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Subject	Human Computer Interaction

Lab#05

Norman's Model

Case Study: Online Banking System – Transfer Money

Activity#1

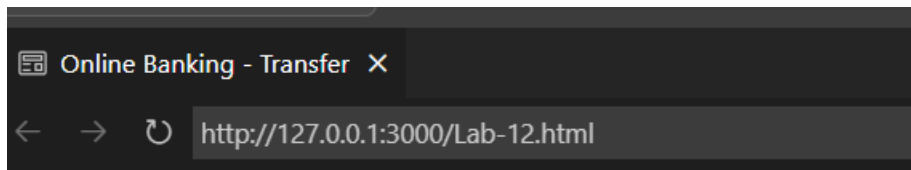
HTML Code: Simple Transfer Form Mockup:

```
<!DOCTYPE html>
<html>
<head>
  <title>Online Banking - Transfer</title>
  <style>
    body { font-family: Arial; padding: 20px; }
    input, button { padding: 10px; margin: 10px 0; width: 300px; }
    #message { color: green; font-weight: bold; }
  </style>
</head>
<body>
```

```
<h2>Transfer Money</h2>
<label>Recipient Name:</label><br>
<input type="text" id="name"><br>
<label>Account Number:</label><br>
<input type="text" id="account"><br>
<label>Amount:</label><br>
<input type="number" id="amount"><br>
<button onclick="submitTransfer()">Submit</button>
<p id="message"></p>
```

```
<script>
function submitTransfer() {
  const name = document.getElementById('name').value;
  const account = document.getElementById('account').value;
  const amount = document.getElementById('amount').value;
  if (name && account && amount) {
    document.getElementById('message').innerText = "Transfer Successful!";
  } else {
    document.getElementById('message').innerText = "Please fill all fields.";
    document.getElementById('message').style.color = "red";
  }
}
</script>
</body>
</html>
```

Output:



Transfer Money

Recipient Name:

Account Number:

Amount:

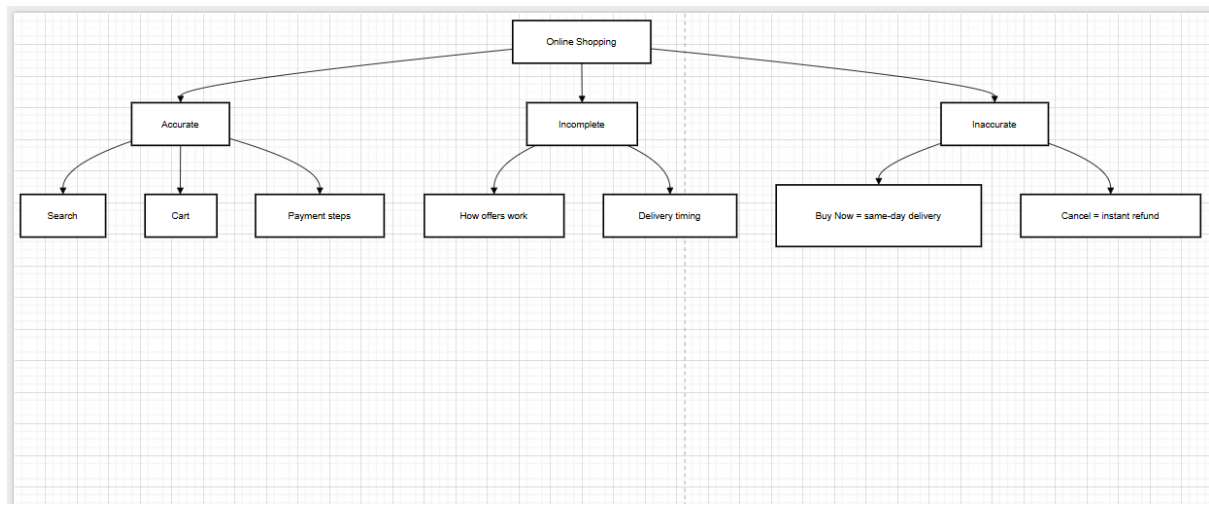
Transfer Successful!

Activity 2: Mental Model Mapping

Objective:

Create a mental model map of a familiar system showing accurate, incomplete, and inaccurate understandings.

Mind Map:



Activity 3: Norman's Model Role-Play

Objective:

Act out the Norman's model stages with a chosen system scenario.

Example Scenario: Booking a Flight Online

Norman's Model Breakdown

Stage	Role-Play Example
Goal	"I need to fly from Delhi to Mumbai next week"
Intention	"I want to book a ticket using MakeMyTrip"
Action	Opens site → Searches flights → Selects one → Enters details → Pays
Execution	Clicks confirm and waits for loading screen

Feedback	Gets ticket confirmation + email
Interpretation	"The booking is successful and I should get an e-ticket soon"
Evaluation	Confirms booking status from "My Bookings" page

Role-Play Setup:

- **User:** Interacts with booking interface
- **System:** Other students act as responses (e.g., confirmation, errors)
- **Observer:** Takes notes on execution and evaluation stages

Activity 4: User Interface Redesign

Objective:

Redesign a bad UI using Norman's principles + Mental Model corrections.

Example: Poor UI – ATM Interface

Problems:

- No progress feedback
- Confusing button layout
- No error message on failed PIN

Redesigned ATM UI – HTML Prototype:

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>ATM Simulator</title>
```

```
<style>
```

```
body { font-family: Arial; padding: 20px; background: #e0f7fa; }
input, button { margin: 10px 0; padding: 10px; width: 250px; }
#status { font-weight: bold; margin-top: 20px; color: green; }
</style>
</head>
<body>
  <h2>ATM Withdrawal</h2>
  <label>Enter PIN:</label><br>
  <input type="password" id="pin"><br>

  <label>Amount to Withdraw:</label><br>
  <input type="number" id="amount"><br>

  <button onclick="process()">Withdraw</button>

  <div id="status"></div>

  <script>
    function process() {
      const pin = document.getElementById("pin").value;
      const amount = parseInt(document.getElementById("amount").value);
      const status = document.getElementById("status");

      if (pin !== "1234") {
        status.innerText = "✖ Incorrect PIN";
      }
    }
  </script>
</body>
</html>
```

```
        status.style.color = "red";
    } else if (amount > 10000) {
        status.innerText = " ⚠️ Daily limit exceeded.";
        status.style.color = "orange";
    } else {
        status.innerText = ` Please collect ${amount}`;
        status.style.color = "green";
    }
}
</script>
</body>
</html>
```

Output:

ATM Withdrawal

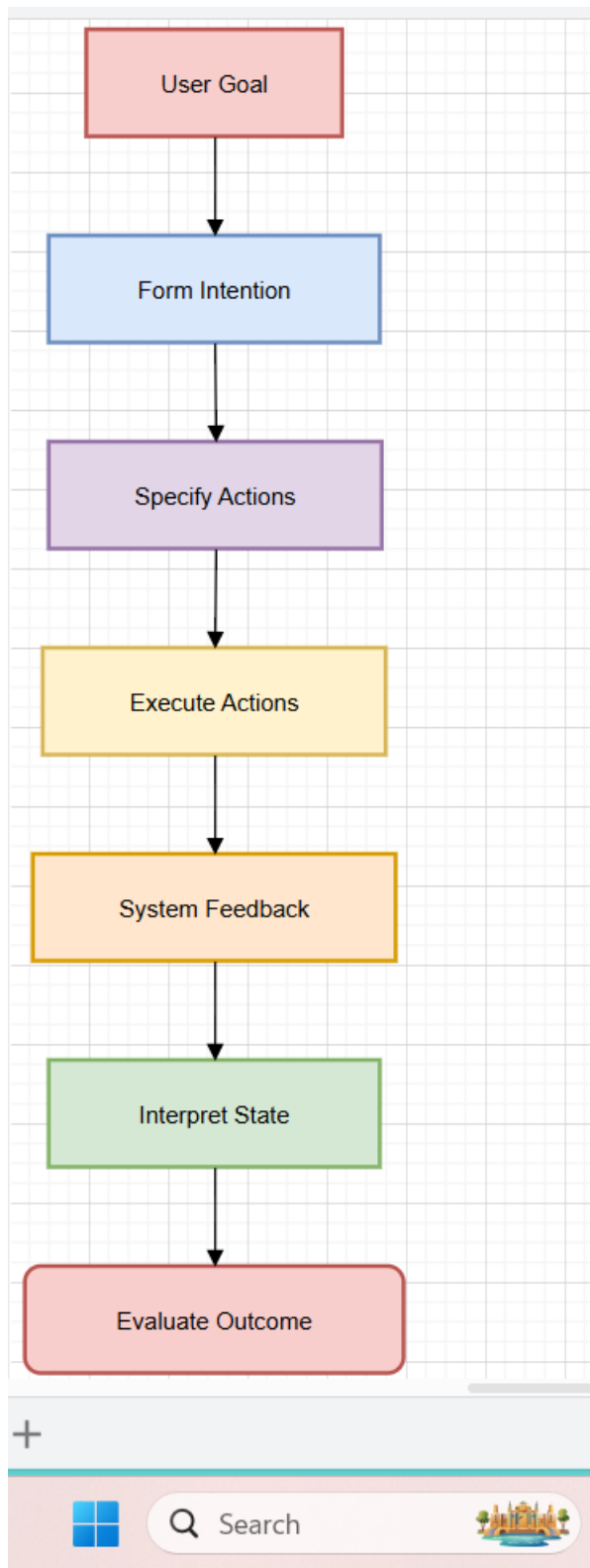
Enter PIN:

Amount to Withdraw:

✅ Please collect 5000

Deliverables

1. Diagram of Norman's Model



2. Mental Model Reflection

At first, I assumed banking apps worked instantly and always clearly. After doing the lab and observing UI gaps, I understood how incomplete and inaccurate models affect user trust. My updated model includes understanding feedback, error states, and limitations."

3. Redesigned UI (HTML Above already done)

THE END