KUALA LUMPUR UNIVERSITY
OF SCIENCE AND TECHNOLOGY
吉隆坡科技大学

CSC 2201- HUMAN COMPUTER INTERACTION
March 2026

Individual Assignment

NAME	Ismail Abdiqani Abdirisaq
MATRIC NO.	
DATE	20/05/2026

Task 1: User, Task & Human Factors Analysis

1. User, Task & Human Factors Analysis

Field Observation Context

To gather real-world evidence, I visited a local 7-Eleven store to observe how customers interact with the My7E app at the cashier counter. Many users experienced delays, holding up the queue because they struggled to find their barcode or check their reward points under pressure.

Figure 1 - Field observation at a local 7-Eleven branch,

Methodology Note: While conducting my field study, I asked permission from the on-duty cashier to conduct an informal interview about his views on the app that would have provided additional insights from a perspective other than a customer's view. Unfortunately, he refused due to store policy and his responsibilities during peak operational times. Thus, all of my observations were strictly based on observing the end-users' behavior at the cashier counter and analyzing the app's user interface.

1.2 User Persona

Session details

Location	7-Eleven, Selangor

Date	May 2026
Duration	Approximately 3 days
Number of users observed	6 customers
Observation method	Passive, non-participant observation at cashier counter area
Note on methodology	Interview with cashier was requested but declined due to store policy and operational hours. All findings are based on direct behavioural observation and subsequent interface analysis.

1.2 Observation entries

Below are six tables documenting each of the six separate interactions of users with the app at the cashier counter. Each row describes the user category (e.g., student), what task the user was attempting (e.g., scan my rewards points), what observable behaviors exhibited by the user indicated which usability issues identified in Task 2.

#	User type	Task attempted	Observed behaviour	Linked HCI issue
1	Young male, ~20s	Scan loyalty barcode at checkout	Opened app, tapped 3 icons before landing on the correct screen. Cashier waited ~15 seconds. User visible frustration exhaled and muttered while tapping.	High — Unlabelled nav icons (Issue #5)
2	Female, ~30s	Redeem voucher at counter	Open Redeem Vouchers icon twice no response both times. Showed phone to cashier who also could not proceed. Transaction completed without voucher redemption.	High — Non-functional icons (Issue #3)
3	Young male, ~20s	Find a specific Slurpee deal	Scrolled homepage banner carousel repeatedly, swiping back and forth. Did not find the deal quickly; gave up after ~40 seconds and paid full price.	Med — No search bar (Issue #1)
4	Male, ~40s	Check voucher validity before paying	Attempted to redeem a voucher at counter. Cashier rejected it voucher had expired. User appeared confused, scrolling through the voucher list trying to find an active one.	High — Confusing reward segmentation (Issue #4)
5	Female, ~60s	Use app in low-light environment	Squinted at screen, adjusted phone angle several times. Did not use the app further switched to cash payment instead.	Low — No dark mode (Issue #2)

6	Male, ~20s (student)	Check points balance and scan barcode in one flow	Successfully found points balance but then had to exit and re-navigate to find barcode screen. Queue grew to 3 people behind him during the process.	High — Unlabelled nav icons (Issue #5)

1.3. Summary statistics

Metric	Result
Users observed	**6**
Distinct usability issues captured	5 out of 5 (all confirmed)
Users who experienced delays at checkout	**4 out of 6**
Failed transactions (expired voucher)	1 out of 6
Users who abandoned the app entirely	**1 out of 6**

1.4 Key findings and linkage to redesign

The following findings synthesise the observations above and connect them directly to the usability issues and redesign decisions documented in Tasks 2 and 3.

#	Key finding
F1	The most common problem with navigation (in four out of six) was users' tapping on parts of the application incorrectly. This occurred because there are many unlabelled icons, which produced visual queuing delay at the counter.
F2	There was one instance of a completely failed transaction when a non-functioning icon prevented the redemption of a valid voucher. The icon did not function when a tap was applied.
F3	In addition to usability friction, there is also potential for real checkout errors based upon the combination of active and expired vouchers as seen in the user who presented an expired voucher and was unaware of its status.
F4	During a low light condition one user gave up using the application altogether, instead opting to pay in cash. There was a loss of user engagement from the application's interface in real world use.
F5	All five of the usability problems identified in Task 2 were validated through at least one occurrence during the live test session; validating the results of the usability evaluation.

Task 2: Usability Evaluation

Evaluated using Jakob Nielsen's 10 Usability Heuristics. All 5 issues identified through direct personal use of the My7E app. Severity: Low (1–2), Medium (3), High (4).

#	Issue	HCI Heuristic Violated	Sev.	Justification
1	No Search Bar	Flexibility & Efficiency of Use	3	Users are required to manually browse 15+ banner ads to locate a specific offer. There is no method for users to quickly locate an offer. This is a major bottleneck at the store counter.
2	No Dark Mode	User Control & Freedom	2	7-eleven stores operate 24 hours per day. However there is no dark mode option on this app. Users experience severe eye strain from using the bright white/orange colored interface in low light conditions during nighttime.
3	Non-Functional Homepage Icons	Consistency & Standards	4	The homepage icon row appears as if it is fully interactive however frequently freezes and does not produce any results when a button is clicked. This will cause users to lose their confidence in the application.
4	Confusing Rewards Segmentation	Visibility of System Status	4	Vouchers that are active, used and expired appear in one single voucher list. The visual differences among these voucher types are very small. When customers try to redeem vouchers they may be unaware whether the voucher has been previously used and therefore the transaction will fail.
5	Unlabelled Navigation Icons	Recognition Rather Than Recall	3	Bottom nav icons do not contain any text descriptions. Users have to "guess" what function each icon performs. I saw this happen personally; i had to tap the wrong section two times until i located my Rewards because of the ambiguity of the icon shapes.

2.1 Screenshots (Evidence)

Figure 1: no search bar insight

Figure 2: no icon labelling unless you press it

Figure 3: irresponsive icons

Figure 4: too much icons for the vouchers

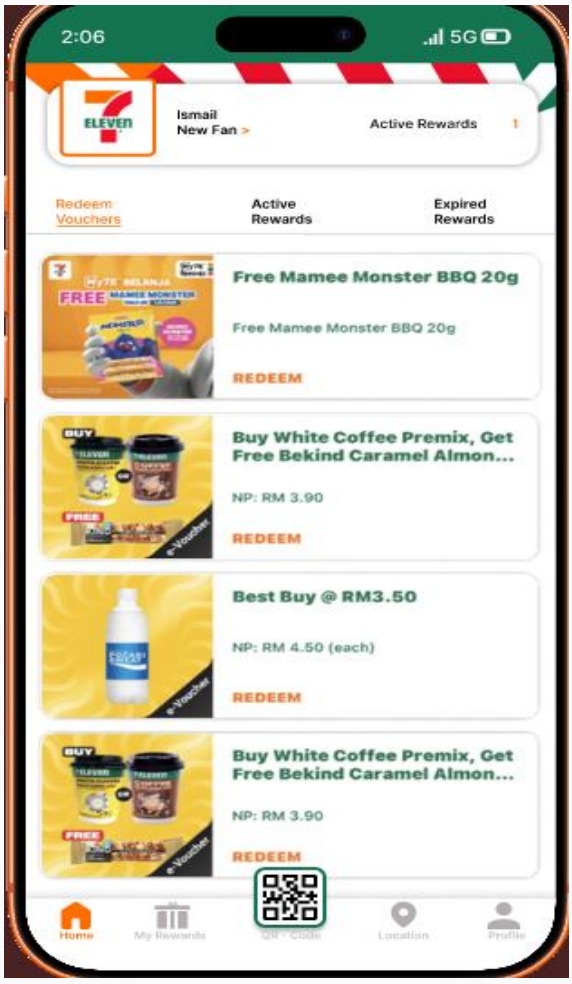
Task 3: Redesign (Prototype)

The redesign shifts My7E from a marketing portal to a utility-first tool. Each fix is directly tied to one identified issue. High-fidelity prototype built in Figma: https://www.figma.com/proto/FGgCjt4UkriYwWq7SOt6fu/7-eleven?node-id=124-78&p=f&t=xMxWKBTEdJgOo4iH-0&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=60%3A21

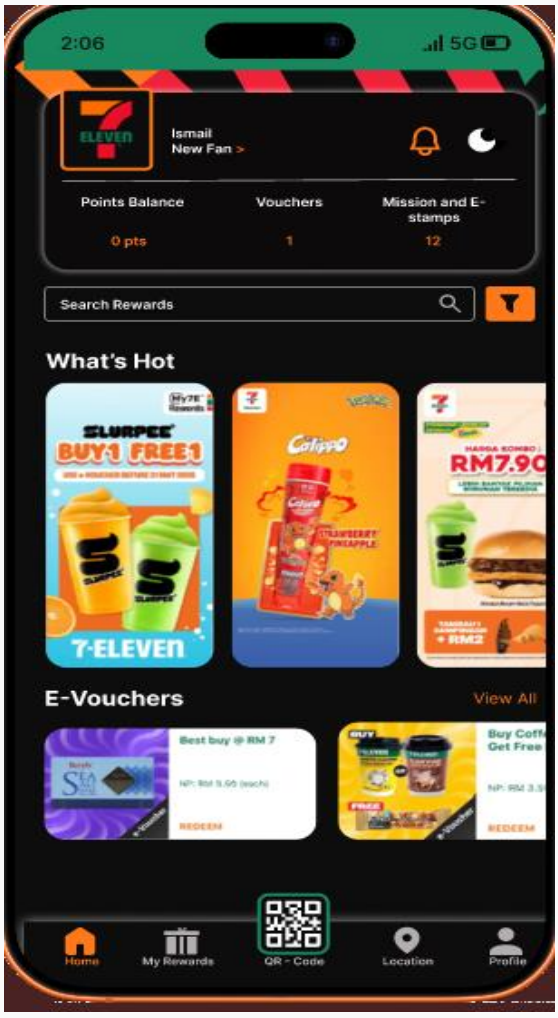
#	Issue Fixed	Design Change	HCI Principle Applied
1	No search bar	Permanent search bar added below header with category filters: Beverages, Snacks, Deals	Flexibility & Efficiency : users reach any content in seconds
2	No dark mode	Dark mode toggle (sun/moon icon) added to top right of profile card; full dark theme applied	User Control & Freedom : app usable comfortably at any hour
3	Non-functional icons	Broken icon row removed; features re-routed: Rewards → nav tab, QR → centre nav button, Referral → Profile	Consistency & Standards : every visible element now functions reliably

#	Issue Fixed	Design Change	HCI Principle Applied
4	Confusing rewards layout	3-tab segmented view introduced: Active Rewards | Used Rewards | Expired Rewards with colour-coded cards	Visibility of System Status : voucher state always clear before checkout
5	Unlabelled nav icons	Text labels added under all 5 bottom nav icons: Home, Promos, Rewards, Location, Account	Recognition Rather Than Recall : labels eliminate need for memorisation

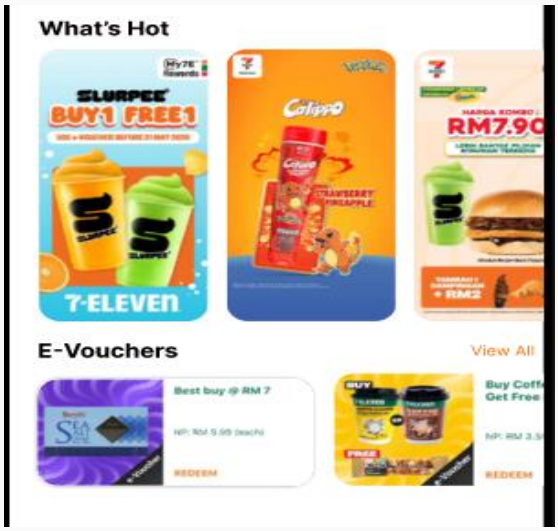
3.1 Prototype Screenshots



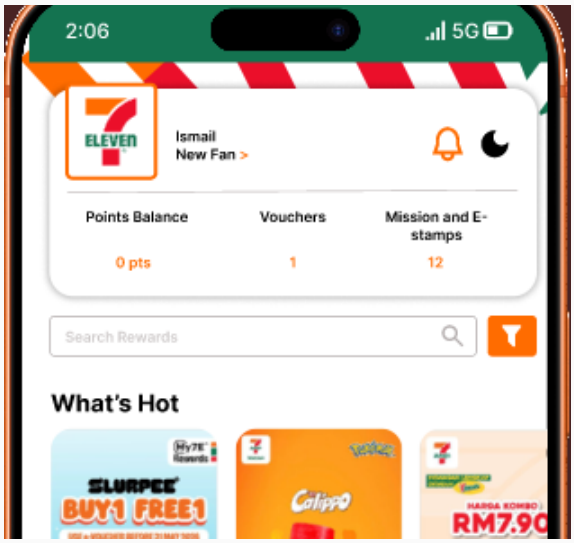
[FIGMA: 3-tab segmented rewards view]



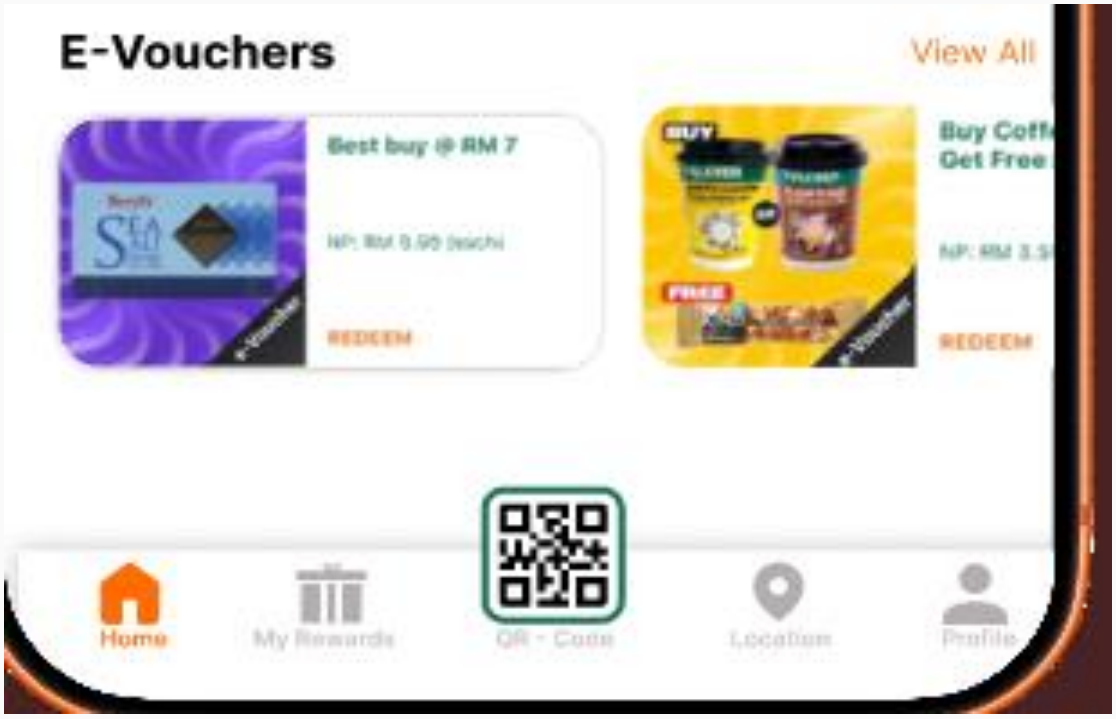
[FIGMA: Dark mode interface]



[FIGMA: Restructured nav — non-functional icons removed]



[FIGMA: Redesigned home with search bar]



[FIGMA: Bottom nav bar with text labels — Home, Promos, Rewards, Location, Account]

Task 4: Final Evaluation & Justification

4.1 Before vs After Comparison

Feature	Original My7E	Redesigned Interface
Search	None :manual scrolling through all banners	Search bar + category filters at top of homepage

Feature	Original My7E	Redesigned Interface
Dark Mode	Not available : bright white/orange always on	Toggle in profile header instant dark theme
Homepage Icons	Looks interactive but frequently unresponsive	Removed and re-routed to functional nav zones
Vouchers	Active, used, expired all mixed together	3 separate tabs : status always immediately clear
Navigation	Abstract icons only :users must guess each function	Icons + text labels : instant recognition

4.2 Impact on Ahmad (User Persona)

Scenario	Before	After
Finds a deal at counter	Scrolls 15+ banners; misses deal under time pressure	Types in search; deal found in under 3 seconds
Uses app at midnight	Bright screen causes eye strain; reduces brightness manually	Switches to dark mode in one tap
Taps a homepage button	Button does nothing; hunts for feature elsewhere	All buttons reliable; reaches destination immediately
Checks his voucher	Cannot tell if valid; presents expired one at counter	Active tab shows only valid vouchers instantly

4.3 Conclusion

While the original version of My7E is designed primarily for marketing purposes, the original design has produced an extremely slow and frustrating shopping experience in a very fast-paced retail environment. The redesigned version will apply Nielsen's Heuristics directly to each problem area identified in Task 2 and include features such as a search function, dark mode, reliable navigation, clearly stated rewards, and labeled iconography. The final product will be a faster, more accessible interface for use by its actual users in their actual environment.

4.4 Future Suggestions

Include skeleton image placeholder screens when images cannot load properly on slower Internet connections.

Add Bahasa Malaysia language option to provide access to a larger population.

Conduct a formal usability test involving 5 – 8 people who are representative of your target audience to confirm whether these enhancements improve the usability of the application

References

Nielsen, J. (1994). Heuristic evaluation. In J. Nielsen & R. L. Mack (Eds.), Usability Inspection Methods. John Wiley & Sons.
Shneiderman, B. et al. (2016). Designing the User Interface (6th ed.). Pearson.
Norman, D. A. (2013). The Design of Everyday Things. Basic Books.
7-Eleven Malaysia. (2024). My7E App.
https://play.google.com/store/apps/details?id=my.com.7eleven.app

THE VIDEO PRESENTATION:

https://youtu.be/Wu6lyrw7-Cc?si=DN-ygBc7Oe6RiiPK

FIGMA PROTOTYPE:

https://www.figma.com/proto/FGgCjt4UkriYwWq7SOt6fu/7-eleven?node-id=124-78&p=f&t=xMxWKBTEdJgOo4iH-0&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=60%3A21