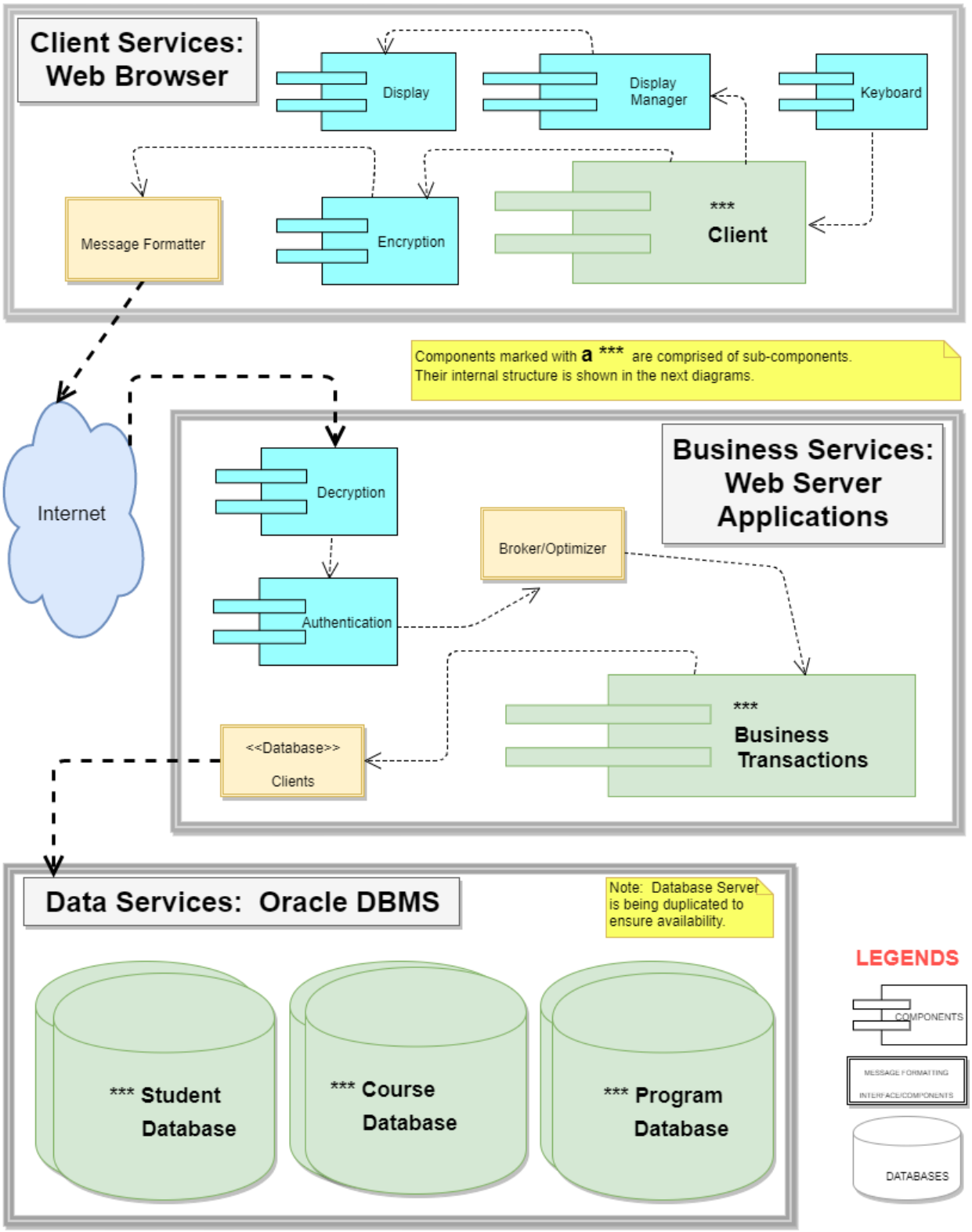
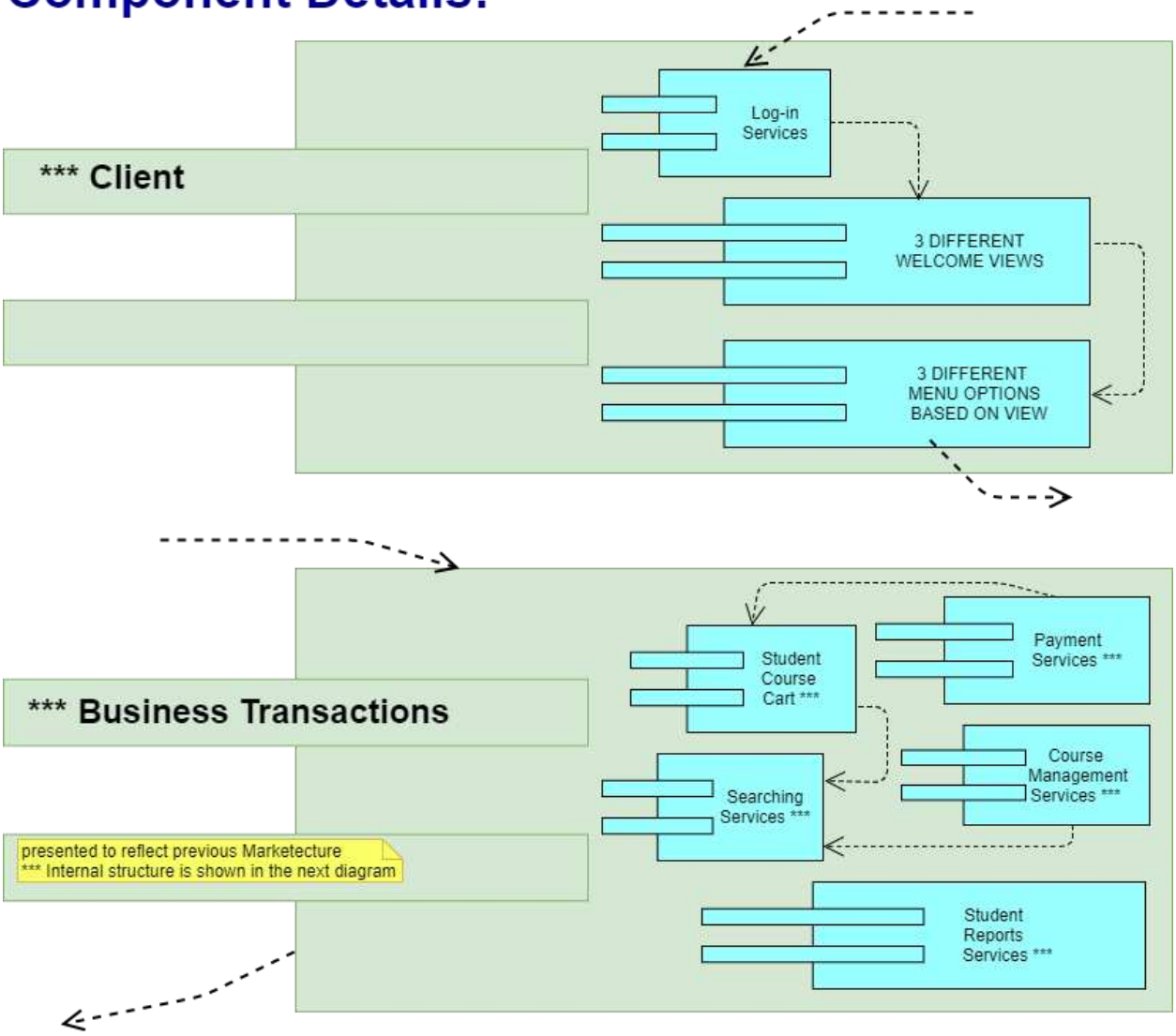
Architectural Framework and its Components



Component Details:

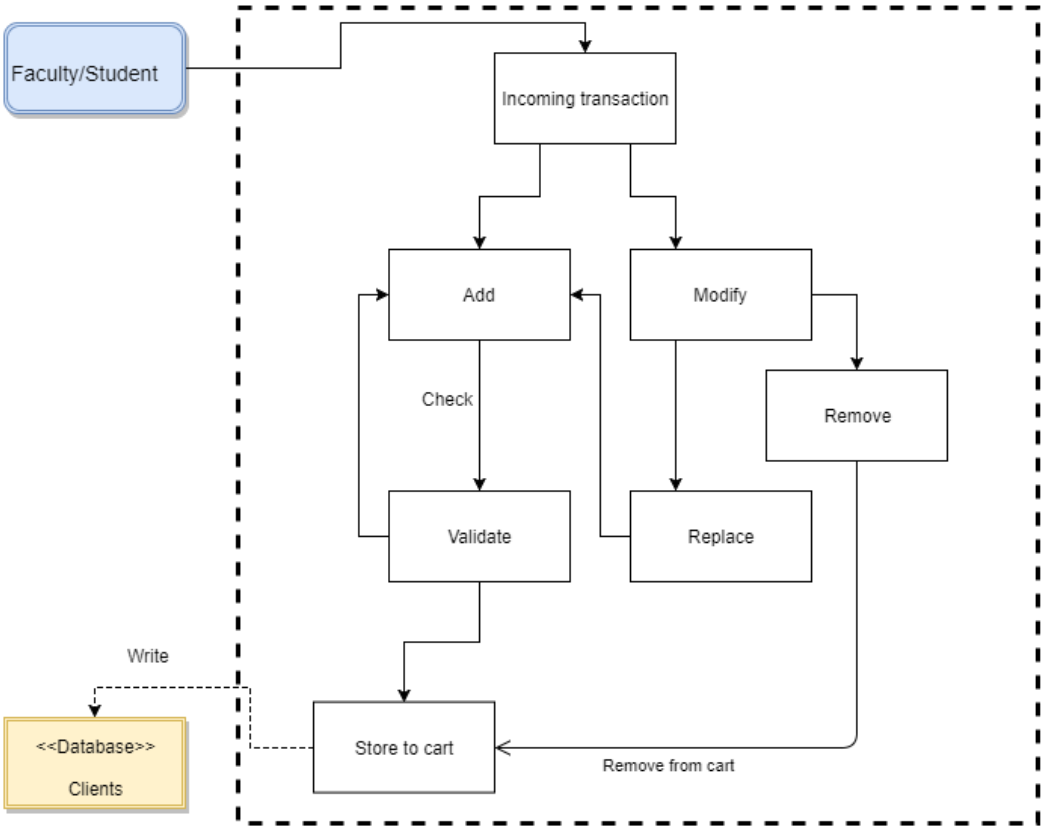


STUDENT DATABASE
STUDENT ID STUDENT NAME STUDENT ADDRESS STUDENT EMAIL STUDENT PHONE COURSE ID(FOREIGN KEY) PROGRAM ID(FOREIGN KEY) STUDENT STATUS STUDENT FEES OUTSTANDING

COURSE DATABASE
COURSE ID COURSE NAME COURSE TYPE [ie, CORE COURSE, ELECTIVE COURSE] COURSE YEAR [ie, CORE COURSE, ELECTIVE COURSE] COURSE PRE-requisite COURSE ANTI-requisite COURSE FEES PROGRAM ID(FOREIGN KEY)

PROGRAM DATABASE
PROGRAM ID PROGRAM NAME PROGRAM REQUIREMENTS

Behaviour: Student Shopping Cart Services



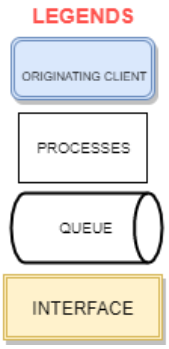
COMMUNICATION BETWEEN COMPONENTS

The ability of these components to talk to each other is enables through the implementation of a few interfaces.

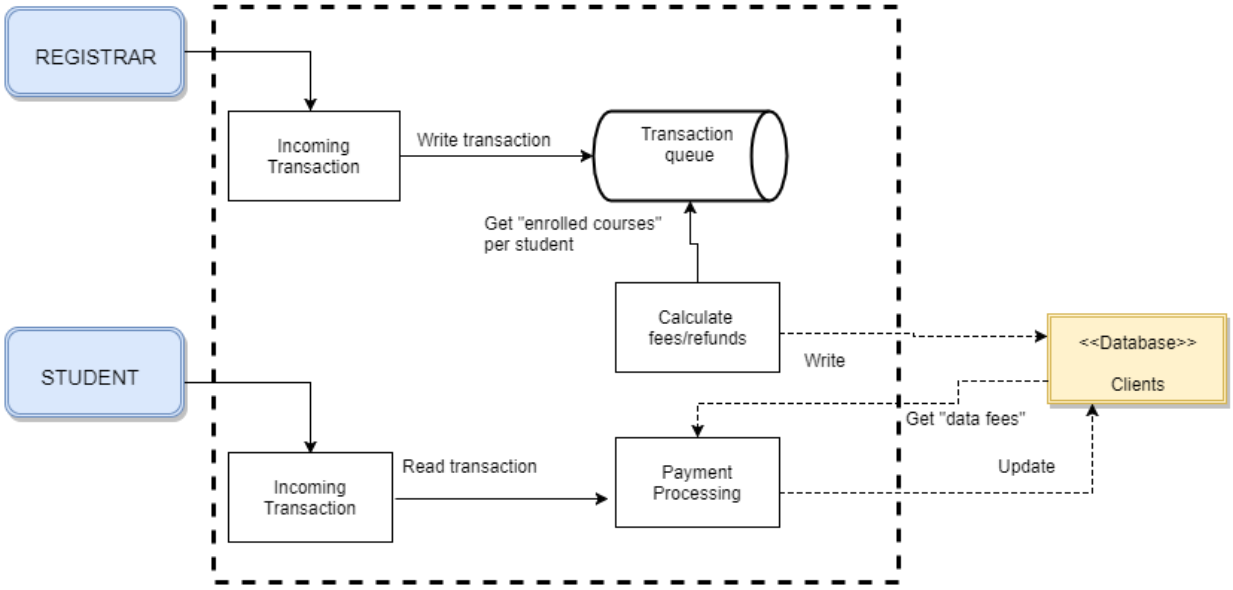
The Message Formatter packages the client message requests and converts them into a format that the Web Server can understand. For example, since our implementation is a Web Application, this interface is necessary to ensure that the communication between the Web Server and the client using HTTP is made possible; else they wont be able to understand each other and the message being lost or unrecognizable.

We also implemented a Broker / Optimizer within the Web Server which prioritizes all incoming message requests and reroutes them to the appropriate Business Services. Please note that not all of these services maybe hosted in one server. So the need of a Broker is necessary to ensure that the right message is sent to the right recipient. An alternative would be to implement a persistent connection, but for now, we have parallel servers, serving specific business services. This is because we wanted to ensure security as supposed to leaving some sockets open long enough for an intruder to spoof or gain access to.

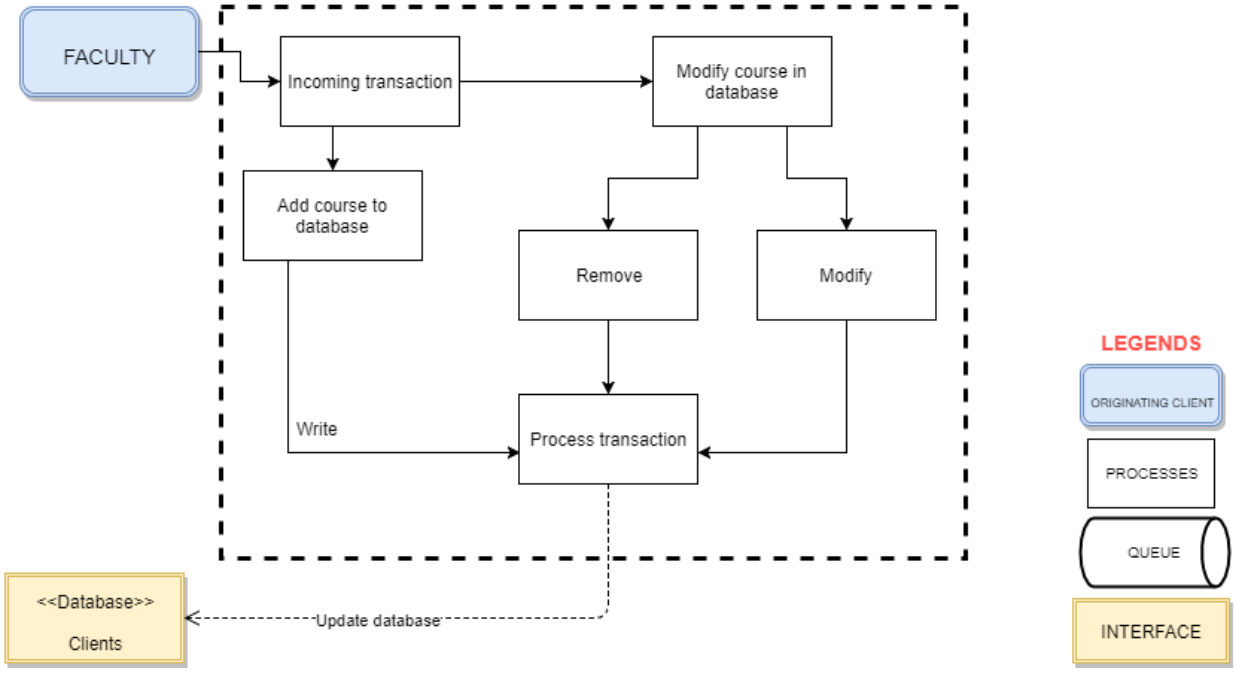
Lastly, we implemented a DB Client which enables the communication between the Web Server and the Database Server. DB Client provides the necessary scripts to either read, write or modify to/from the Databases.



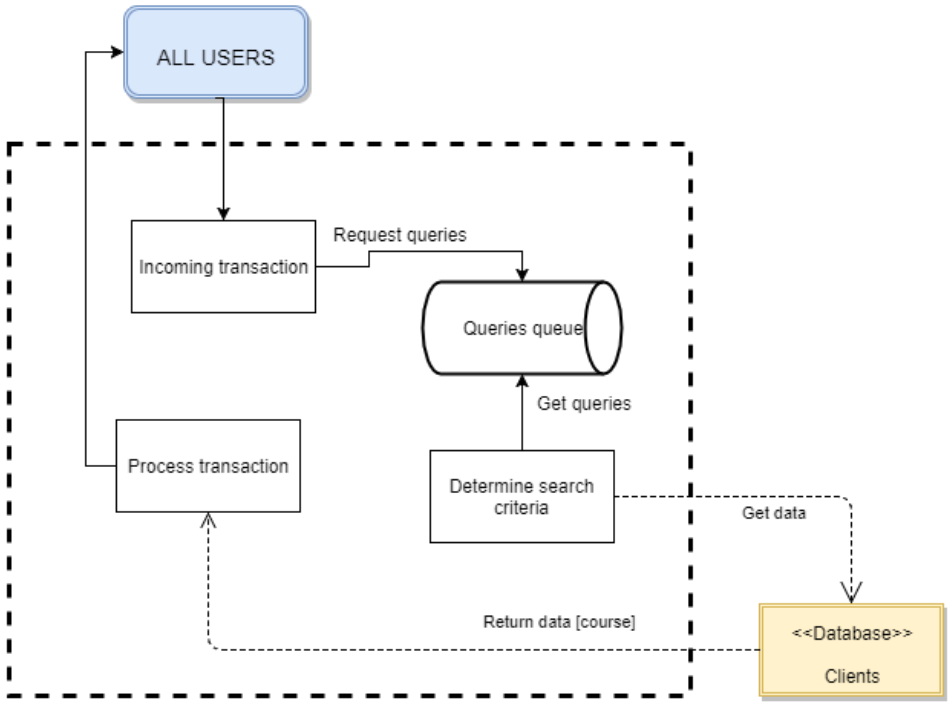
Behaviour: Payment Services



Behaviour: Course Management Services



Behavior: Searching Services



Behavior: Student Reports Services