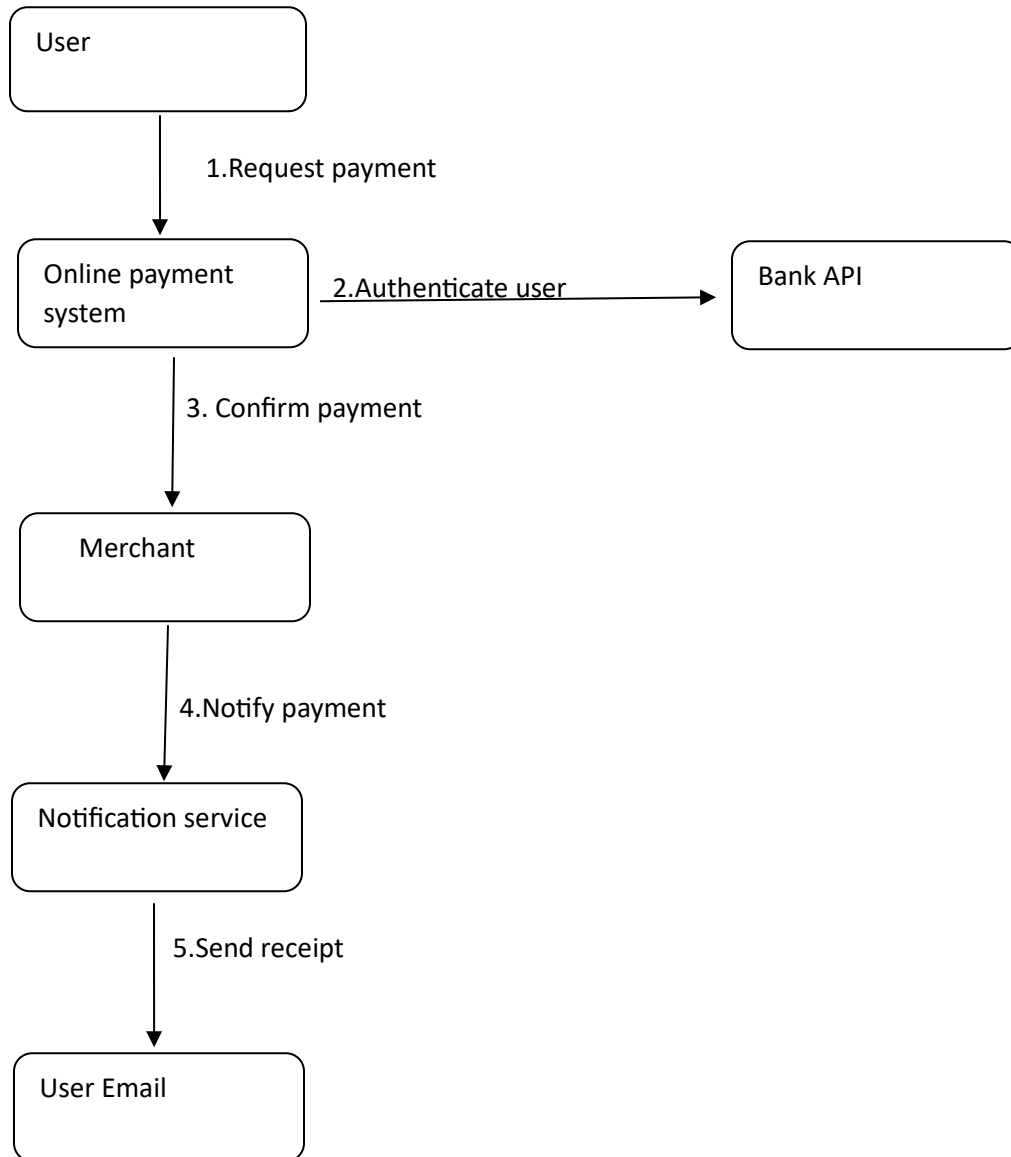


## ONLINE PAYMENT SYSTEM

Models of software engineering in online payment system and use cases.

### ➤ Context model

This model shows the system's interaction with the external entities  
diagram.



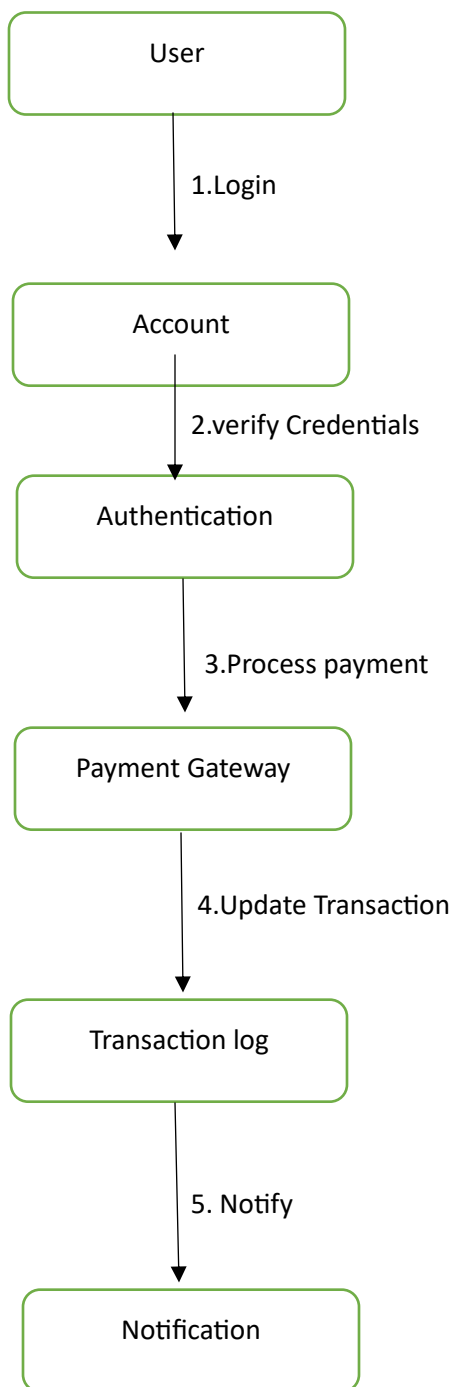
### Use case in context mode

- ✓ **User request payment:** The user initiates the payment through online payment system.
- ✓ **Authenticate user:** the system interacts with the Bank's API to authenticate the user.
- ✓ **Confirm payment:** The system confirms payment with the merchant.
- ✓ **Notify payment:** the system sends a notification about the payment status.
- ✓ **Send request:** The notification service sends a receipt to the user's email.

### ➤ Structural model

The structural depicts the organizational and relationship of the system components.

#### Diagram.



### Use case in structural model

- ✓ **Login:** user logs into their accounts.
- ✓ **Verify credentials:** the system verifies the user credentials through the Authentication components.
- ✓ **Process payment:** the process gateway processes the user's payment.
- ✓ **Update transaction log:** the system updates the transaction log using with the payment details.
- ✓ **Notify:** the notification component sends a confirmation message to the user.

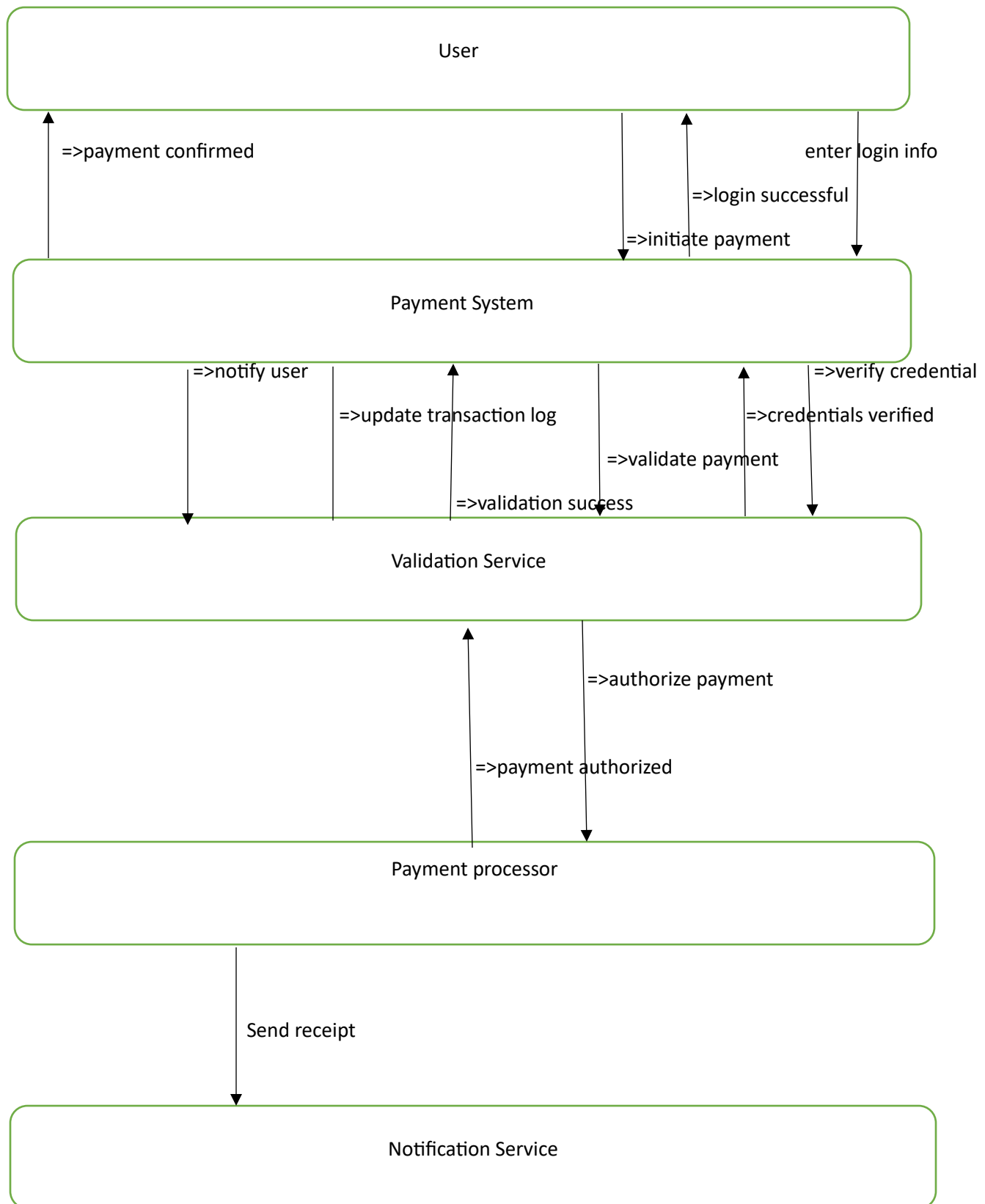
### ➤ Interaction model:

The interaction model illustrates the communication and interactions between components of the system.

### Use case of interaction model

- ✓ **User login:** User logs into the system and payment system verifies the credentials.
- ✓ **Verify payment:** the payment system interacts with the validation service to verify the payment.
- ✓ **Authorize payment:** the validation service authorizes the payment through the payment processor.
- ✓ **Update transaction:** the payment system updates the transaction log.
- ✓ **Notify user:** the payment system sends a notification to the notification service to inform the user.

**Diagram.**



➤ **Behavior model**

Behavior model describes the dynamic aspects of the system, focusing on how it react with the events.

**User case in Behavioral Model**

- ✓ **Initiate payment:** User initiates a payment process
- ✓ **Validate payment:** The payment validates the payment details.
- ✓ **Process payment:** The payment processor handles the payment transaction.
- ✓ **Send notification:** The notification service sends a payment confirmation to the user.

**Diagram.**

