Course Project: Customer Research for Yocket Website CSC554: Human Computer Interaction April 22, 2019

1. Introduction

The goal of this project is to learn how to conduct a customer research for a UI product and apply HCI methods learned during the course to collect and analyze data for new design recommendation. Our team conducted a customer research on a UI product Yocket. We decided upon this particular website because it is a very useful website that has been widely used by the international students at NC State. As much as the website is popular for its services, we found enough UI problems that could be evaluated and redesigned which will enhance the website's usability.

2. About Yocket

<u>Yocket</u> is a website that has been designed to serve the students who wish to pursue their master's degree abroad. It provides information and numerous services that will assist the students in the process of deciding to study abroad as well as to those students who are already studying abroad. Users who have signed up in the website are referred to as yocketers. Some of the major facilities provided by the website are:

- Universities: Yocket provides information regarding application process, cost, course
 description, deadlines and many more on all the universities across 13 countries. The website
 allows users to compare universities based on ranking, type, countries and major. They can
 find a grad school based on their profile and needs. Users can see reviews given by other
 yocketers.
- Test preparation: Users can prepare for GRE, GMAT, TOEFL and IELTS.
- Services: Yocket helps students by providing services like <u>Forex Card</u>, sending transcripts, education loans, comparing and finding profiles, finding roommates and data on yocketers who got admitted and rejected.
- Discussions: Yocketers form a community where they help each other with anything in their reach
- Trending information: Yocket displays trending universities, articles and yocketers.

3. HCI methods applied

We have applied following HCI methods to conduct the research on the Yocket website. The description about the methods, why and how they were applied are explained under each method mentioned below.

3.1. Heuristic evaluation

Heuristic evaluation is a kind of UX evaluation involving expert inspection guided by a set of heuristics. It is one of the methods that are inexpensive, intuitive, and easy to motivate practitioners to do, and it is effective for use early in the UX process. This is the reason we chose

to conduct heuristic evaluation before any other HCI process and also after the proposal of new design.

All of the group members went through the website and examined as different personas such as current student, prospective student, visitor and parents/guardians. Each of us followed different use cases that would reveal the UI problems based on Nielsen 10 heuristics. Those evaluations were brought to the table and we focused on the common and major issues we all found.

3.2. Contextual design

Contextual design is a structured, rigorous and well-defined user-centered design process. We chose this HCI method because it gives importance to the users' work practice rather than the experts' which helps to recognize subtle but significant design problems that were not obvious to designers. It reveals the issues, worries and key elements of the users' lives relevant to the teams' focus all in one place.

Interviews

Interview is a method of asking questions and listening to the users. It is important because it is the initial immersion activity in contextual design to gather data from the users.

Based on the discussion after heuristic evaluation we prepared interview questions and survey questions that would justify the encountered issues as well as reveal other issues from a user's (novice) perspective. The interview questions prepared can be found in *appendix A*. The questions designed are open-ended. The types of questions are feeling questions, behavioral questions, knowledge questions and illustrative questions.

The team was divided into pairs (interviewer and note taker) and each pair interviewed 3-4 interviewees. Most of the interviews were conducted in person and some via skype and lasted about 45 minutes.

Interpretation

After each interview, all the team members gathered together and assigned specific roles to each other such as Moderator, Rat hole watcher, work modeler to interpret the interview. We would switch the roles for every new interview interpretation meeting. The notes generated from the meetings were recoded in google form and later used for affinity notes.

• Affinity Diagram

Affinity diagram is a way of organizing the field data into a hierarchy that reveals common issues and themes across all users for that specific project. It is the next step after affinity note taking that structures the notes into individual design implication.

All the lower level affinity notes were written in the light blue sticky notes. Initially we randomly placed all of them in the wall and later categorized into similar groups and built the hierarchy. See *appendix B*.

Ideation

After the affinity diagram was reviewed, all of the team members came up with new ideas and vision with the help of brain storming technique.

3.3. Survey Method: Questionnaires and Surveys

Survey methods are scalable technique for collecting quantitative information about topics of interest in a population of interest.

Our team carried out questionnaires and surveys via Google forms. We used survey because it helps to draw sample from larger population. It is low cost method where we can ask multiple questions efficiently. The questions are designed keeping on mind with the initial discussions on heuristic evaluation. The survey questionnaire starts with simple single choice questions and later to multiple choice and open-ended questions. The objective of the survey is to generate data from larger and different type of users. Its goal is to reveal common issues and the website's usability status. See *appendix C* for survey form.

3.4. Competitive analysis

It is always important to know your competitors and understand the market space. Competitive analysis helps to avoid competition with a strong product. This method can be used at any point during the research process but preferable in the beginning. It will help discover gaps, opportunities and find useful features.

Before heading to implement new ideas and redesigning the website, we looked for generic, potential competitors broadly. We found products similar to Yocket like Edulix.com, msinus.com, studymsinus.com and Cappex. The analysis was done by using the product by ourselves as their users and evaluating the websites similar to the way we did for Yocket. The complete competitive analysis can be found in *appendix E*.

3.5. Prototyping

Prototype is a creation of a concrete but partial implementation of a system design to explore usability issues. We used prototypes because it reveals problems and prevents mistakes that can be costly.

We used two techniques of prototyping: Low fidelity paper prototype (initial stage) and Wireframes (final stage). Initially our team members build a low-fi prototype for the home page of the website. *See appendix* F(i). We realized that the process was quick but we required more resources and there was a good chance of it being lost or get torn. Therefore, for the rest of the process we used wireframe tool. *See appendix* F(i).

4. Data collection

The majority of data was collected from interview sessions and survey. Affinity diagram and surveys produced data on major issues and topics to be focused. We used Google forms which automatically generates statistical data and charts. We combined the charts and open-ended question replies with the affinity diagram results and formulated all possible solutions. **See appendix D.**

5. Data description and results

5.1. Contextual design

All the notes taken from the interview sessions were broken down into individual affinity notes. Each note contains only single idea, problem, opportunity, use of artifact and interpretation of event. The lower level light blue notes reflect user's voice such as "I don't know if university ranking is true.", "I went to a consultancy to clear my doubt on VISA process.", etc. The first note is asking for validity of the information provided in the website. The second note tells that the user did not find enough information on the website although provided. Such several issues were grouped under different category (green ones) that summarized the issues. For example, "I want the verification of the source" summarizes the first example and "I need assistance or someone to talk to." summarizes the second note. Further, the pink notes derived the core issue from green category notes. *See appendix B*.

Result:

From the affinity diagram, we came upon 5 major design flaws in Yocket website:

- o Authenticity: The users had doubt if the website was legit. Also, users did not prefer to fill personal information in the website.
- Extra information: There were too many information in the website that overwhelmed users such as recent admits.
- Popular features: Some of the features were given high importance by the users and needed to be highlighted such as universities comparing, discussions, trending sections and services.
- Missing features: Many features were missing or demanded by the users which were not present in the website such as chatting feature, easy sign up, data visualization and tracking own discussion thread.
- More filters: Universities could only be searched by rank, type (private and public), country and courses. Users had trouble finding universities according to their criteria.
 Trending universities could not be segregated by courses.

5.2. Survey

From survey we found following results (*See appendix D*):

- 63.6% are currently enrolled in some universities and 16.7 % are planning to study abroad. Rest of the population are visitors, parents, former students, relatives and consultancy agent.
- o 90.9% of the users knew about Yocket website
- o 75% of the users frustrated by sign up process
- o 82% users required external assistance
- o universities, services, discussions, trending articles and guides among most used feature
- o universities and discussions among most useful feature of website
- o more than 50% rated the UI of the website 4 and 5 on scale of 1-5
- \circ 22.7% of users rated 5 in case of website satisfaction on scale of 1-5.

6. Justification for design recommendation

After the analysis of the website based the data collected, our team came up with following design improvements. However, the color and theme of the website is maintained similar to the original ones because lots of users rated high for its UI appeal.

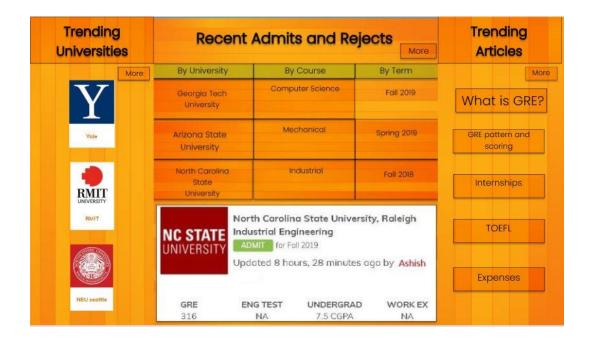
- Giving users option to sign up with Facebook or Google.
 - Survey reports show 75% users frustrated by sign up process
 - Users did not want to fill up information (affinity diagram)



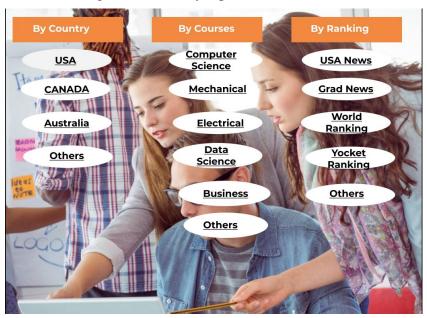
- Adding option to provide users score report snapshots in their profile
 - The users had doubt if the website was legit.
 (affinity diagram)



- Managing recent admits and highlighted trending universities and articles
 - o trending sections liked by users. (affinity diagram)
 - o users want organized information (affinity diagram and survey replies)



- Selecting universities by ranking according to different sources
 - Users doubted in the authenticity of information on university ranking. (affinity diagram and survey replies)



- Adding "chat with us" feature
 - o 82% users required external assistance (survey reports)



See appendix F (ii) for more prototype pictures.

7. Heuristic evaluation for proposed design and results

Heuristic evaluation was conducted on the new design with 3 personas: Prospective student, current student and new user of Yocket website. *See appendix G.*

Persona 1:

She is a 20-year-old prospective graduate student living in India who wants to pursue her master's degree in computer science in a US university.

Scenario: She wants to pursue MS. She wants to compare different universities that will meet her interest and get information on them. She wants to know the ranking of universities so that she can decide which university he wants to go to.

Goal: Know the ranking of the university and be sure that the information is correct.

Heuristic: Flexibility and Efficiency

Good Aspect: The articles containing information about rank of universities also provide the link to the source of the information like US news and other forums. So, the user can decide on the authenticity of the information provided by the website.

Persona 2:

He is a 25-year-old studying Civil Engineering in the United States. He is a first-year graduate student who is looking for job/internships.

Scenario 1: The student searches for works that is trending. He wants to know what is going in the current market and also get views from former students.

Goal: Get the right information on jobs that have been talked about from the yocketers.

Heuristic: Recognition rather than recall, Visibility of system status

Scenario 2: The student has asked or answered some questions related to universities, MS etc. on the website. He wants to check the status of his activities on the discussion board.

Goal: Check the questions, answers or the comments made by him without having to scroll down through several answers of other students.

Heuristic: User control and Freedom, Flexibility and Efficiency

Good Aspect: The option of 'my answers', 'my questions' and 'my comments' in the profile section of the student has made it very easy for the student to check his answers and questions or comments on the website.

Persona 3:

He is a prospective student and a new user who wants to know which universities he can get based on his score.

Scenario: He visits the website and realizes that he needs to register for using the 'grad school finder' feature.

Goal: His goal is to register on the website conveniently without spending much time.

Heuristic: User control and Freedom

Good Aspect: There is a "login using Facebook/Google" option on the website so the users can conveniently login directly without having to fill a whole registration form.

See appendix G for UAR.

8. Limitation

The research process of the Yocket website was carried out for a month and we came up with solutions on such short period of time. The number of interviewees and survey population are not very large enough to extract all the UI flaws. Also, most of the views come from users who are current masters students. There could have been more variety of users for conducting interviews and surveys. So, the final design proposal may not be the best or may still have flaws due to limited sources and constraints.

9. Conclusion

The project utilizes all the knowledge gained from the HCI class. This project has helped me understand the process of different HCI methods and techniques used to conduct a thorough research on a product such as Heuristic evaluation, Contextual design, conducting interviews, interpreting interviews, affinity note taking, affinity diagram, ideation, brain-storming techniques, survey methods, competitive analysis and prototype. Moreover, the most important lesson to take away from this project and class is to understand users.

APPENDIX

Appendix A. Interview questions

All of the interviews conducted followed the given structure of questions. However, some interviews yielded deeper follow-up conversations than others.

Question 1) How did you come to know about the Yocket website?

Question 2) How often do you use the Yocket website?

Question 3) What are the major reasons behind using the website?

Question 4) What are the features on the website which you find really helpful?

Question 5) Do you find it easy to navigate through the page and obtain the required information? If not, what are the problems faced?

Question 6) Are there any features on the website which you were not initially aware of and came to know much later?

Question 7) Is there any design flaw which you found over this website?

Question 8) Tell me about one feature which you would like to see over the Yocket website.

Question 9) Have you used any other website for university comparison other than Yocket? If yes, was it better? How?

Question 10) Was Yocket helpful for you to select this university? If yes, what were the features of the website which you used?

Question 11) On a scale of 1-5 how easy is it to use the search feature on the website?

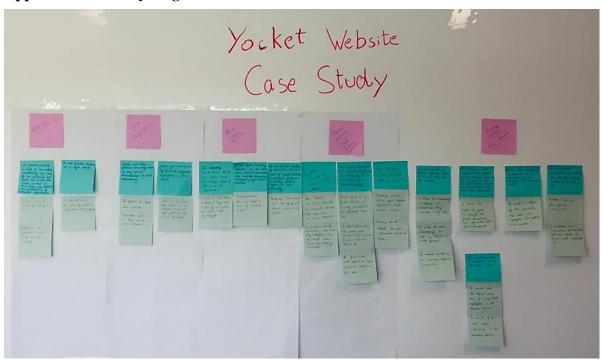
Question 12) Do you think the app version of the Yocket website is better? If yes, how?

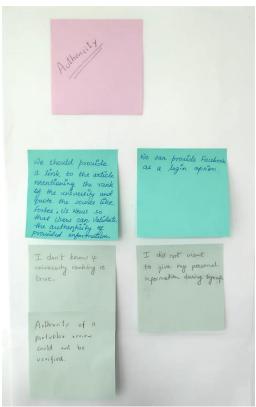
Question 13) Did you encounter any issues while using the website on a mobile device in case of low network connectivity?

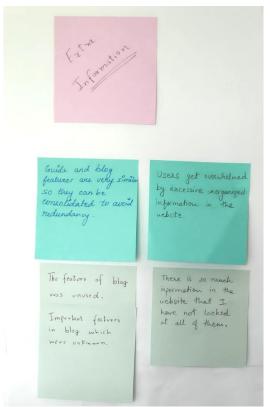
Question 14) Have you used the Yocket website in any other language apart from English? If yes, which language and on a scale of 1-5 how difficult was it to understand the context in the other language?

Question 15) How likely is it that you would recommend this website to your friends on a scale of 1 to 5?

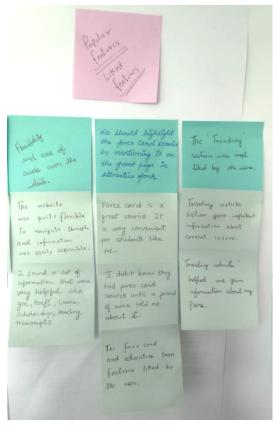
Appendix B. Affinity diagram

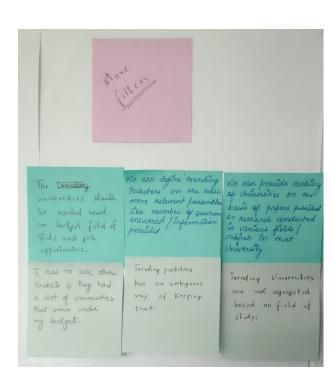












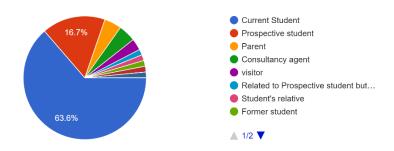
Appendix C. Survey questions

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Appendix D. Survey data

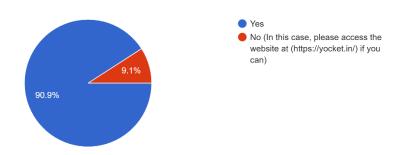
Which category do you fall under?

66 responses



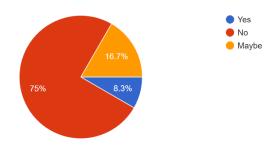
Have you used Yocket before?

66 responses



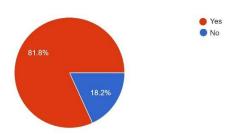
Is it easy to sign up to Yocket?

66 responses



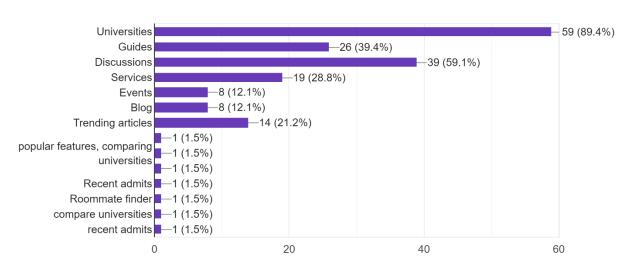
Did you require any kind of assistance while using the website?

66 responses



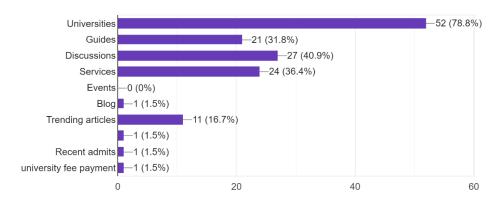
Which features of the website did you use?

66 responses



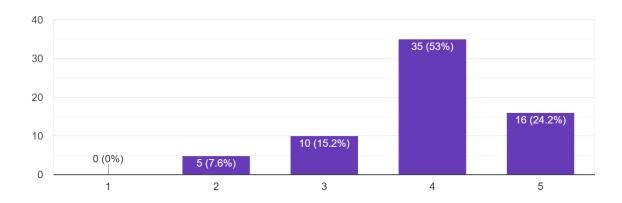
Which features of the website did you find most useful?

66 responses



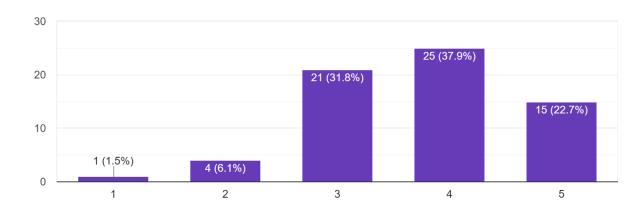
How appealing was the website User Interface?

66 responses



How satisfied were you with the use of the website Yocket?

66 responses



Appendix E. Competitive analysis for Yocket website

Scope

a. Personas

- * Current Students
- * Future students
- * Alumni
- * Faculty
- * Parents
- * Statisticians

b. Competitors

- * Edulix.com
- * msinus.com
- * studymsinus.com
- * Cappex

c. Alternatives

- * Check university rankings on google.
- * Research for each university separately on its respective website.

Here, we will be doing the profile analysis of the Edulix website for comparison with the website in concern i.e. Yocket

d. Profile for Edulix

- The features like UniSearch, uniSuggest are much more accessible in the Edulix as compared to Yocket. We have to navigate through a lot of pages in order to find this information in Yocket. These features may help us improve the search results in the Yocket website.
- The recent activity section in Edulix quite helpful for the users as it gives all information about current discussions, FAQs, admits etc. which makes it easy for users to find the relevant questions and it actually shows the recent updates.
- The information is well organized and easy to find in Edulix as per the survey results.
- The navigation bar on the top basically gives the gist of all the services on the website which makes very easy for user to locate features that they are looking for.
- We can be sure that the information on the website is up-to date from the recent activity action timestamps and also there are statistics for the year which makes it more authentic.

- Signing in is possible with the Facebook account apart from Google account on Edulix. The users can login directly if they are logged in to Facebook
- Edulix has a recent activity section, which is like a continuous set of comments from different posts coming in.
- This can be used to get the latest updates from our peers rather than waiting for answers from professionals.
- The discussion forum in Edulix is much more flexible as it points to specific queries and its easy to connect to a greater number of people. As a result, the user can have enough friends before his/her departure to the university.
- The general topics are mostly in the discussion form in Edulix which gives a much easier look into peer experiences in Edulix, rather than what the website says. In Yocket, the general topics are mostly common to all (like stay and travel), and the discussions are separate
- The inclusion and display of statistics on Edulix cover a wider range which enables any user to compare the universities on many factors. The statistics about each university should are given in a tabular format which makes it much clearer to read.
- Also, Yocket given just few details about the average and lower universities in general, and more for the high ranked universities. Whereas in Edulix, the statistics for all the universities are almost the same.
- The trends in the university admits are shown using plots for at least past 3-5 years in Edulix, so that students can apply based on the recent trends.
- Also, trends in internships and jobs for the same universities are plotted for the recent years which is much more helpful as a factor in choosing a university.
- Information tab has articles about the different processes and needs to student wants to know and its description is quite user friendly.
- The bottom section on information looks too cluttered on Yocket, can utilize the space better as done by Edulix.
- There is no ready information available for airline tickets and their comparisons which can be included on Yocket. Edulix provides a good comparison and adequate details about airline prices and quality.
- The Yocket website could include the rankings of the universities as per some specific proof, like references to world university rankings or the us news rankings.
- Yocket is better in the basis of allowing user to access their website easily when compared to edulix. You cannot access any edulix service without logging in.

- Yocket has more detailed guides for all regions of the world about higher education, when specifically compared to edulix. Yocket provides complete information including country's lifestyle, work opportunities, etc.
- Yocket has much better services to provide when comparing to edulix. Yocket helps students secure education loans, as well as forex cards. These services are very helpful, and unavailable on edulix.

e. Analysis results

1. Tabular analysis

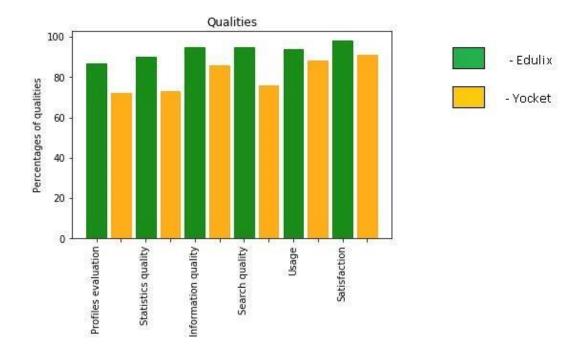
Dimensions

- Profile evaluation quality
- Statistics quality
- University Information
- Ease of search
- Frequency of use per month
- %satisfaction based on survey

Table creation

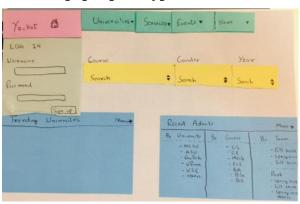
	Profile evaluation quality	Statistics quality	University Information	Ease of search	Frequency of use per month(hits)	%satisfaction based on survey
Edulix	Excellent, near accurate results as per survey results	Lot of comparisons made using graphs which make it easy to compare	Adequate information about each university for research	Query indexing is much better in than any other website	20-30 hits on an average per person	92%
Yocket	Need an update in the evaluation schemes, could be a little better	There are some good comparisons, but certain factors are missing	Could give more information on the courses.	Discussion forum could be improved to get more search results	10-15 hits on an average per person	80%

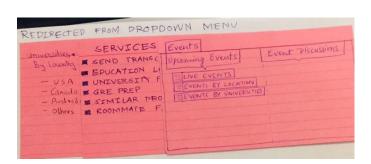
2. Map



Appendix F. Prototypes

i) Low-fi paper prototype:

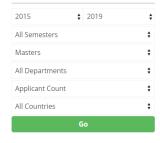


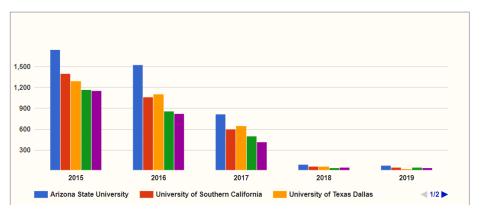


ii) Wireframe prototype



Admission Trends of Top Universities





Appendix G. Heuristic evaluation on Proposed design

Usability Aspect Report (UAR)

Product Name:	
Yocket Website	
Date of Study: April 17, 2019	
Experimenters' Names: Reetu Shakya, Nimisha Tripathi	
Subject ID: N/A	

Persona 1:

She is a 20-year-old prospective graduate student living in India who wants to pursue her master's degree in computer science in a US university.

Scenario: She wants to pursue MS. She wants to compare different universities that will meet her interest and get information on them. She wants to know the ranking of universities so that she can decide which university he wants to go to.

Goal: Know the ranking of the university and be sure that the information is correct.

Persona 2:

He is a 25-year-old studying Civil Engineering in the United States. He is a first-year graduate student who is looking for job/internships.

Scenario 1: The student searches for works that is trending. He wants to know what is going in the current market and also get views from former students.

Goal: Get the right information on jobs that have been talked about from the yocketers.

Scenario 2: The student has asked or answered some questions related to universities, MS etc. on the website. He wants to check the status of his activities on the discussion board.

Goal: Check the questions, answers or the comments made by him without having to scroll down through several answers of other students.

Persona 3:

He is a prospective student and a new user who wants to know which universities he can get based on his score.

Scenario: He visits the website and realizes that he needs to register for using the 'grad school finder' feature.

Goal: His goal is to register on the website conveniently without spending much time.

No. HE-1

Problem/Good Aspect

Good Aspect

Name:

Asking questions

Evidence:

Heuristic: User control and freedom, flexibility and efficiency

Interface aspect:

"chat with us" feature



Explanation:

The "chat with us" tab will be prompted to the user when they land on the home page. If the user cannot find information on the website, he/she will click on the tab and type in the query which will be replied by the website's designated assistants.

Severity or Benefit:

Rating: N/A Benefit:

Chatting feature will be beneficial for all types of users. When users cannot find the information in the website despite being there, chatting will give users the option and flexibility to get the information readily. Users will not have to waste their time searching for topics that are not apparent to their eyes. They can clear out their doubts right away. The users can get more information than they were initially intending to achieve from the website.

Possible solution and/or trade-offs:

The tradeoff is that the user might not get the response promptly which can frustrate them. Also, even if they get the response it might not be adequate or confusing.

Relationships:

N/A

No. HE-2

Problem/Good Aspect

Good Aspect

Name:

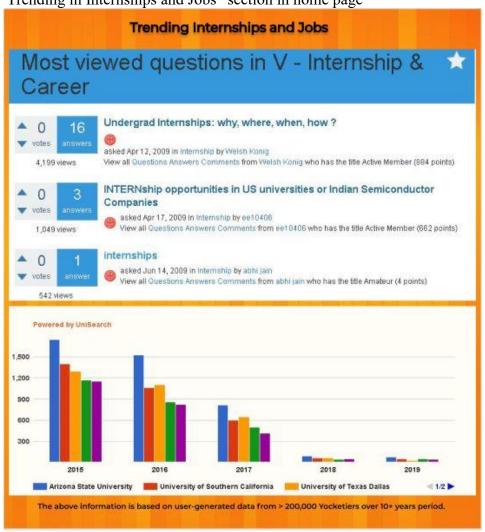
Search for trending jobs and internships

Evidence:

Heuristic: Recognition rather than recall, Visibility of system status

Interface aspect:

"Trending in Internships and Jobs" section in home page



Explanation:

User 2 logs in to the website where he can immediately see the section for trending jobs and internships. He can click to any company queries he is interested and view their profile. He can also see yocketers who are associated with that company. He can customize his job findings to narrow down his search.

Severity or Benefit:

Rating: N/A **Benefit:**

Getting an internship or a job is the ultimate goal of any students, so it is important that this topic should be easily accessible to the users. This section will highlight the jobs that most yocketers worked, recommended and offered better opportunities. The seniors can provide information for the new ones on job prospects in that particular company or provide tips to prepare them for interviews.

Possible Trade-offs:

The trade-off is that the "Trends in Internships and Jobs" section can take a fair amount of screen space on the home page that might not be liked by users who are not searching for jobs. The most trending jobs can become very competitive so all the users might not be benefited. One user's dream job might not be the same as others, so it might not be relevant to every user.

Relationships:

N/A

No. HE-3

Problem/Good AspectGood Aspect

Name:

Option to add the score reports for the verification of the information

Evidence:

Heuristic: User control and freedom, consistency and standards

Interface aspect: Sign up page

• Users click the "SIGNUP" tab



- Users land to Signup page



Explanation:

User 1 and user 2 clicks on the signup tab that redirects them to the signup page. There they can fill up their name, email id, scores and university information. They can click on the image icon alongside the score fill textbox and upload their score report and signup their profile.

Severity or Benefit:

Rating: N/A

Benefit:

It will help to establish the authenticity of students as well as the website in general. The users can feel a sense of trust because of this transparency. This makes the possibility of having more users to include their score reports. In future it will help to extend the long-term users of the website.

Possible Trade-offs:

The trade-off is that some of the students would prefer not to submit their score report.

Relationships:

N/A

No.	Problem/Good Aspect
HE - 4	Good Aspect

Name:

Login option using Facebook/Google

Evidence:

Heuristic: User control and Freedom

Interface Aspect: Login option using Facebook or Google account for new users.



Explanation:

Users are required to login for accessing several features of website like 'grad school finder'. There is a "login using Facebook/Google" option on the website so the users can conveniently login directly without having to fill a whole registration form. This option is present on the website along with creating a new account with Yocket.

Severity or Benefit:

Rating: N/A

Benefits: When a student wants to know which universities, he can get on the basis of the scores he got, he would use the 'grad school finder' feature on the website. This would require him to login. Since he is a new user, he would have to create a new account with Yocket by filling out a long registration form. Since, the 'login using Facebook or google account' option is present on the website hence he can use that and login without wasting much time.

Possible Trade-offs:

If users are paranoid about the privacy of their data, they might not signup with Facebook or Google.

Relationships: N/A

No Problem/Good Aspect
HE - 5 Good Aspect

Name:

'My Questions', 'My Answers' and 'My Comments' option in the profile

Evidence:

Heuristic: User control and Freedom, Flexibility and Efficiency Interface Aspect: Present under the 'my profile' section



Explanation:

Users can directly view the questions they have asked to see if someone has answered it or not by directly accessing this option in their profile. They can also see if someone has commented on the questions, they have answered by accessing 'My answers' option and comments they have added from 'My comments' option.

Severity or Benefit:

Rating: NA

Benefits: For checking the status of their answers and questions they would not have to go through various other questions and answers of students on the discussion panel. Now they can directly view their answers from this option and save time and effort. The option of 'my answers', 'my questions' and 'my comments' in the profile section of the student has made it very easy for the student to check his answers and questions or comments on the website.

Possible solution and/or Trade-offs: The trade-off is that there may be students who would neither ask nor answer questions and so this option would not be useful for them.

Relationships: N/A

No.Problem/Good AspectHE-6Good Aspect

Name:

Provided links to the source containing useful information

Evidence:

Heuristic: Flexibility and Efficiency

Interface Aspect: Present in the article containing the information.



Explanation:

Articles containing important information like University rankings contains source of that information like US News. The articles containing information about rank of universities also provide the link to the source of the information like US news and other forums. So, the user can decide on the authenticity of the information provided by the website.

Severity or Benefit:

Rating: NA

Benefits: When a student wants to apply to some degree program, he wants to know various information about the university like university rankings. He reads the articles on the website containing this information but he may not be sure if the information is authentic and up-to-date or not. Since, the source of the information is also present on the website the user can be sure that the information is correct and reliable.

Possible solution and/or Trade-offs: There might be conflicts in ranking by different sources that might confuse users.

Relationships: N/A