Design and Architecture Document

for

**EKG Using Cloud Services**

**Version 1.0**

**Prepared by**

Abdullah Alshamdayn

Justin Biggs

Joe Childress

Sai Monika Dasari

Stetson Bosecker

**Team 4**

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Revision History

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| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
|  |  |  |  |
|  |  |  |  |

# Introduction

## Purpose

<Identify the product whose design and architecture are specified in this document, including the revision or release number. Describe the scope of the product that is covered by this documen.>

## Document Conventions

<Describe any standards or typographical conventions that were followed when writing this document, such as fonts or highlighting that have special significance. For example, state whether priorities for higher-level requirements are assumed to be inherited by detailed requirements, or whether every requirement statement is to have its own priority.>

## Intended Audience and Reading Suggestions

<Describe the different types of reader that the document is intended for, such as developers, project managers, marketing staff, users, testers, and documentation writers. Describe what the rest of this DOCUMENT contains and how it is organized. Suggest a sequence for reading the document, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.>

## Product Scope

<Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals. Relate the software to corporate goals or business strategies. If a separate vision and scope document is available, refer to it rather than duplicating its contents here.>

## References

<List any other documents or Web addresses to which this DOCUMENT refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document. Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.>

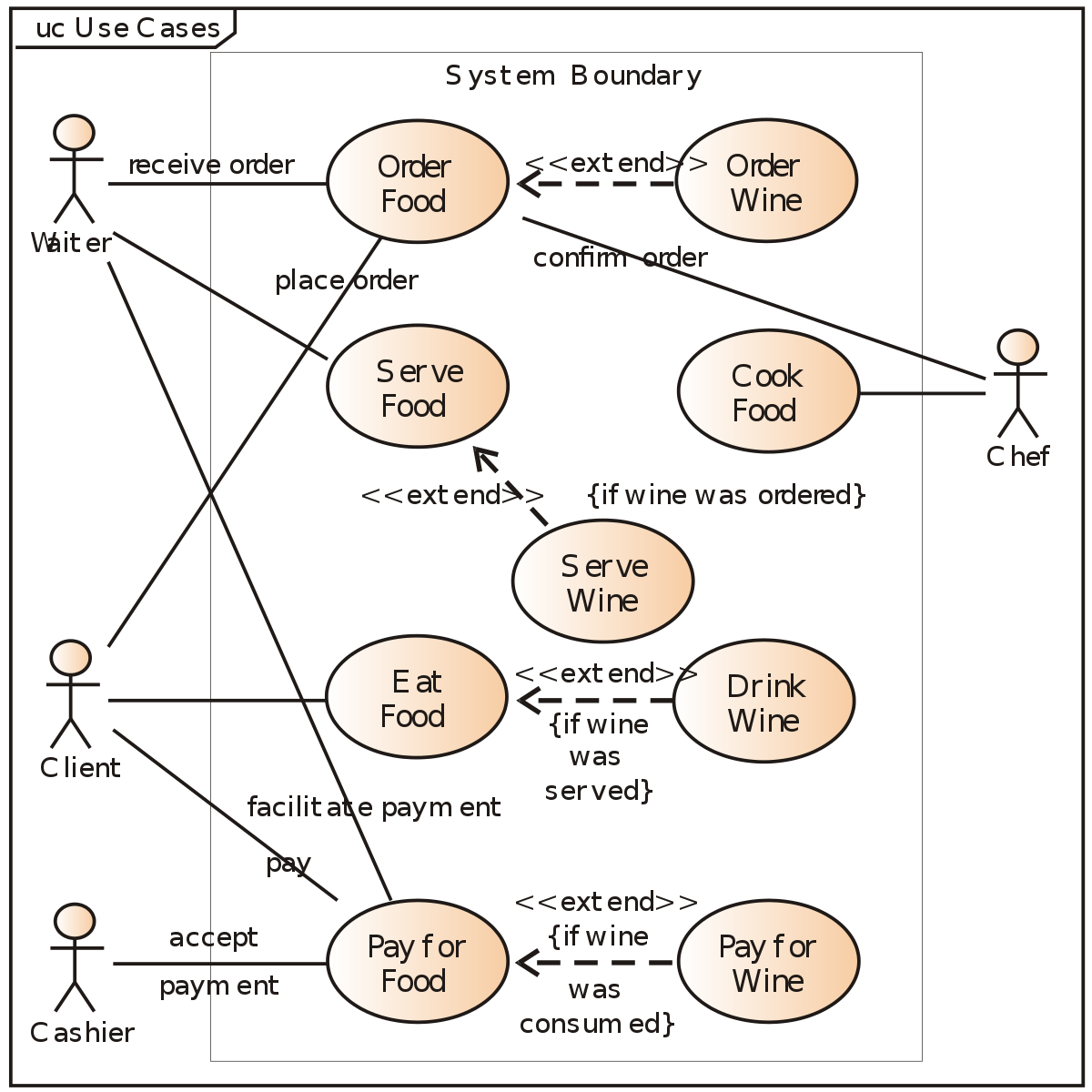
# Overall Description

## Product Perspective

EKG is one of the extensively used diagnostic tools in clinical cardio medicine. It records electric signals from heart to monitor and detect heart problems, making the accessibility of data in this field very crucial. The proposed system tries to enhance the existing EKG services by allowing doctors to monitor patients through a portable device from patient home. It is equipped with a Data Acquisition Card to transfer patient data to cloud which can be monitored by the doctor at hospital. Web application is created for patients, doctor, and hospital administration to view and update the data according to their accessibility levels in the proposed idea.

## Product Functions

<Summarize the major functions the product must perform or must let the user perform. Details will be provided in Section 4, so only a high level summary (such as a bullet list) is needed here. Organize the functions to make them understandable to any reader of the DOCUMENT. A picture of the major groups of related requirements and how they relate, such as a top level data flow diagram or object class diagram, is often effective.> show usecases here.

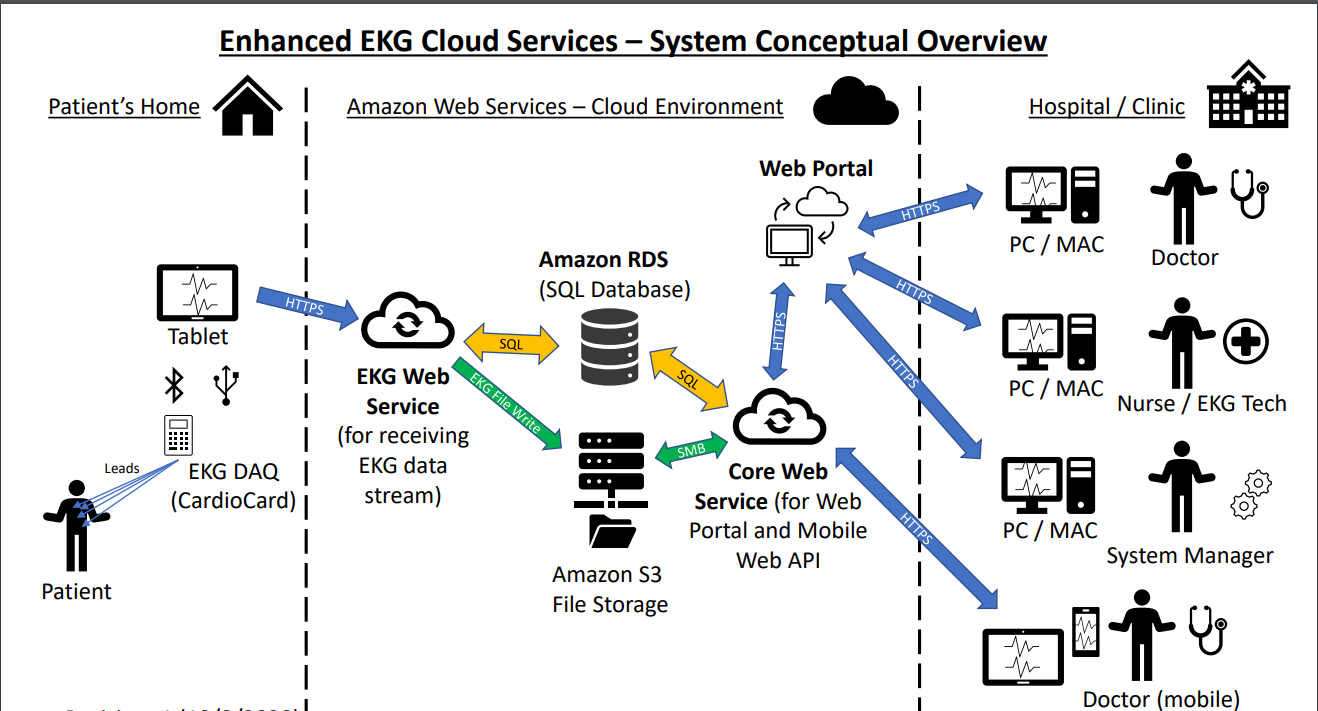


The Key functions of the product are stated as follows:

1. Authentication to access the application.
2. Collecting patient data through DAQ card and EKG device.
3. List all the registered users accessing the application.
4. Access the patient data from cloud for decision processing.
5. Add/Remove the users from system.

## System Architecture

<describe major subsystems and functionality and show various architecture diagrams Describe the pertinent characteristics of each subsystems and their interaction. You may include interaction diagrams among subsystems and protocols.>



## Operating Environment

**Software Platform** - The application will be developed on python and hosted on AWS cloud platform.

**Hardware** – EKG devices and DAQ card to collect and send data from patient to cloud.

**Database** – Amazon RDS for SQL Server is used to setup a database on cloud and store the patient information.

**Operating System** - Prime goal is to keep the system independent of OS for better operability and ease of functionality, so the user can access the system using any of the main operating systems like Windows, Linux, iOS.

# Physical and/or deployment Diagram & description

# Class design per usecase or a group of usecases

## Class Design

## Sequence Diagrams & Description

## State chart Diagrams & description if applicable

# Cost Analysis (per user and total )

You should estimate capacity needs and translate them to cost.. either total ownership cost or cost per subscription or patient

Appendix A: Glossary

<Define all the terms necessary to properly interpret the DOCUMENT, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each DOCUMENT.>

Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the DOCUMENT so they can be tracked to closure.>