Software Assignment and License Tracking System (S.A.L.T.S.)

TEAM RED

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Rocket®software

PRODUCT OVERVIEW & MISSION

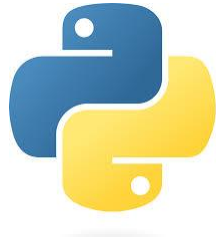NextGen
Rocket software

TOOLS USED

Programming Language:
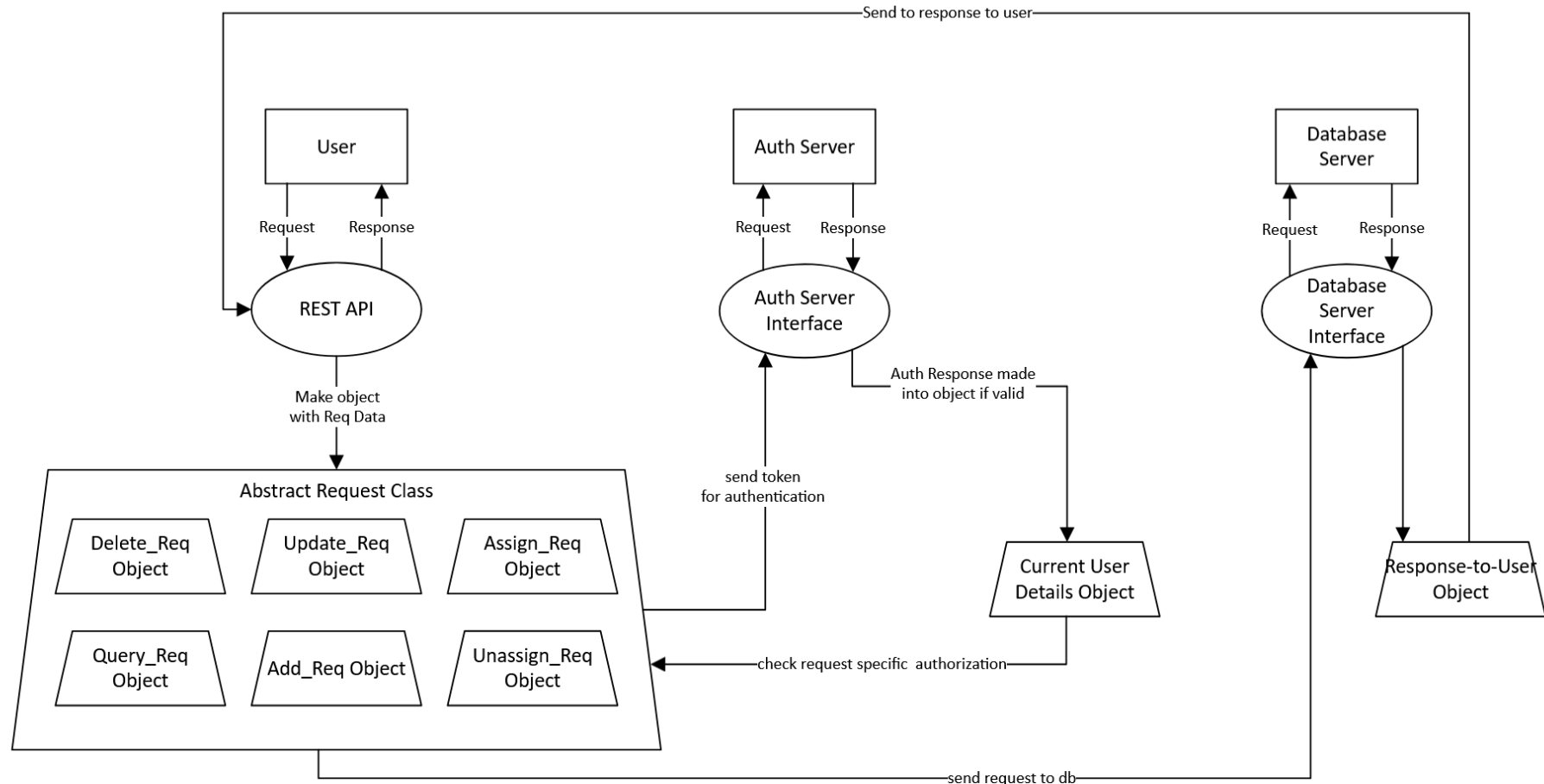
Python

Web Server Framework:

Flask

Database:

MySQL
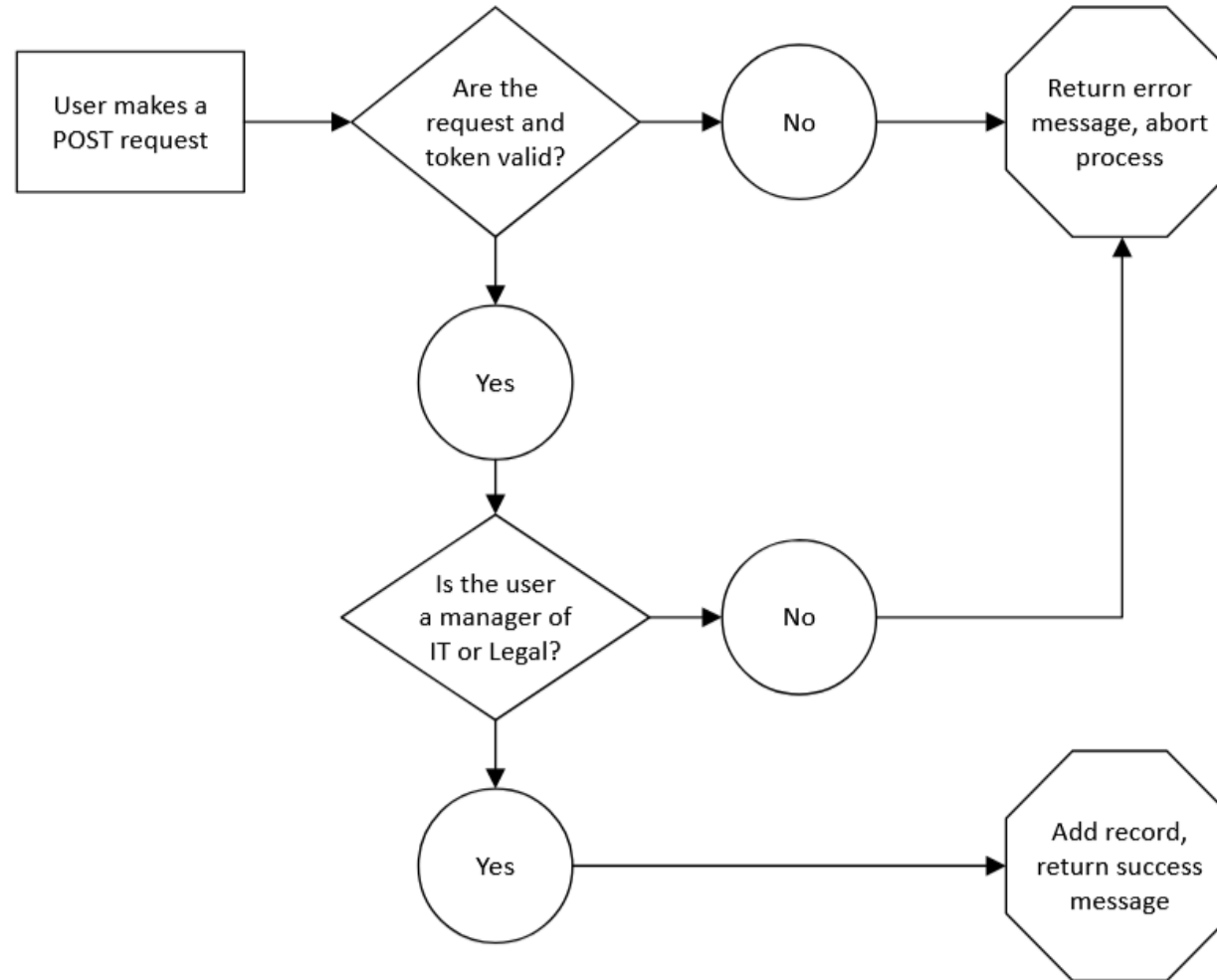
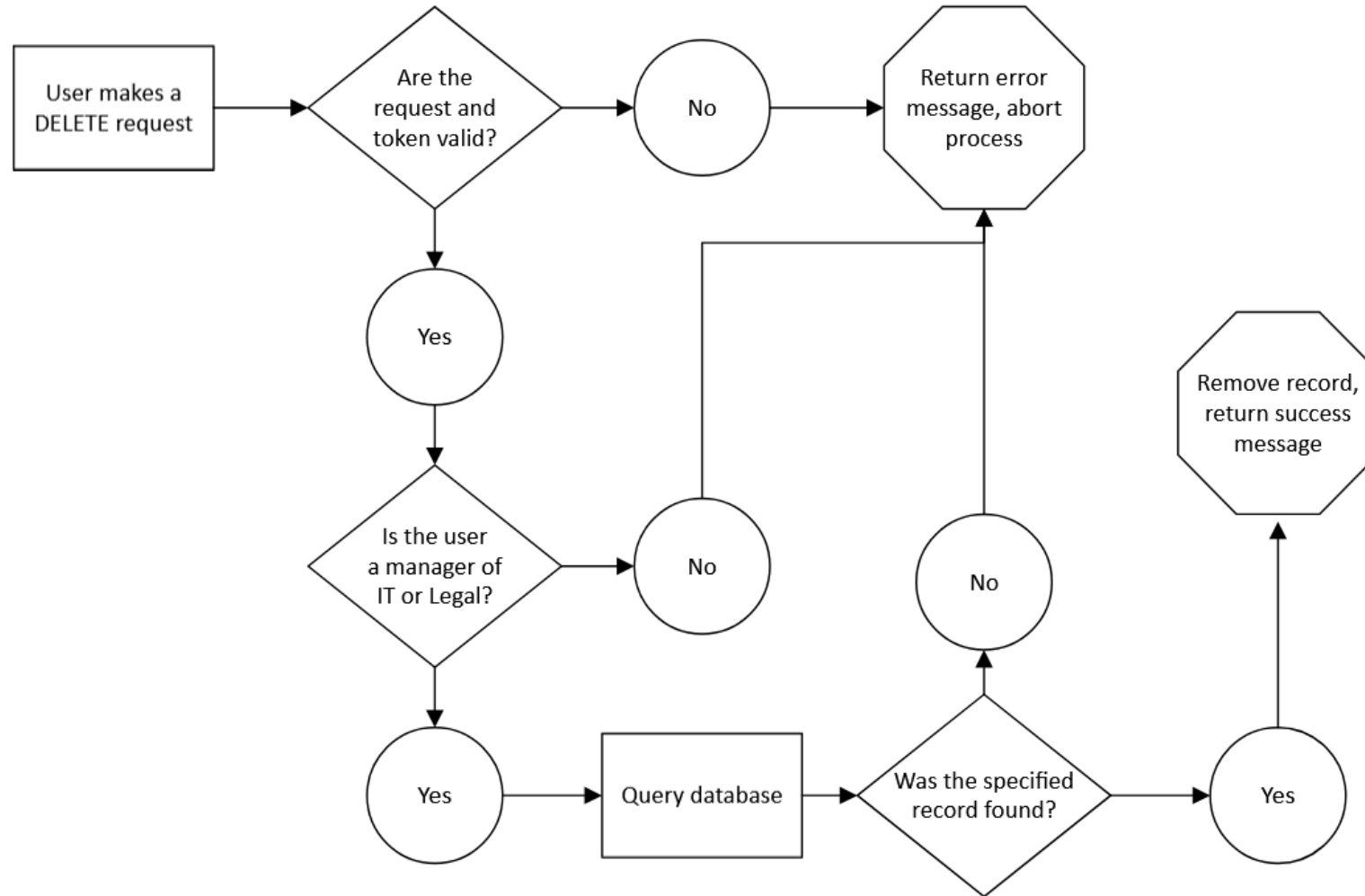## Three Tier Architecture

Presentation

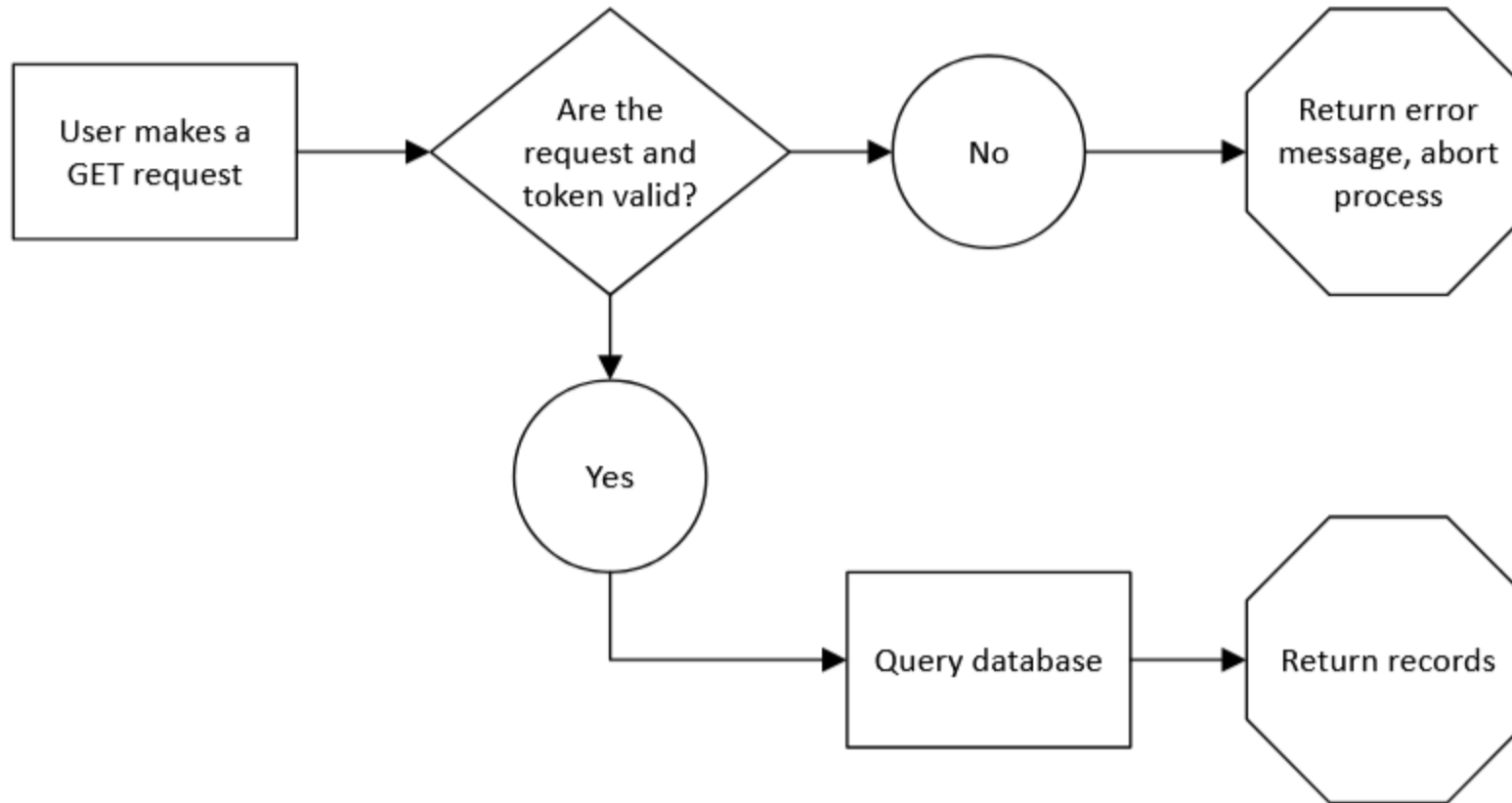Application

Data

DATA FLOW

USE CASES: ADDING A LICENSE

USE CASES: DELETING A LICENSE

USE CASES: QUERYING LICENSES

EMPLOYEES

Field Names	Data Type	Data Format	Field Size	Description	Example
Employee ID	Int	EXXXXXX		Identification # unique to each employee	E123456
First Name	String		50	The employee's first name	Noelle
Last Name	String		50	The employee's last name	Stark
Title	String		11	The employee's job title	Developer
Department	Int	DXX		The ID number for the employee's department	D12
Email	String	name@domain.com	50	The employee's email address	nstark@rockets oftware.com
Country	String		50	The employee's country of residence	United States
City	String		50	The employee's city of residence	Fayetteville
Location	Int	O123		The ID number for the employee's office	O123

LOCATIONS

Field Names	Data Type	Data Format	Field Size	Description	Example
Office ID	Int	OXXX		Identification # unique to each office location	O123
Phone	String		50	The office's phone number	+1 334 275 3541
Street	String		250	The office's street address	3607 Fawn Valley Dr
Country	String		50	The country the office is in	United States
City	String		50	The city the office is in	Dallas

DEPARTMENTS

Field Names	Data Type	Data Format	Field Size	Description	Example
Dept. ID	Int	DXX		Identification # unique to each department in the company	D12
Name	String		20	Name of the department	Compliance

COMPUTERS

Field Names	Data Type	Data Format	Field Size	Description	Example
Computer ID	Int	CXXXXX		Identification # unique to each individual computer	C12345
Location	Int	OXXX		The ID number for the office the computer is in	O123

LICENSES

Field Names	Data Type	Data Format	Field Size	Description	Example
License ID	Int	LXXXXXXXXXX		Identification # unique to each licensed software	L1234567890
Name	String		40	Title of software	Microsoft Office 365
Version	String		8	A specific edition or form of the software	3.13.08
Date Added	String	YYYY-MM-DD	10	Date the license was added into the database	2021-08-27
Type	String		20	Category the license falls under	Enterprise
Uploader ID	Int	UXXXXXX		The ID number for the employee who added the license	U123456

EMPLOYEE LICENSE ASSIGNMENTS

Field Names	Data Type	Data Format	Field Size	Description	Example
License ID	Int	LXXXXXXXXX		The ID number for the license being assigned	L1234567890
Employee ID	Int	EXXXXXX		The ID number for the employee receiving the license	E123456
Assigner ID	Int	AXXXXXX		The ID number for the employee who assigned the license	A123456

COMPUTER LICENSE ASSIGNMENTS

Field Names	Data Type	Data Format	Field Size	Description	Example
License ID	Int	LXXXXXXXXX		The ID number for the license being assigned	L1234567890
Computer ID	Int	CXXXXX		The ID number for the computer receiving the license	C12345
Assigner ID	Int	AXXXXXX		The ID number for the employee who assigned the license	A123456

COST

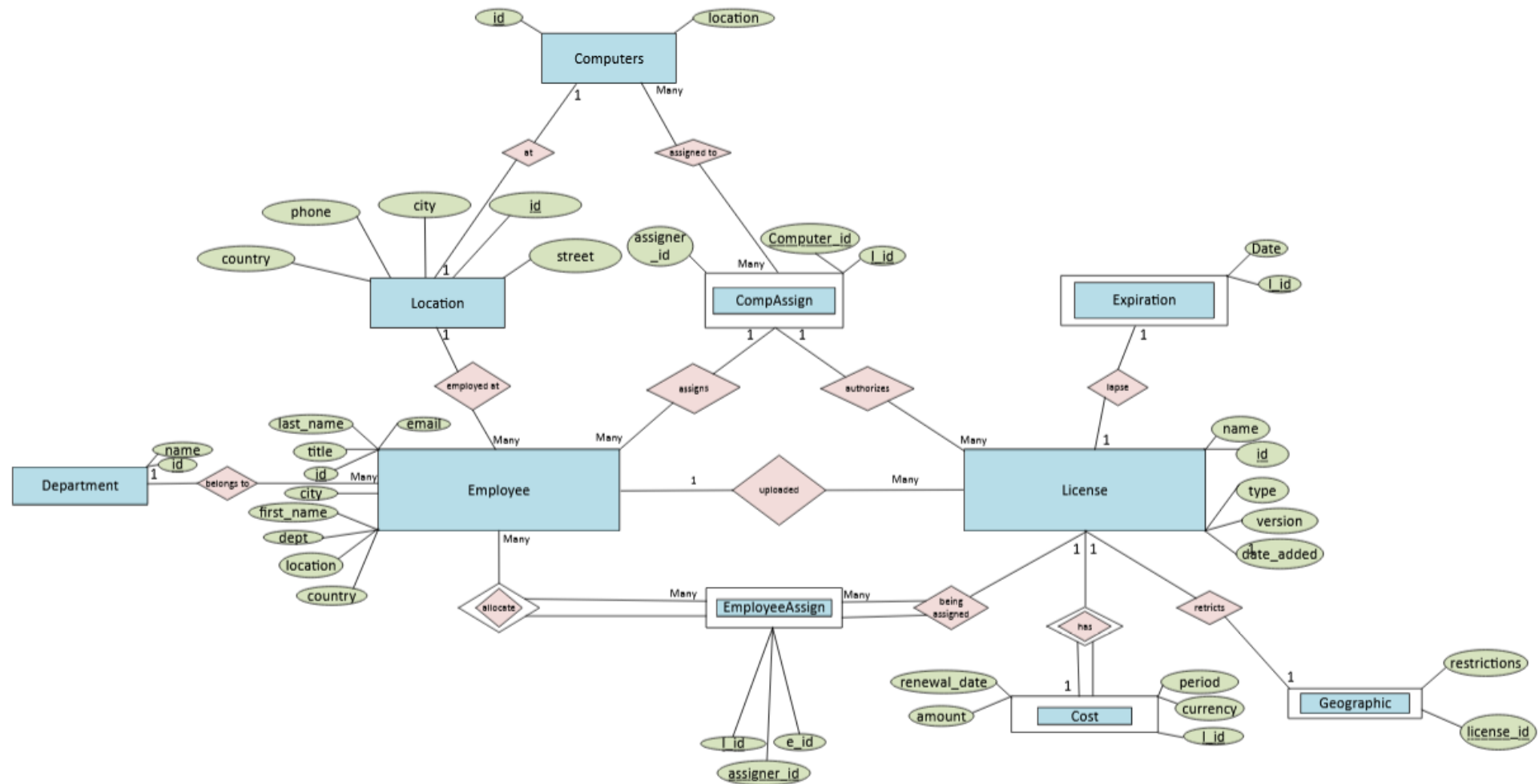| Field Names	Data Type	Data Format	Field Size	Description	Example
License ID	Int	LXXXXXXXXXX		The ID number for the license	L1234567890
Cost	Float	XXXX.XX		The cost of the license	1234.56
Currency	String	CCC	3	System of money used	USD
Period	String		12	How often payments need to be made for the license	Annual
Date of Renewal	String	YYYY–MM–DD	10	Date the license was last renewed	2025-12-20

EXPIRATION DATES

Field Names	Data Type	Data Format	Field Size	Description	Example
License ID	Int	LXXXXXXXXX		The ID number for the license	L1234567890
Date	String	YYYY-MM-DD	10	Date the license rights expire	2020-03-12

GEOGRAPHIC RESTRICTIONS

Field Names	Data Type	Data Format	Field Size	Description	Example
License ID	Int	LXXXXXXXXX		The ID number for the license	L1234567890
Restrictions	String		100	Displays where the license can't be used	Croatia, Czech Republic

CODE ORGANIZATION

Modules	Responsibility
Interfaces	Send and receive data from points outside of our trust boundary (servers, database, user, logs)
Credentials Manager	Organizes and verifies user credentials received from auth server
User Request Manager	Organizes, validates and handles user request data using request-specific subclasses
User Response Manager	Constructs a response using DB response or any errors, to be sent back to the user via the REST endpoint
Logger	Handles creation of logs based on config file

SECURITY & TRUST BOUNDARIES

Boundary relation	Entities
Layer 1 (within trust boundary)	Dev defined logic and interface programing
Layer 2 (outside trust boundary)	User, Auth server, Database server, Flask web server, Log files, Config files

All I/O dealing with entities outside of our trust boundary will have all data sanitized, validated, and, in the case of DB calls, parameterized for security.

Authentication and authorization will be handled using the company's SSO server.

Logging will allow for limited integrated threat tracking by logging invalid requests for review.

DEPLOYMENT

Dependencies:

- Python 3.12 (minimum)
- Flask 3.1.2
- MySQL 8.0.43

Additional Notes:

- Make sure logger.json is in /src/config/
- URL for authentication server is configured in src/config/settings.json

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BSD-3

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Q & A