

**HO CHI MINH CITY NATIONAL UNIVERSITY
UNIVERSITY OF NATURAL SCIENCES
FACULTY OF INFORMATION TECHNOLOGY**



PA2

USER RESEARCH & ANALYSIS

Subject: User Interface Design

Instructor guides:

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A. INTRODUCTION

1. Group information

GROUP 14			
No.	Student ID	Fullname	Email
1	21127234	Nguyễn Lê Anh Chi	nlachi21@clc.fitus.edu.vn
2	21127235	Nguyễn Xuân Quỳnh Chi	nxqchi21@clc.fitus.edu.vn
3	21127495	Lê Ngô Song Cát	lnscat21@clc.fitus.edu.vn
4	21127659	Bùi Ngọc Kiều Nhi	bnknhi21@clc.fitus.edu.vn

2. Assign task

No.	Responsibility	Task	Level of completion
1	Nguyễn Lê Anh Chi	B.1, B.3.1, B.3.2	100%
2	Nguyễn Xuân Quỳnh Chi	B.3.3, B.3.4, B.4.3	100%
3	Lê Ngô Song Cát	B.2, B.4.1 - B.4.3	100%
4	Bùi Ngọc Kiều Nhi	B.5 - B.7	100%

B. USER RESEARCH & ANALYSIS

1. Introduction

1.1. Purpose of the Report:

- The purpose of the research is to understand the needs and challenges of users learning English vocabulary in general and those using flashcards to learn English vocabulary in particular. The goal is to design an effective English vocabulary learning application using flashcards.

1.2. Scope of the Research:

- The research focuses on identifying the contexts, goals, tasks, and limitations of users who want to improve their English vocabulary and those who use flashcards to learn English vocabulary. It aims to gather insights that will inform the design of effective learning features on the application.

2. User Research Techniques

2.1. Interviews:

- Conducted semi-structured interviews with 10 users who are actively learning and improving their English and who have used or are currently using flashcards to learn vocabulary.
- Each interview lasted around 10-20 minutes.
- For interviews, data was recorded as detailed notes written by each member playing the role of an interviewer.

2.2. Try It Yourself:

- All group members engaged with existing English vocabulary learning applications through flashcards.
- Each member has different aims and problems when trying out some tools, so the recorded time is quite diversified, around 3-5 hours.
- For this section, data was recorded as detailed notes written by each member playing the role of an end user.

3. User Understanding

3.1. Learning Goals and Habits:

- **Goal:** Whether it is for academic success, professional development, or everyday communication, users all seem to encounter a similar obstacle which is expanding their vocabulary range. They have used and are currently using flashcards to enrich their English vocabulary and have noticed limitations of flashcards that led them to stop using them.
- **Habits:** Users tend to use online flashcards to help them review English words they have learned.

3.2. Tools and Documentation:

- English vocabulary learning apps using flashcards or English learning apps that incorporate flashcards: Quizlet, Anki.

3.3. Difficulties and Challenges:

- Some online flashcards are designed like traditional flashcards (present words in isolation, lacking specific and real-life context for the word), making it difficult for learners to remember and understand how the word is used in real-life situations.
- When using flashcards, learners encounter pairs/sets of words with similar meanings but different usage contexts (e.g., learn/study, false/wrong, see/look/watch, etc.), and they are unsure about choosing the appropriate word for each context.
- Vocabulary sets are arranged without a common theme, making it difficult for learners to connect related words.
- Some vocabulary sets in an online flashcard collection mix words that learners already know with words they do not know, but there is no feature to help learners remove the words they already know.
- Learners spend a lot of time creating custom online flashcard sets, which makes them feel tired and frustrated.
- The online flashcard is unattractive, boring, and lacks interactivity, making it hard to maintain motivation and interest.

3.4. Strengths and Motivating Factors:

- Insights on how people learn new words naturally:
 - **Contextual Learning:**
 - People often learn new words by encountering them in context, such as while reading books, articles, or watching movies and TV shows. The surrounding context helps to infer the meaning and proper usage of the word.
 - **Repetition and Usage:**
 - Repeated exposure to new words through various mediums (e.g., reading, listening, speaking, and writing) reinforces learning. Actively using new words in speech or writing helps solidify their meanings and proper usage.
 - **Interest and Motivation:**
 - Personal interests and motivation play a significant role. People are more likely to remember and use words related to topics they are passionate about or find intriguing.
 - **Mnemonics and Associations:**
 - Creating associations, mental images, or mnemonic devices helps in remembering new words. Associating a new word with a familiar concept or image can aid in recall.
- Insights on why some people still enjoy using online flashcard:
 - **Structured Learning:**

- Online flashcards provide a structured and systematic approach to vocabulary learning, which can be particularly helpful for learners who prefer organized study methods.
- **Spaced Repetition:**
 - The use of spaced repetition algorithms in many flashcard apps optimizes review intervals, enhancing long-term retention and reducing the forgetting curve.
- **Customization and Personalization:**
 - Users can create customized flashcard decks tailored to their specific learning needs and goals. This personalization makes the learning experience more relevant and effective.
- **Multisensory Engagement:**
 - Many online flashcard platforms incorporate visual and auditory elements, catering to different learning styles and making the learning process more engaging and interactive.
- **Convenience and Portability:**
 - Online flashcards can be accessed from various devices (smartphones, tablets, computers), allowing for convenient study sessions anytime and anywhere.

4. User Profiles and Personas

4.1. Definition of a Persona:

- A persona is a detailed and semi-fictional representation of a typical user based on qualitative and quantitative user research. It includes demographic information, behavior patterns, motivations, goals, and pain points. Personas are used to guide design and development decisions, ensuring the product meets the actual needs and preferences of the target audience.

4.2. Characteristics and information included in Personas:

- Basic demographic information (age, occupation, English proficiency level).
- Goals for learning English.
- English learning methods and habits.
- Challenges and difficulties encountered when using online flashcards.

4.3. Personas:

4.3.1. Persona 1: Minh

Minh

ABOUT

Minh is a 25-year-old software engineer living in a busy urban area. He uses English at work and aims to improve his vocabulary for better communication and networking. He reviews digital flashcards on his smartphone during free moments.

HOBBIES AND INTERESTS

- Digital Flashcards: Uses them to enrich vocabulary during free moments (e.g., waiting for food, lunch breaks).
- Vibrant and Interactive Design: Prefers engaging and highly interactive flashcard designs.

CHALLENGES

- Contextual Usage: Online flashcards often present words in isolation without real-life context.
- Theme-Based Learning: Vocabulary sets are not grouped by theme, making it hard to connect related words.
- Customization: Difficulty filtering out known words from flashcard sets.
- Design and Interactivity: Finds online flashcard designs unattractive, boring, and lacking interactivity, affecting motivation and interest.

GOALS AND NEEDS

- Improve Vocabulary: Enhance vocabulary for common communication and networking at work.
- Contextual Learning: Gain deeper understanding and retention by learning vocabulary in context.



Age: 25
Location: Ho Chi Minh
Occupation: Software Engineer
Level: Intermediate

4.3.2. Persona 2: Linh



Linh

Age: 22
Location: Ho Chi Minh
Occupation: Student
Level: Intermediate

ABOUT

Linh is a 22-year-old university student majoring in digital marketing with an intermediate level of English proficiency. She is working on improving her vocabulary to better understand academic texts and research papers.

HOBBIES AND INTERESTS

- Learning vocabulary through practical usage in sentences and contexts.
- Prefers using digital flashcard apps to learn and review vocab.
- Learning new words in the morning when most alert.

CHALLENGES

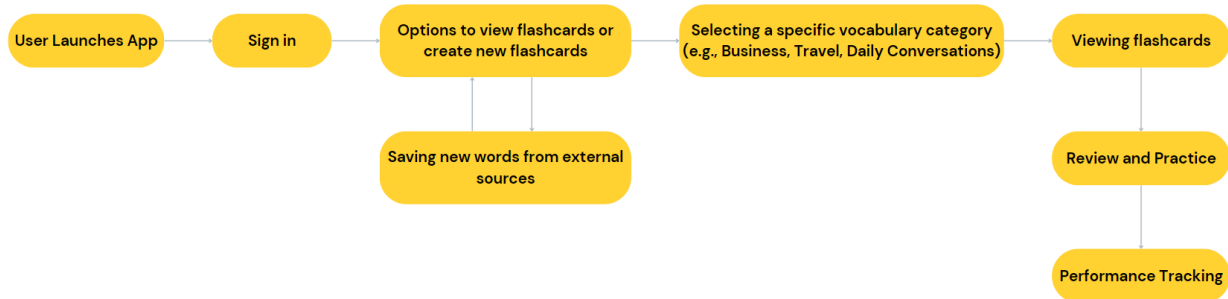
- The traditional format of flashcards (word, type, meaning, image) limits his understanding of words in different contexts.
- Struggles with words that have similar meanings but different usage contexts (e.g., data/information, method/approach, etc.), making it difficult to choose the appropriate word for each academic context.
- Spending a lot of time creating custom flashcard sets according to her preferences.

GOALS AND NEEDS

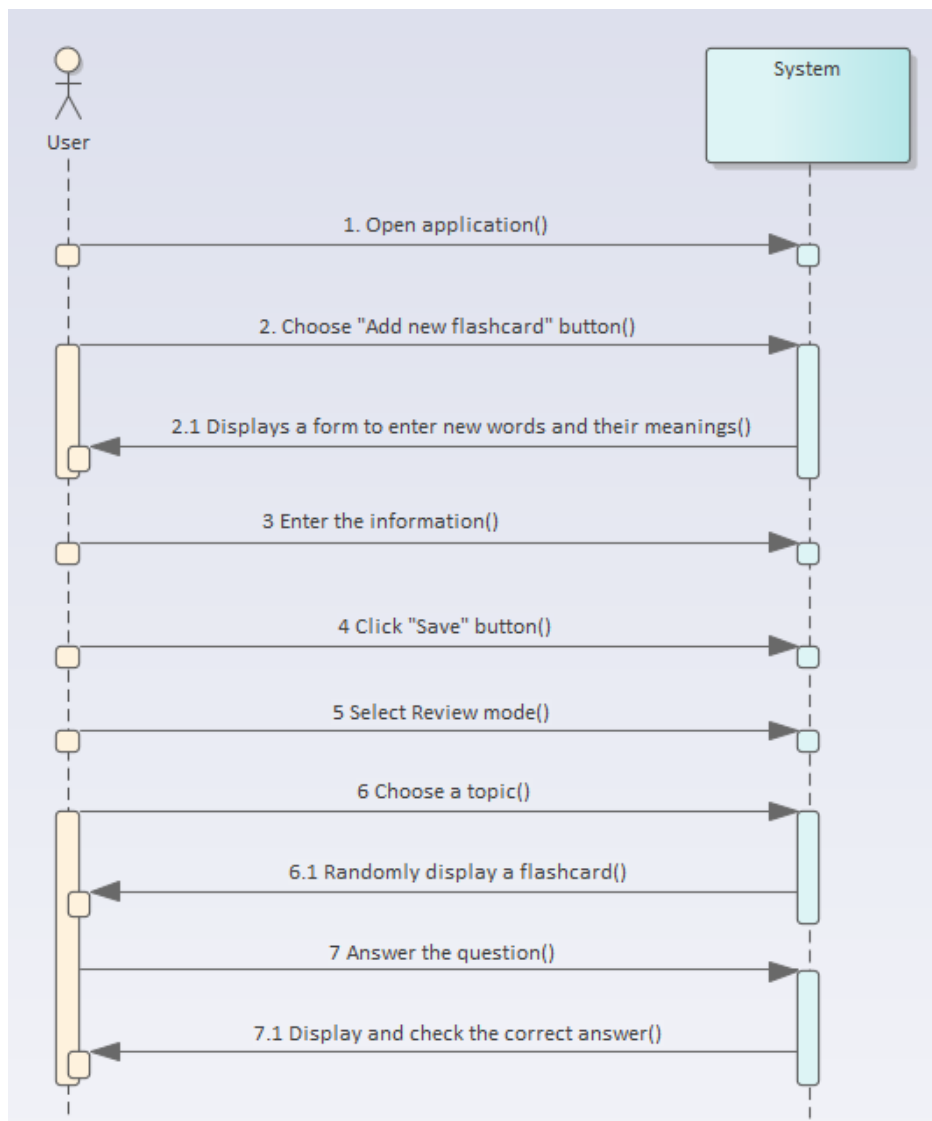
- Enhance vocabulary range to use new words in conversations with friends or while writing academic documents throughout the day.

5. Work Flow

5.1. Flow Model:



5.2. Sequence Model:



6. Visual Documentation

Images and Photos from Interviews:

- Note-taking in Figma: <https://www.figma.com/board/f5X5TCbjeZP8mdX2k70rq9/User-Research?node-id=0-1&t=xtMMjEI246B8Cikc-1>

7. Appendices

Interview Questions:

