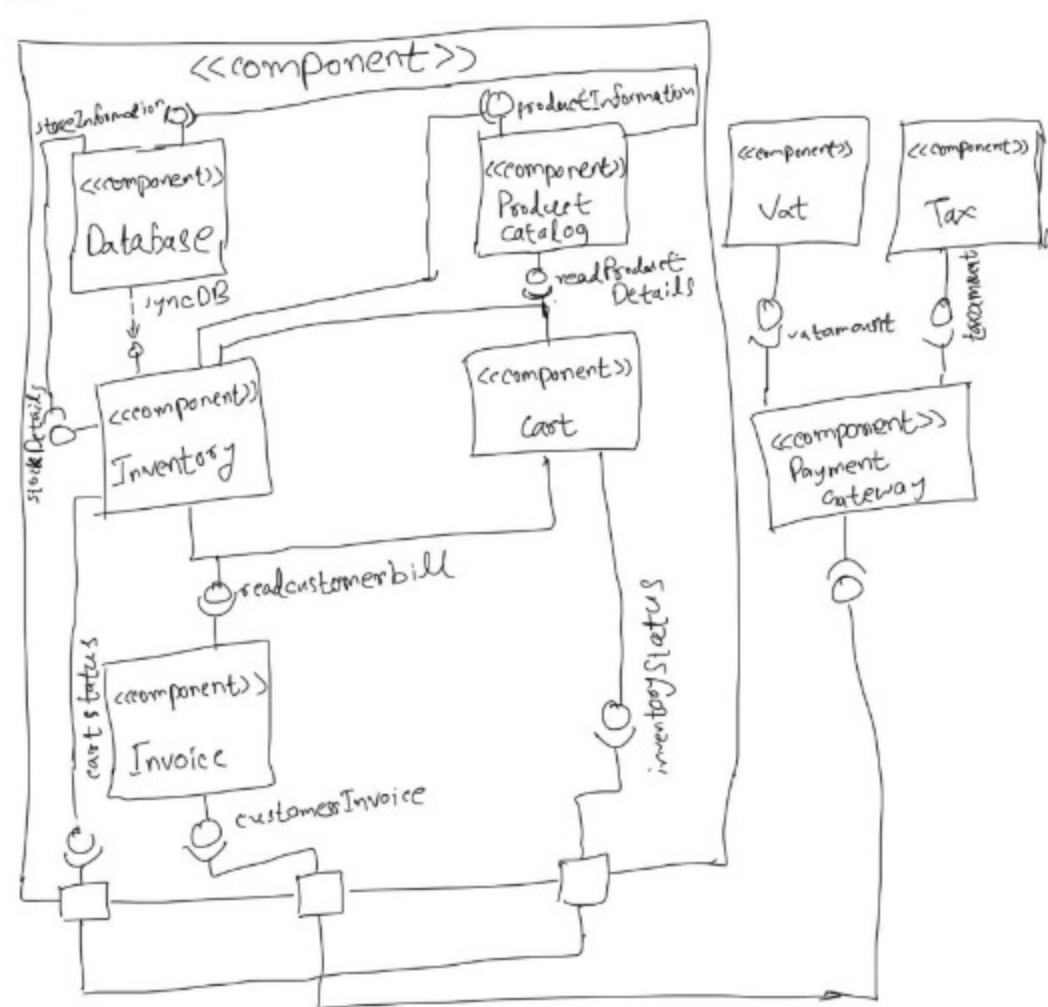


Assignment 2

Suppose you are developing an e-commerce website and it contains several components. The website component contains **five** components that are: **database**, **product catalog**, **inventory**, **cart**, and **invoice**. The Database component provides an interface, **storeInformation**, that is required by the **product catalog** component. Product Catalog component provides an interface, **productInformation** which is required by the Inventory component. Database component requires the **stockDetails** interface which is provided by the Inventory component. Product Catalog component provides another interface, readProductDetails which is required by **both the Inventory and Cart components**. The inventory component provides an interface called **syncDB** which is dependent on database updates from the Database component. The inventory and cart components both provide an interface called readCustomerBill which is required by the Invoice component. There are **three components outside the Website component**. They are payment gateway, vat, and tax. Cart, Invoice, and **Inventory** components provide inventoryStatus, customerInvoice, and cartStatus interfaces respectively and all of these are required by the Payment Gateway component. The Payment Gateway component also requires vatAmount from the Vat component and taxAmount from the Tax component.

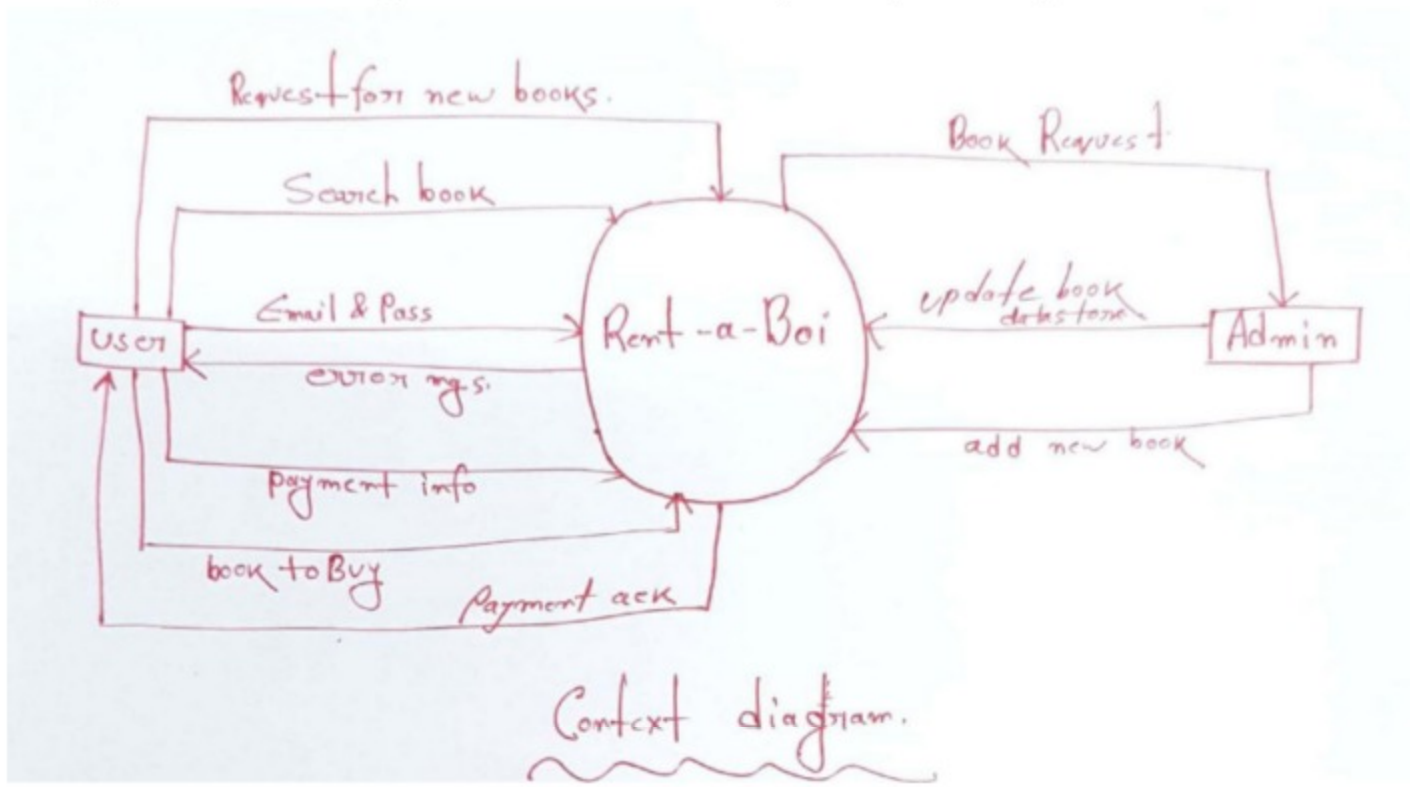
Draw a component diagram based on the above scenario. [10 marks]



Assignment 3

1. Let's assume you are planning an e-commerce startup company called Rent-a-Boi. In this system, the User needs to input his/her user id and password. If the credentials are wrong, the system will show an error message to the user. A user can search for a book. If the book is unavailable, users can request that too. Users can also buy books from this system. Users can make payments to the system and the system will send an acknowledgement to the user. The system can send the requested book list to the Admin. Admin can add new books and update the book database.

Now Design the **context diagram** of the Rent-a-Boi system. [3 marks]



2. A user inputs his/her credentials to the login process. Login process verifies the information by checking with the user datastore. When a user searches for a book, check the availability process takes that input and checks the availability by looking at the Book datastore. A user can buy books from the system that is handled by the AB2C (add book to cart) process. The checkout process takes all books from the AB2C process, updates the Book datastore and forwards the total price to make payment process. On the other hand, the user provides the payment information to the payment process too and it sends an acknowledgment to the user. When a user requests a new book, the request book process forwards the requested book information to the Admin. Admin can add new books to the Book datastore or update the datastore with the new collection.

Now Design the **Level-1 diagram** of the Rent-a-Boi system. [7 marks]

\*\*Make necessary assumptions where needed.

