

# Informatics 132:

## Understanding Your Users, Potential Users, and Other Stakeholders

Discussion: Monday 10am-10:50am

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## Executive Summary

The following report has been developed with the purpose of understanding the users of Freerice, an online non-profit food donation website, in order to guide the evaluation and redesign of the system. The report entails information regarding methodologies used in order to ascertain data and conclusions drawn from this data.

The first step in this process was determining the goals of the system as is in order to obtain a better understanding of the purpose of Freerice. After determining the goals of the system we were able to develop objectives to help guide our study. The team determined that the research would be guided by the following objectives:

- Determine what drives users to use the system
- Determine why users stop using the system
- Determine whether the type of food being donated affects users' interaction with the system
- Determine whether the knowledge learned from the system is utilized

The study was conducted via two methods in person interviews of current users and online surveys conducted with individuals of the Freerice Facebook community. It was determined that these individuals could provide crucial information as they have experience using the system which could later aid in the improvement of the system. The data then gathered via the interviews and surveys was compiled and analyzed and has led us to the following conclusions about the current system:

- The type of food being donated doesn't affect users engagement with the website
- User engagement drops over time due to the easy and repetitive nature of the questions being asked
- Users feel as though they are unable to fully interact with the system due to the visual interface and difficulty in finding features available to them
- The current color scheme and layout need improvement due to a general feeling of blandness
- Interaction with the system needs to be more fulfilling; the current system lacks positive feedback for users when they answer a question correctly

## Introduction

Freerice is a non-profit ad-supported system that allows users to play a quiz-like game where correct answers result in the donation of rice through the World Food Programme. For every question answered correctly on the site 10 grains of rice are donated. There are a multitude of subjects available on the system for users to choose from allowing for both learning and donations to occur simultaneously. The system offers users the ability to learn Math, English, Other languages, Sciences and more while donating.

The website extols the vocabulary game as a tool to expand their mental lexicon in ways such as being able to better formulate ideas, write more effective papers, speak more precisely, and read faster. Through this website, users can use their knowledge to help end world hunger. Despite this noble cause, the user interface is clunky and unappealing, and the main activity that allows people to donate rice is boring. The web site's poor execution prevents it from being a product that most users would want to use. The idea of using a web browser game to both increase people's knowledge and contribute to fighting world hunger is a good cause that could be improved upon with some user focused design. There exist a number of other direct competitors that have more appealing user interfaces, features, and functions that place this system at risk. Our goal is to determine where the weak points of the system currently are via research in an effort to redesign and improve the system.

## Description of the Study Objectives

Our study objectives include learning how users interact with freerice. The team wanted to know which age population(s) most frequently used freerice and whether the purpose of it was for donating or learning. Though our team anticipated finding patterns regarding the aesthetics of the website we tried to guide the interviews to focus more on the usability in terms of how long the users spend on the website, how often they visit, and the main purpose as to why they continue or have discontinued their use of the site.

One of the main focuses of the site is subject learning, the available subjects include math, languages, chemistry, SAT prep, etc. The subjects have different levels of difficulty in order to cater to different age groups and different levels of knowledge in a given subject. However, our goal was to see how beneficial it was to the users. Another study objective our team found worth researching is the impact of donating a specific type of food. Freerice only donates rice, however, we wanted to know whether the food being donated would affect how users interact with the site.

## Description of Target Population

The target population that our team is interested in is K-12 students, college students, and people who are post studies. For the students who are from kindergarten to high school, assuming they will range from five to eighteen years of age. Common characteristics among the target population include: motivation to study, interest in donating/helping others, and an interest in learning other subjects like languages or pre-collegiate level topics. In most cases not having a steady form of income or in some cases any income. The target population has a basic understanding of how to navigate a website and how to play a question and answer game.

For our target population of college students, our team assumed they would typically range from eighteen to twenty-two years of age. Some of their characteristics will include being very busy and being somewhat of an expert in time-management, and having an internal or external motivation to donate anything to a community. They will typically have an income, however this income may vary and may not be steady. They will most likely be an expert at navigating websites and other forms of technology. This population will also have an understanding of the basic subjects that Freerice uses with their game.

Our last target population will include people who are no longer in school, our team assumes that this group will be at least twenty-three years of age. They will have some characteristics like having some free time and wanting to directly help out people in the community. They will typically have a steady income and have a savings account. This target population may or may not have a higher education past high school but will have a basic understanding of computers but not all forms of technology. They will also have experience in the basics of how games work.

## Description of Methods

Our method for the interview portion of this project was clear. We first needed to come up with a list of interview questions that would include an ice breaker, an introduction question, key questions, a summary question, and a conclusion question. Some of the key questions were optional depending on the previous answer, this way we could ask specific questions if someone answered a certain way. The total amount of interviews needed to be done was ten and they would last up to 30 minutes. Also, the interviews were constructed in an unstructured way so that we could ask more questions and get more information about the Freerice website.

Our method for the online survey portion was very much up to the people who took the survey. We created a list of questions very similar to the interview

questions, but more focused on understanding the users of Freerice. The survey questions were to be taken within 10 minutes, with some questions being optional. The method of directly finding these users of Freerice was through Facebook. Both the methods for this project were done with parental permission if a user was younger than 16 years old.

## Findings

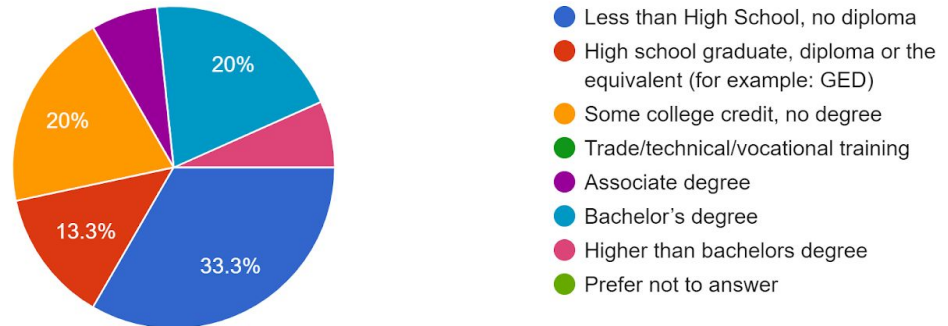
During the interview and the survey section of this project our team discovered exactly who our users are and what they care about. As the survey questions were very much based on the interview questions, our team received many similar answers however the survey questions focused more on exactly who our users are.

During the interview section of the project, our team discovered that we mostly found users that were younger than 24 years old. This is most likely heavily influenced by the fact that we, as college students, have better access to people our age and younger. We found that most users of free rice were drawn to the website for a variety of reasons (but most commonly were introduced to it through school). Despite this there were several patterns that emerged through this process. Most users were pleased with the idea that they could donate food through the website. Some even labelled it as a primary reason that they used the website. When asked how they would feel about donating other types of food, users had suggestions but did not notify that changing this aspect of the website would make them more likely to engage with the website. The second common pattern that emerged was that users did not stay engaged with the website. Often they thought the questions were too easy or repetitive to warrant staying on the website. Answers show that users were very unlikely to engage with all aspects of the vocabulary game such as changing levels manually or changing subjects. In fact, some users didn't even know that those were options available to them. Contributing to the lack of engagement is the color scheme and layout, which many users stated were bland or unengaging. However, users also showed that they connected with being able to see a visual representation of their progress in the bowl of rice that filled up as more questions were correctly answered.

During our survey section of the project, our team discovered that there is a variety of users of Freerice from the ages of 10 to 53. Users had a wide variety of educational backgrounds, but 63.6% of users had some college experience or less, and 43.6% of users had no college education at all.

## Highest level of education

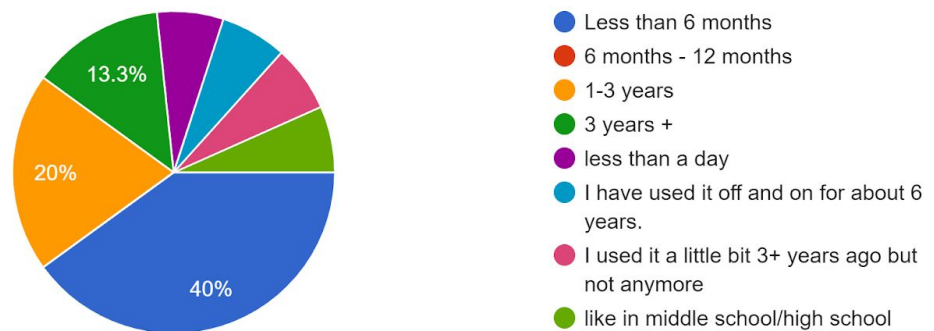
15 responses



The largest portion of users had been using the website for less than 6 months (40%) and the second largest portion had been using the website for 1 to 3 years (20%). This is consistent with the drop in engagement that we would expect from users after interviewing some of them.

## How long have you been using Freerice?

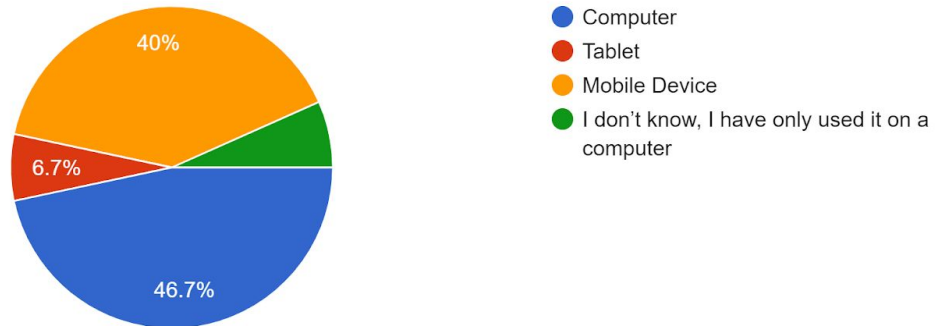
15 responses



Users were split between desktop and mobile almost evenly, but there were many responses asking for an iOS application for the browser.

### What device is easier to use with Freerice

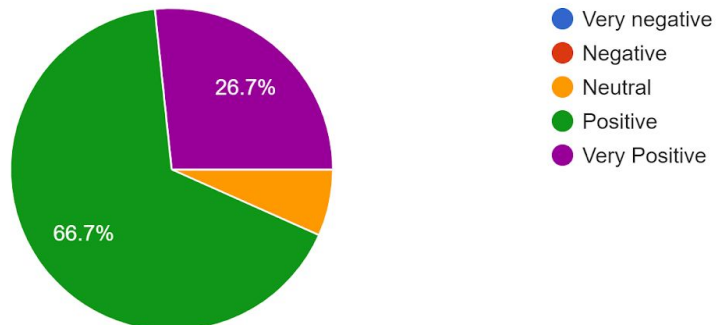
15 responses



The large majority of users reported that they had a positive or very positive experience using the app.

### How do you feel about your experience using Freerice?

15 responses

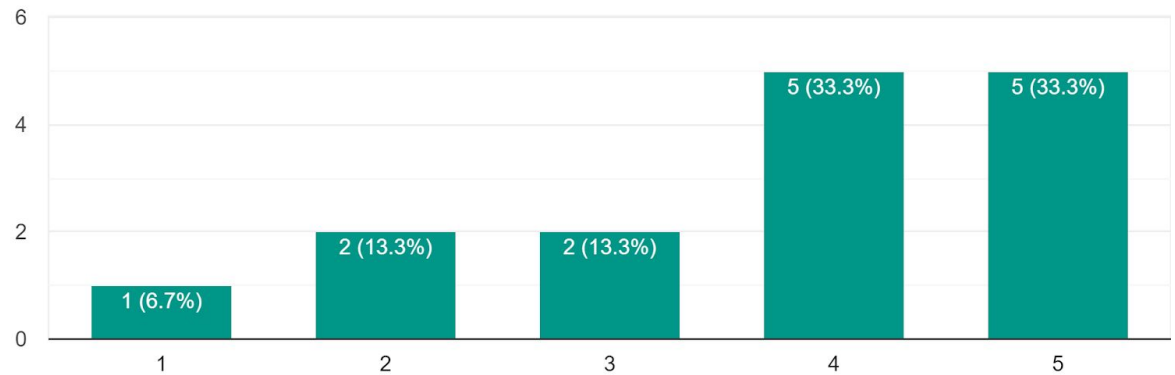


The thought that it was useful for both learning and retaining subject knowledge.



### How helpful do you feel Freerice is for learning new subjects?

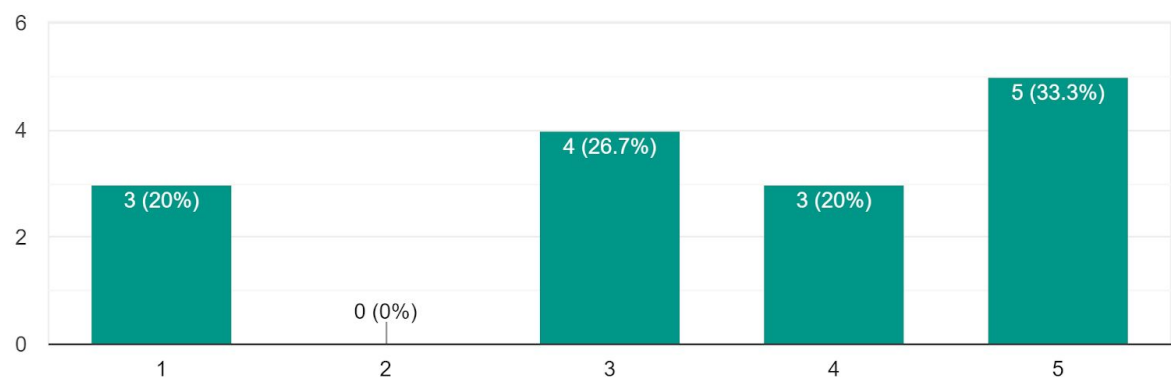
15 responses



They also answered that they would see themselves using the app in the future, but following the data, we would assume that most of them would stop using the website in a few months time, and the rest would stop using the website over the next couple of years.

### How likely do you see yourself using Freerice in the future?

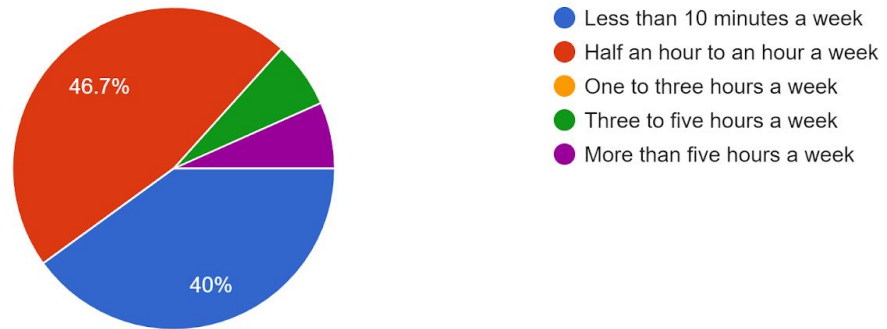
15 responses



In addition, most users show a very short engagement pattern with the website.

### How often do you use Freerice?

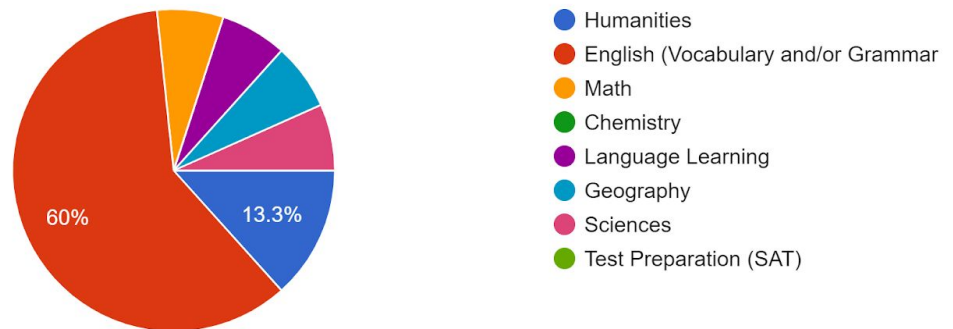
15 responses



Furthermore, the survey responses line up with the interview responses that show that many users aren't getting the most out of every aspect that the website has to offer, with most users sticking with the vocabulary game on the starting levels.

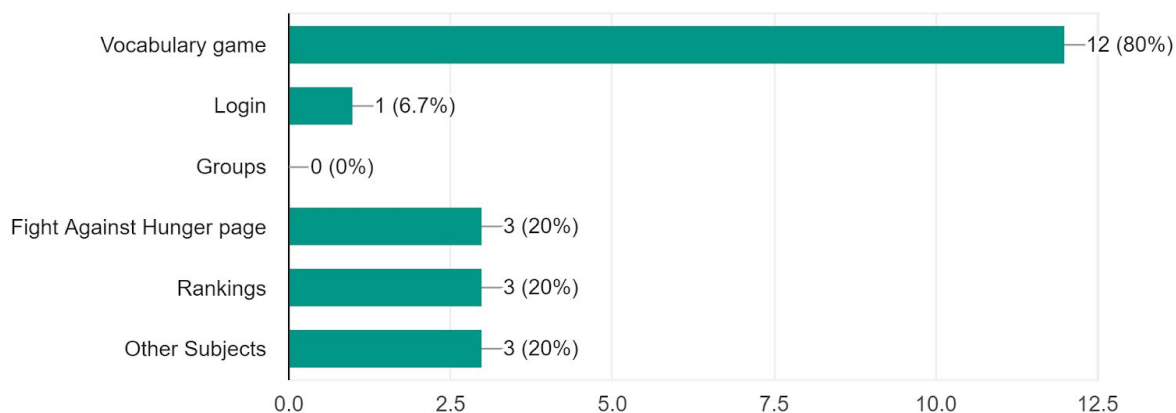
### What subject do you use Freerice for the most?

15 responses



## What parts of Freerice do you find yourself using?

15 responses




What this shows that there is a general willingness for users to engage more with the website, but an inability to stay engaged with the material or to find material that better engages them. Much of that inability comes down to the layout of the website hiding what would be key features. Users like feeling positive about donating food but would like more positive feedback to keep them engaged. They value donating food of any type very highly and many of them included feeling good about donating as a key factor that drove them to this website. All of this together shows that the most likely culprit that drives user engagement down would be the visual interface.

# Personas

## Persona 1

### Freto Simpson



*"I like to help people."*

**Age:** 10  
**Job:** Elementary School student  
**Family:** Parents  
**Location:** Dayton, Ohio  
**Character:** helper

#### Goals

- Help poor people.
- Make people happy.
- Learn new subjects and concepts.

#### Frustrations

- When friends do not understand my intention of helping people.
- People think I am too young to help people.
- Problems with the available solutions.

#### Motivations

- Freto always tries to make sure no matter how busy he is, he play games on freerice
- He encourages his friends to use the website

#### Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

#### Bio

Spending the whole day in school and after school, going to music class, doing homework, Freto is a busy kid. Though he is too young to understand donation concept, he likes to help people. Through his father's friend he learned about freerice where he can indirectly help people getting food. Now he is a regular user of freerice.com.

Even on weekends when every kid enjoys fun activities, Freto prefers to play games on freerice than doing any fun activity .

When ten grains of rice gets donated through his one right answer, he feels he did a noble job and was able to help someone.

#### Time on Activities

Playing games on freerice.com	<div style="width: 25%; background-color: #00a0c0;"></div>
School	<div style="width: 85%; background-color: #00a0c0;"></div>
Doing Homework	<div style="width: 20%; background-color: #00a0c0;"></div>
others	<div style="width: 10%; background-color: #00a0c0;"></div>

## Persona 2



## Persona 3

### Jake Norman

age: 24

residence: Irvine, CA

education: Bachelor's degree

occupation: Teacher

marital status: Single



*Teaching comes first in everything I do.*

Jake is new in teaching profession. Being just a new graduate, Jake is exploring new and fascinating ways to teach his students. While he was a student he was encouraged by his teacher to play games on freerice.com. As a student he did not put attention to it. But now as a teacher he is realizing how easy and efficient it was to learn new subjects and concepts through freerice. Now he is constantly encouraging his students to make playing games on freerice a study habit.

#### Comfort With Technology

##### INTERNET



##### SOFTWARE



##### MOBILE APPS



##### SOCIAL NETWORK



#### Needs

- Better teaching tools
- More teaching experience

#### Values

- Student growth
- Time savings
- resources for teachers
- freerice.com user

#### Criteria For Success:

To see all of his students grow 2.0 grade levels by using freerice.com

#### Wants

- Fastest and long-last way to make student learn
- learning tools that integrate with technology like freerice.com

#### Fears

- Make students learn something that is not needed
- If does not get success in students' improvement
- If student dislike something that he is encouraging to do

## Limitations

Some limitations imposed upon our user research were as follows: The age group was restricted to primarily students K-12 and collegiate level students. The team was unable to obtain input from administrators of the site due to inability to establish contact. Another limitation was the lack of people to survey and due to this our scope may be limited and skewed towards a younger group of users. Due to time constraints the quantity of individuals surveyed and interviewed is lower than what was originally intended.

## Appendix

### Interview Protocol

#### Interview Questions

Date: \_\_\_\_\_

Time: \_\_\_\_\_

1. Ice Breaker: What's your name and how old are you?
2. Intro: How often do you find yourself using educational games?
3. Intro: How did you first come across this website?
4. Key: How do you feel about donating food?
5. Key: What foods would you like to donate if you would like to donate food?
6. Key: Would donating a different food affect how you feel about donations?
7. Key: When was your last experience with Freerice?
8. (Optional) Key: Can you tell me a little bit about why you stopped using the Freerice? What was the main reason?
9. Key: How was your last experience?
10. Key: What device have you used to access Freerice?
11. (Optional) Key: What device is easier to use with Freerice: a computer, mobile device, or any other?
12. Key: How do you feel about the visual experience of Freerice?
13. Key: What drives you to use this website?
14. Key: How helpful do you feel this website is for learning subjects?
15. Key: Do you use more than one subject when on Freerice?
16. Key: What do you use this knowledge for?

17. Key: Do you see yourself continuing to using this product in the future?
18. Key: Would you recommend this website to a friend?
19. Summary: What is the most important thing to you that we've talked about today?
20. Wrap-up: Is there anything that we have not covered that you would like to discuss?

## Survey Protocol and Questions

The following is the description of the survey protocol and questions. Required questions are marked as \*.

### SECTION 1

#### Freerice Survey

We are conducting a study of how people use Freerice.com. The purpose of this study is to inform the design of this kind of technology. It is not intended to test your individual performance in any way. This study is being conducted as part of a course at the University of California, Irvine, entitled "Informatics 132: Project in Human Computer Interaction." As such, this is also a training opportunity for us as students.

This survey should take no longer than 10 minutes.

We will use the data you give us, along with the information we collect from the other participants, to design better technologies. To ensure confidentiality, we will not associate your name with your data.

If you have any questions or comments, you may contact us.

- Please provide your age \* (Open text response)
- Have you used Freerice before \*
  - Yes
  - No



- Email address (OPTIONAL) (Open text response)
- Highest level of education \*
  - Less than High School, no diploma
  - High school graduate, diploma or the equivalent (for example: GED)
  - Some college credit, no degree
  - Trade/technical/vocational training
  - Associate degree
  - Bachelor's degree
  - Higher than bachelor's degree
  - Prefer not to answer
- How long have you been using Freerice? \* (Select one)
  - Less than 6 months
  - 6 months - 12 months
  - 1-3 years
  - 3 years +
  - Other:
- What device is easier to use with Freerice \* (Select one)
  - Computer
  - Tablet
  - Mobile Device
  - Other:
- What drives you to use this website? \* (Open text response)
- How do you feel about donating food \* (Select one)
  - Very Opposed
  - Opposed
  - No Opinion
  - Positive
  - Very Positive
  - Other:
- If you could donate any type of food to charity, what would it be? \* (Open text response)
- What subject do you use Freerice for the most? \* (Select one)

- Humanities
- English (Vocabulary and/or Grammar)
- Math
- Chemistry
- Language Learning
- Geography
- Sciences
- Test Preparation (SAT)

● How helpful do you feel Freerice is for learning new subjects? \*  
(Open text response)

● How helpful do you feel Freerice is for retaining knowledge? \*  
(Open text response)

● How do you feel about your experience using Freerice? \* (Select one)

- Very negative
- Negative
- Neutral
- Positive
- Very Positive

● How likely do you see yourself using Freerice in the future? \*  
(Open text response)

● How often do you use Freerice? \* (Select one)

- Less than 10 minutes a week
- Half an hour to an hour a week
- One to three hours a week
- Three to five hours a week
- More than five hours a week

● What parts of Freerice do you find yourself using? \* (check all that apply)

- Vocabulary game
- Login
- Groups
- Fight Against Hunger page
- Rankings
- Other Subjects

- Is there anything you would like to tell us so that we could improve your experience? \* (Open text response)

## SECTION 2

### Statement of Informed Consent

I consent to release the information provided above to the study being conducted as part of a course at the University of California, Irvine, entitled "Informatics 132: Project in Human Computer Interaction."

- ☐ Yes, I consent
- ☐ No, I do not consent

## Informed Consent Document

### Statement of Informed Consent

**Purpose:** We are conducting a study of how people use freerice.com. The purpose of this study is to inform the design of this kind of technology. It is not intended to test your individual performance in any way. This study is being conducted as part of a course at the University of California, Irvine, entitled "Informatics 132: Project in Human Computer Interaction." As such, this is also a training opportunity for us as students.

**Procedure:** You will be asked to participate in an interview. We will ask you questions about your experience and opinions. This interview is meant to be a conversation – there are no right or wrong answers. We expect the interview to last approximately 30 minutes. We will take notes about your responses.

**Confidentiality:** We will use the data you give us, along with the information we collect from the other participants, to design better technologies. To ensure confidentiality, we will not associate your name with your data.

**Freedom to Withdraw:** Participation in this study is voluntary. You may withdraw from the activity at any time without penalty.

**Contact information:** If you have any questions or comments, you may contact us.

**If you agree to these terms, please indicate your acceptance by signing below:**

**Signature:** \_\_\_\_\_

**Printed Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## Interview Log

- Participant #: 0  
Gender: Male  
Age: 21  
Description: College student, 4th year  
Date: 4/23/19  
Time: 9:00pm  
Duration: 20 minutes  
Location: Irvine, Ca  
Interviewer: Jose Farias
- Participant #: 1  
Gender: Male  
Age: 22  
Description: College student, 4th year  
Date: 4/23/19  
Time: 9:30pm  
Duration: 15 minutes  
Location: Irvine, Ca  
Interviewer: Jose Farias
- Participant #: 2  
Gender: Female  
Age: 16  
Description: High school student, 10th grade  
Date: 4/22/19  
Time: 3:50pm  
Duration: 15 minutes  
Location: Irvine, Ca  
Interviewer: Sazeda Sultana
- Participant #: 3  
Gender: Female  
Age: 15  
Description: High school student, 10th grade  
Date: 4/21/19  
Time: 9:40pm  
Duration: 14 minutes  
Location: Irvine, CA  
Interviewer: Sazeda Sultana

- Participant #: 4  
Gender: Male  
Age: 11  
Description: Elementary school student, 5th grade  
Date: 4/22/19  
Time: 8:30 pm  
Duration: 30 minutes  
Location: Irvine, Ca  
Interviewer: Dalia Mills
- Participant #: 5  
Gender: Female  
Age: 15  
Description: Middle school student, 8th grade  
Date: 4/22/19  
Time: 9:00 pm  
Duration: 22 minutes  
Location: Irvine, CA  
Interviewer: Dalia Mills
- Participant #: 6  
Gender: Male  
Age: 23  
Description: College Student, 5th year  
Date: 4/23/19  
Time: 9:30am  
Duration: 21 minutes  
Location: Irvine, CA  
Interviewer: Nitin Nallan
- Participant #: 7  
Gender: Female  
Age: 20  
Description: College Student, 2nd year  
Date: 4/23/19  
Time: 2:00pm  
Duration: 16 minutes  
Location: Irvine, CA  
Interviewer: Nitin Nallan

- Participant #: 8  
Gender: Female  
Age: 20  
Description: College Student, 3rd year  
Date: 4/22/19  
Time: 12:00pm  
Duration: 24 minutes  
Location: Irvine, CA  
Interviewer: Ailyn Gonzalez
- Participant #: 9  
Gender: Female  
Age: 21  
Description: College Student, 3rd year  
Date: 4/22/19  
Time: 2:00pm  
Duration: 16 minutes  
Location: Irvine, CA  
Interviewer: Ailyn Gonzalez

### Survey log

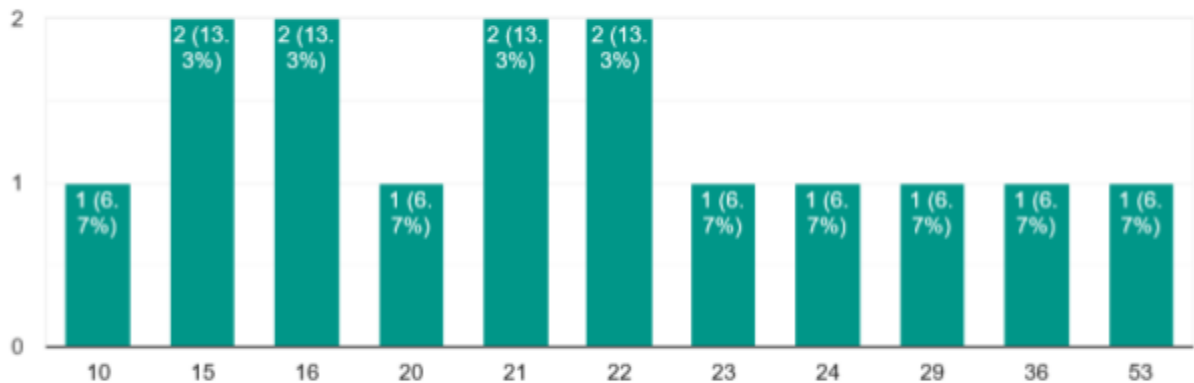


Figure 1: Age of surveyed users

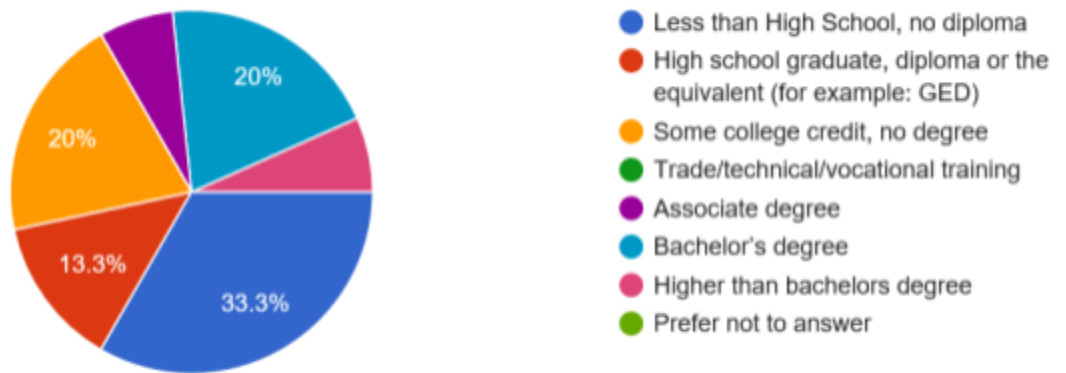


Figure 2: Education Level of surveyed users