

Architecture Documentation

Design, Build, and Enrich Machine Learning Model for Natural Language Processing

Sponsored by DXC Technology
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ABSTRACT

This document will cover the architecture for our project in conjunction with DXC Technology. The architectural style we decided would be best for this particular project was Client-Server. We decided that Client server was the best because the DXC employee will request a Knowledge Base article from the Server, and client server was the style that fit this description most precisely. We decided to use the four plus one model because it provides an in-depth view that will allow us to model our architecture very clearly. The technologies we will use include but are not limited to Python, MongoDB, JSON, and Service Now.

INTRODUCTION

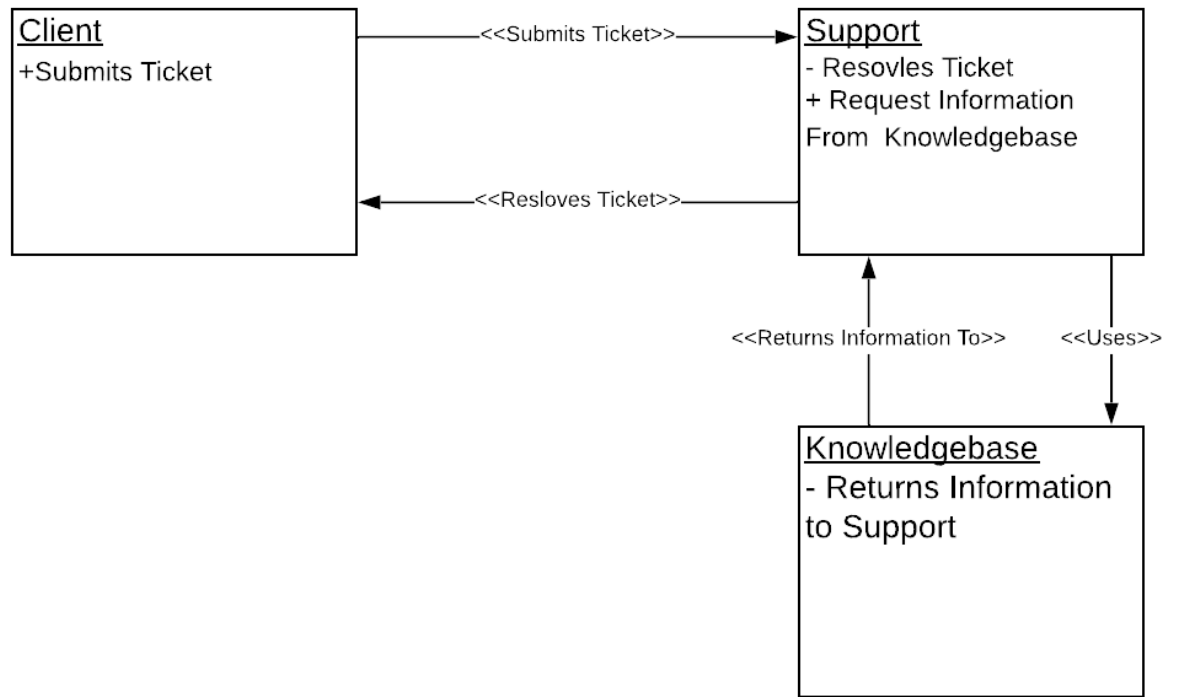
This is the architectural documentation for the project "Design, Build, and Continuously Enrich Machine Learning Model for Natural Language Processing" in conjunction with DXC Technology. The architectural style, architectural model, and technologies used are discussed at length in order to give the reader a greater understanding of our decisions and why we made them.

ARCHITECTURAL STYLE(S) USED

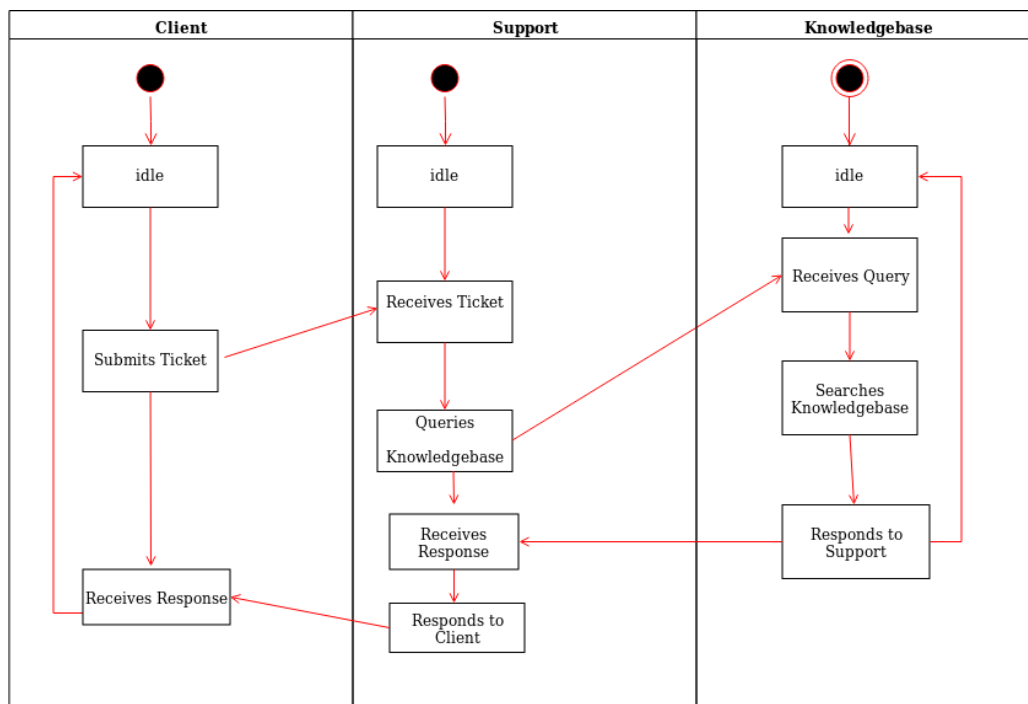
The architectural style we decided would best fit our project was client server because it supports various features of our application. For instance, a DXC employee will request information from our knowledgebase, and the knowledgebase will return the requested information to the DXC employee. This is classic client server architecture with the DXC employee acting as the client and the knowledgebase acting as the server. Overall, this architectural style is the best fit for our project, and will allow us to complete this product to our clients satisfaction.

ARCHITECTURAL MODEL (4 + 1 Model)

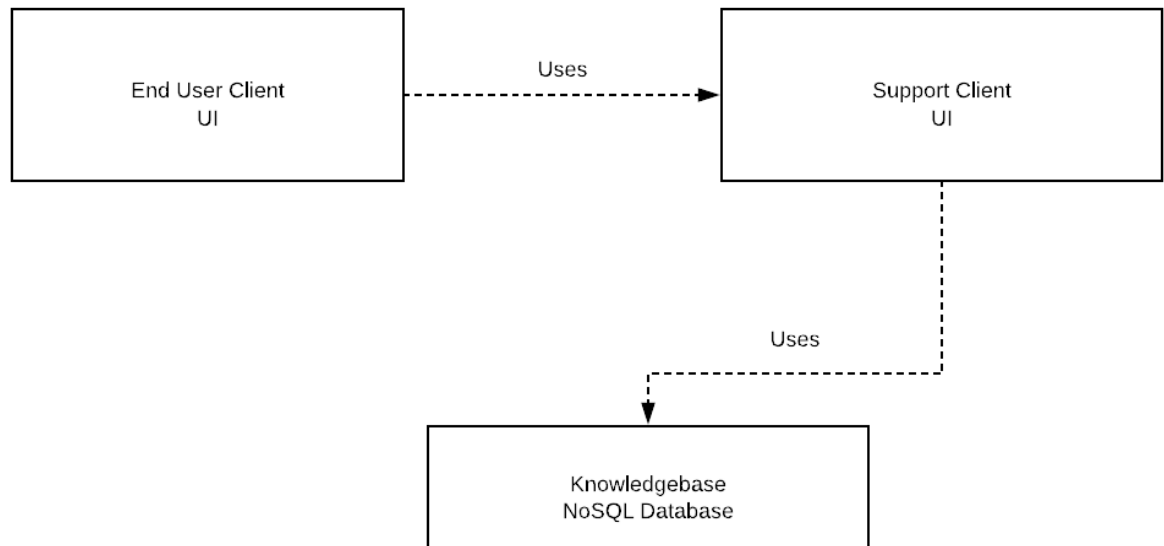
Logical View:



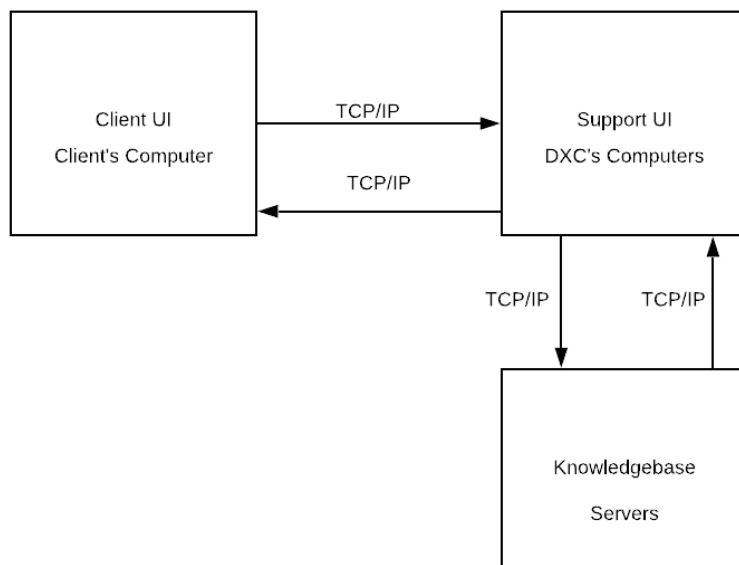
Process View:



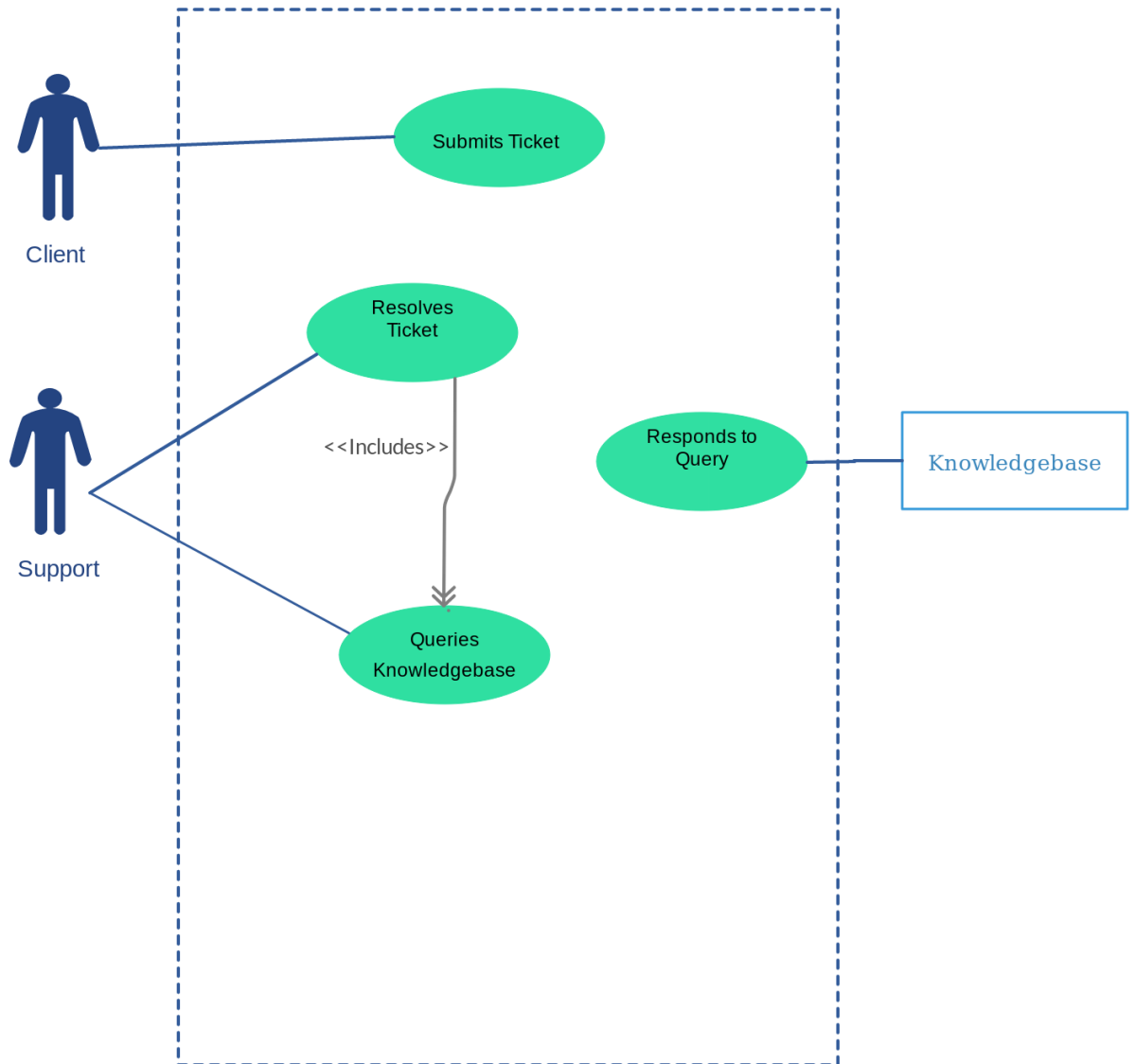
Development View:



Physical View:



Scenarios:



TECHNOLOGY, SOFTWARE, AND HARDWARE USED

For this project we will use several technologies including but not limited to Python MongoDB, JSON, and Service Now. Python will be used as the main programming language for this project. We decide MongoDB would be the best way to implement it our database because of its versatility and ease of use. Json will be used to format data, and finally Service Now will be used as well. Overall these technologies will make implementation of this project simple and efficient.

RATIONALE FOR YOUR ARCHITECTURAL STYLE AND MODEL

Our rationale for choosing Client Server as our architectural style was because it fits our project very well. The DXC employee will act as the client and the knowledgebase will act as the server. Our decision to use the four plus one model was based off our desire to provide a very clear model of our architecture, and we believe that the four plus one model is the best way to provide that clarity.

EVIDENCE THE DOCUMENT HAS BEEN PLACED UNDER CONFIGURATION MANAGEMENT

We are using Github for requirements configuration management.
The link to our Github is: <https://github.com/orgs/Senior-Design-F19/teams/dev>.

REFERENCES

None.