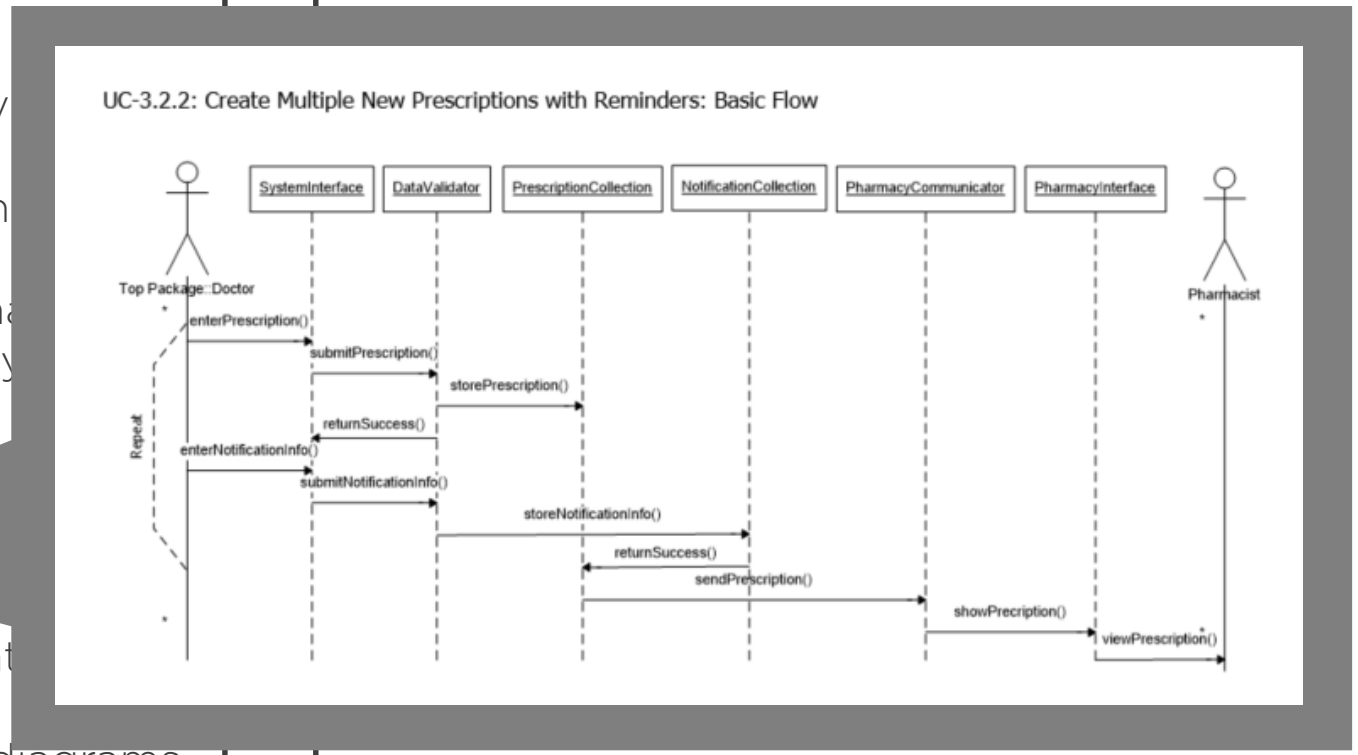

SDD Sections: Data Design

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Include:
- **Frequency of updates**
- **Security requirements**
- **Recovery**
- **Report generation**
- **Interfacing systems**

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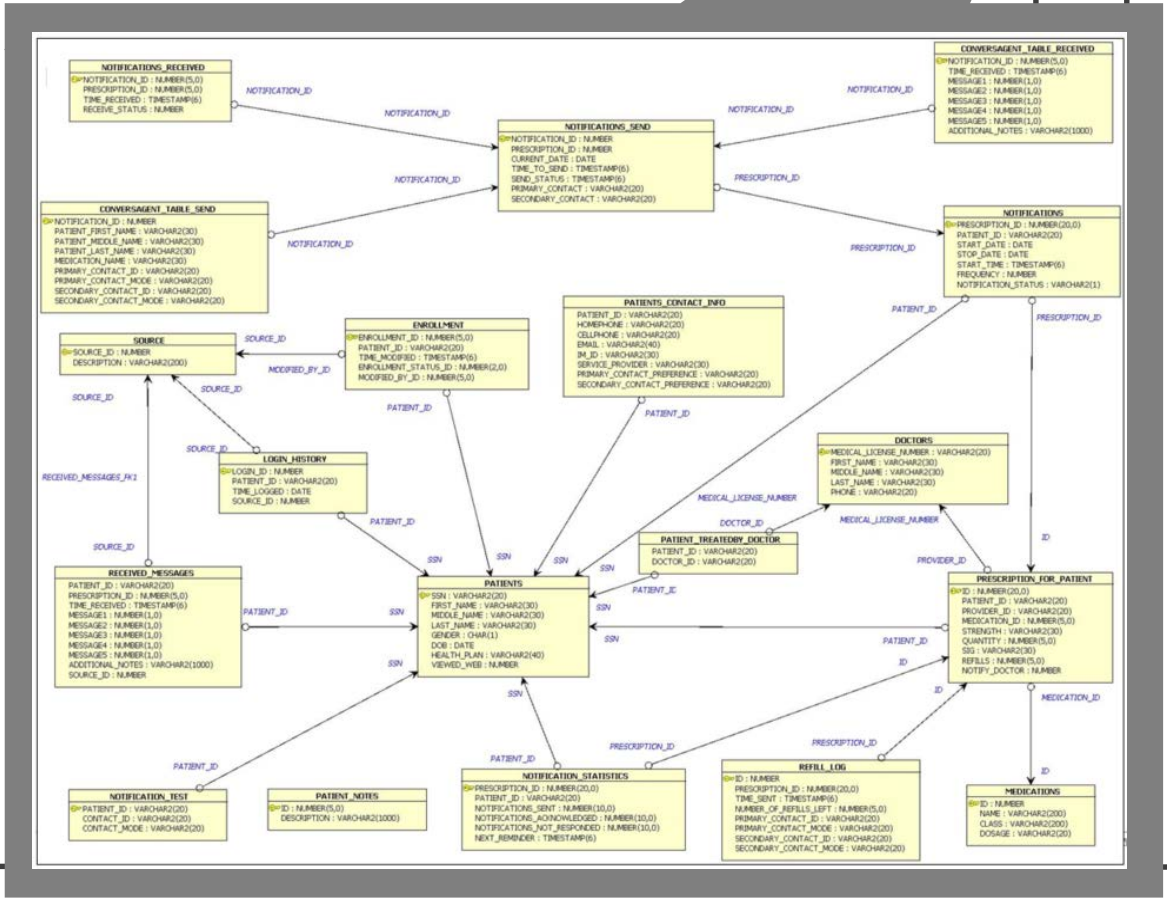

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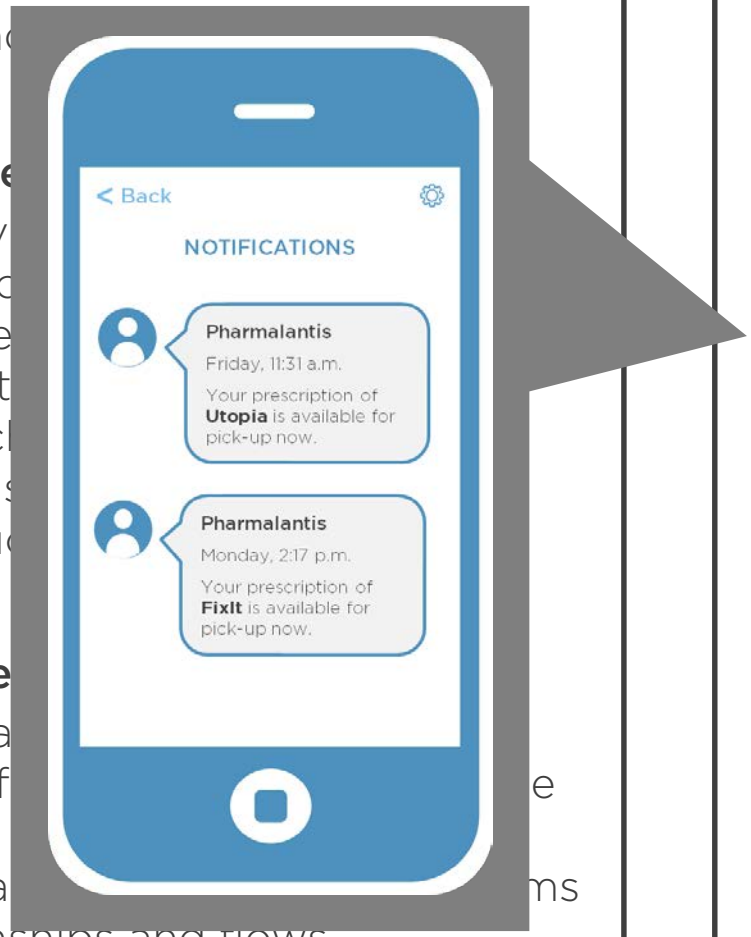

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Glossary/Appendix


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Summary

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The SDD gives the project team overall guidance on what and how to build software

Useful for both managers/stakeholders and the development team

Templates and their contents vary

Additional Resources

Visit http://ieeexplore.ieee.org and search for “Software Design Description”

Up next >>