Q1. A food delivery app recently redesigned its interface. The new design uses bright colors and animations to grab attention, provides one-click reordering for regular customers, and displays a personalized "Thank You" message after checkout. Using Norman's three levels of processing, analyze how each design element influences the user's experience. Provide justification for your analysis.

Synoptic:

- **Visceral level:** Instant, automatic reactions, how the app looks/feels the moment you see it.
- **Behavioral level:** How people use the app ,the actions, affordances, feedback and ease of doing tasks.
- **Reflective level:** User's thoughtful evaluation, afterward meaning, memory, trust and long-term opinions.

1) Bright colors & animations

Visceral: Immediate emotional reaction — bright colors and lively animations make the app feel energetic and attractive. Users are drawn to visually stimulating elements; a striking "Order" button or a playful add-to-cart animation creates a positive first impression and can increase approach behavior.

Behavioral: Properly used animations guide attention and show state changes (button tapped, item added). Colors can signal hierarchy (primary action vs secondary). Animations that confirm an action (micro-interaction) reduce uncertainty and help users know the app received their input — improving task flow. However, excessive or slow animations slow task completion and break flow, so they must be brief and purposeful. Poor color contrast can harm legibility and slow users, so usability must trump pure aesthetics.

Reflective: Over time, the look/animation style shapes brand perception fun vs premium, trustworthy vs gimmicky. Users remember the overall aesthetic; a consistent, tasteful visual language builds brand recall. If the style contradicts expected brand values (e.g., gaudy animations for a premium service), reflective evaluation may be negative.

2) One-click reordering

Visceral : Minimal direct visual impact, though a prominent, well-designed "Reorder" CTA can create a sense of convenience at a glance. A clear icon/button signals ease small visceral encouragement.

Behavioral: Major improvement cuts steps, reduces cognitive load and time to complete a repeat purchase. It supports habit formation and muscle memory (tap → done). Removing steps bridges the gulf of execution: the user's goal (repeat order) maps to fewer actions. But it introduces risks (accidental orders, wrong defaults like payment or address). So the design must include safe defaults (saved payment/address with visible summary), a brief confirmation or an undo window, and an opt-in setting for one-click to protect users.

Reflective: Encourages loyalty and perceived convenience; users may rate the app more favorably and use it more often. But repeated impulse buys can cause regret, hurting trust.

Users evaluate whether the convenience is worth any loss of control transparent controls and easy cancellation build long-term trust.

3) Personalized "Thank You" message

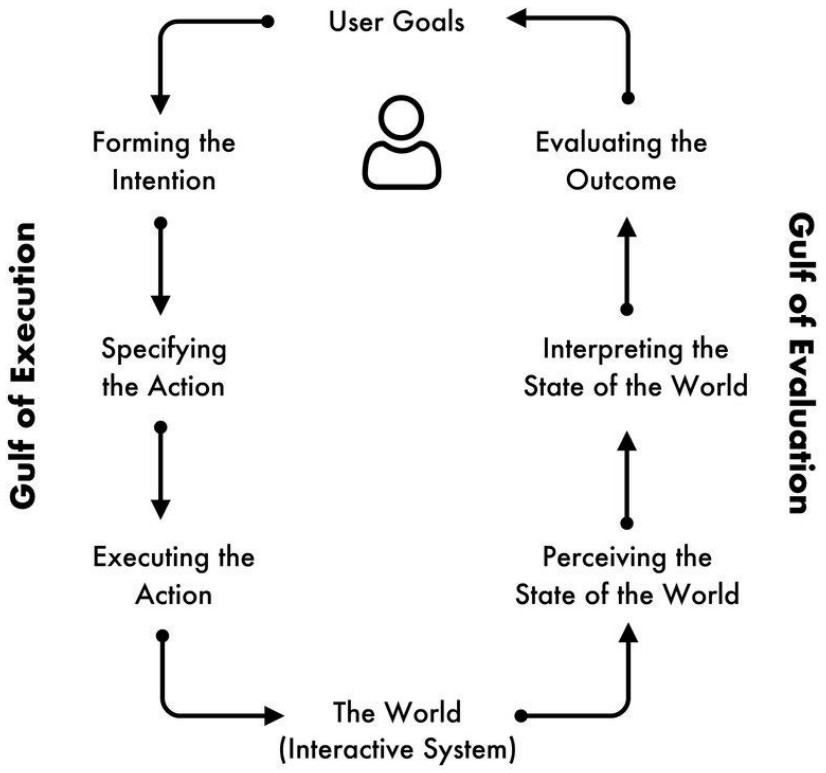
Visceral: Immediate emotional uplift — seeing your name or a friendly line feels pleasant. Personal touches trigger positive affect and make the interaction feel human rather than transactional.

Behavioral: Acts as feedback and closure — confirms the order succeeded and can present next actions (track order, estimated time, reorder). This reduces the **gulf of evaluation**: user sees a clear result and knows what to expect next, which prevents confusion (e.g., "Did my order go through?").

Reflective: Builds relationship and satisfaction over time; personalization signals that the service "knows" the user, increasing loyalty. But overly specific personalization can feel intrusive. Users remember how they were treated; a sincere, well-timed thank you contributes to a positive brand story.

Q2. A new ATM interface requires multiple steps to withdraw cash, leading to long queues and user frustration. Using the seven stages of action, analyze the problems and suggest improvements. (10 Marks)

Norman's Seven Stages of Action describe how users interact with a system and where gaps occur. Applying them to the ATM problem:



1. **Forming the Goal** – The user's goal is to withdraw money quickly. But too many steps (ads, promotions, unnecessary screens) distract from this goal.
   Improvement in UI: Focus on the main task first "Withdraw Cash" as the first clear option.
2. **Forming the Intention** – Users decide how much money to withdraw. If the interface hides common options, there could be confusion.
   Improvement in UI: Provide quick cash buttons (Rupees 500, 1000, 2000) plus an "Other amount" option.
3. **Specifying the Actions** – Planning steps becomes difficult when the ATM asks for repeated account type or extra confirmations.
   Improvement in UI: Minimize steps, use defaults (e.g., if only one account exists, skip selection).
4. **Executing the Actions** – Users struggle with small buttons, multiple confirmations, and slow response.
   Improvement in UI: Large buttons, simple touch actions, and auto-submit PIN once fully entered.
5. **Perceiving the System State** – Users cannot tell if the transaction is processing or stuck.
   Improvement in UI: Show clear progress indicators and audible feedback when cash is being dispensed.
6. **Interpreting the System State** – Technical error codes confuse users (e.g., "TXN 404").
   Improvement in UI: Use plain messages like "Cash is being dispensed" or "Transaction failed – No money deducted."
7. **Evaluating the Outcome** – Users need to confirm if the goal (cash withdrawal) was achieved.
   Improvement in UI: Display a final confirmation: "Please collect your cash. Transaction successful."

Therefore by simplifying actions, using defaults, and giving clear feedback, the ATM can reduce queues and improve user satisfaction.

Q3. A university library self-checkout kiosk often confuses students. Many scan their books first but forget to log in with their ID card; the kiosk then shows an error. Others cannot tell whether the book was successfully checked out because the screen only flashes briefly.

1. **Forming the Goal**-The student's goal is to *check out a book quickly*, but the process is not clearly communicated.
   Improvement in UI: Show a welcome screen with the main task:
"Step 1: Scan ID → Step 2: Scan Books → Step 3: Collect Receipt."

2. **Forming the Intention:** Students often intend to scan the book first because they expect the kiosk to work like a store barcode scanner.
   Improvement: Highlight the **login step** with bold visuals or a voice prompt: "Please scan your student ID first."

3. **Specifying the Actions**: The interface does not clearly indicate the correct sequence of actions.
   Improvement in UI: Provide on-screen instructions and progress indicators:
   "1. Scan ID → ✓ ID recognized → 2. Scan book → 3. Confirm."

4. **Executing the Actions:** Students sometimes place the ID or book in the wrong spot or tap the wrong button.
   Improvement in UI: Use large, well-labeled buttons and visual cues (e.g., a glowing area where ID or book should be placed).

5. **Perceiving the System State:** The kiosk flashes a brief message that disappears too quickly; students miss it.
   Improvement in UI: Provide persistent feedback until the next step begins:
   "Book successfully checked out — ready for next book."

6. **Interpreting the System State:** Students are unsure if the checkout succeeded because of unclear or technical messages.
   Improvement: Use plain language and icons:
   ✅ "Book issued to your account"
   ❌ "Please scan ID first."

7. **Evaluating the Outcome:** Users cannot easily confirm that all their books have been checked out.
   Improvement: Show a final summary screen listing all checked-out books and provide a printed or emailed receipt.