

Un Restricted



Find Food, UnRestricted.

UnRestricted Report

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UnRestricted Portfolio

UnRestricted GitHub Repository

Executive Summary

Unrestricted is an application that has been developed to allow individuals with dietary restrictions to find restaurants that have food options that suit their needs. We developed this application because it is difficult to find information on whether a food establishment meets their dietary requirements, is close to their current location and is high quality.

Before developing our prototype, we conducted research using surveys, empathy tools, interviews and external research. From our user surveys, we found that when dining out, individuals with dietary restrictions consider dietary restriction friendliness, taste and atmosphere to be the most important features of a restaurant when selecting where to eat.

Empathy tools allowed our team to observe and understand the frustrations individuals with dietary restrictions face when eating out. From our server interviews we concluded that dealing with a customer's dietary restrictions can sometimes be difficult when the restaurant was at capacity, as having to go back and forth from table to kitchen to check for restrictions can be quite time consuming. After conducting user research, we set out to design our low-fidelity prototype.

We centered the design of our low fidelity by including a few key features for our users. These features consist of having a review page for users to write and leave reviews, a map page so users can see restaurants that meet their dietary restrictions that were near their current location, and a search function to look for specific restaurants or dietary restrictions. Taking the concepts developed for our low fidelity prototype, we then went on to develop our high fidelity prototype.

Using adobe XD we created an initial high fidelity prototype. To test the prototype, we asked another team of developers to conduct a heuristic evaluation. We received a lot of

recommendations from the evaluations related to certain functionalities and error checking issues. In the final stage of development, we sought to incorporate this feedback into our final version of the prototype.

The following report provides an overview of the development of the application UnRestricted. This document will cover an introduction into what the application is, the design problem we were attempting to solve with this project, the end users and stakeholders, our research findings, and other elements related to the design of our project.

Introduction

In a society where individuals are becoming more aware about their dietary choices, many take up specific diets that come with certain restrictions. Following specific diets (ie: vegan, vegetarian, halal, etc...) introduces new restrictions as to what a person can and cannot eat. Following certain dietary restrictions can make it difficult for individuals to find restaurants that cater to their restrictions. In this document, we introduce the application UnRestricted, an application that helps its users find places to eat that meet their dietary requirements. In this report, we discuss the overarching design problem we are trying to solve. In addition, we discuss the intended end users and stakeholders for this project, our user research conducted in stage 2 and our design justification. After developing our Hi-fidelity prototype, we conducted a heuristic evaluation on the prototype, and made changes according to the feedback we had received.

Design Problem

Often when dining out, many restaurants do not have clear labels indicating whether particular food items on their menus are suitable for individuals with various dietary restrictions. As people are becoming more aware of alternative diets, it can be confusing when trying to order at an establishment that does not clearly mark their menu options. In addition, some individuals have medical conditions such as allergies or celiacs disease, which makes it vital that they know if a menu item fits with their dietary concerns. This can lead to frustrations for the customer and kitchen staff, having to deal with back and forth to see if a particular menu option is suitable for someone with dietary restrictions. In addition, it can be difficult to find dining experiences that cater to a person's dietary needs, while also checking the location and distance to the restaurant, while also checking recent reviews. This can be a frustrating task, having to navigate through multiple pages on a browser, especially while one is "hangry". The purpose of this application will be to alleviate these frustrations by allowing users by compiling information about restaurants that meet one's dietary restrictions.

This application would be designed so that users could input their dietary restrictions (vegetarian, lactose intolerant, gluten-free, etc...) into the program. The app displays the

closest and best rated restaurants for these needs as well as possible links to Google Maps with directions and the restaurant's websites. Another aspect of the application is the search function which can be used to find specific dishes such as pasta dishes that are gluten free and organizes them based on restaurant and review score by other users. Users are able to review a dish or an overall restaurant experience and rate how easy it was to order with their dietary restrictions by submitting a text and/or photos of their dishes.

End-user and stakeholders

Stakeholders

- **Users:** They use the app to find restaurants that cater to their dietary restrictions.
- **Restaurants:** They are affected by the reviews users leave and it affects their reputation and income because if they receive bad reviews -- they might be less frequented.
- **Servers:** They are indirectly involved in that they have less explaining to do if the app is successful in explaining their substitutions and restricted diet dishes. This also means that the servers would have more time for customer service.
- **Development Team:** The team has a stake in the app in that they want it to succeed to be able to put it on their portfolios.
- **Investors:** We do not have any investors, but if we did, they would have a stake as well.

Who are the Users

- Users are individuals who use the app, the targeted audience is people with dietary restrictions, but all individuals are welcome.
- Users will most likely be individuals with access to a phone and internet connection as well as the ability to maneuver the device, this means that their knowledge and background in devices is basic.
- Users who are aware of dietary restriction limitations, what foods and ingredients they are unable to consume -- this requires dietary/nutritional knowledge on the user.

User Research and Findings

User Surveys: User surveys was crucial in providing us with insight into issues that people with restrictions face while trying to find food that fits their dietary restrictions. From our

survey with 49 participants, 71% of whom had several dietary restrictions, we found that dietary restrictions are quite complex (Appendix Fig 1 and 2). In addition, we examined the aspects of a restaurant that are most important to our users. We found “Deliciousness” and “Dietary Restriction Friendly” as the top among 8 aspects assessed. Additionally, some of the participants also faced severe reactions and had to receive medical attention in some cases (View quotes below). The survey participants also said that they can benefit from an application that would help them find food tailored to their DRs.

“Had a server get annoyed with me when I asked if there were any gluten free options other than salad, even when I specified that my gluten intolerance is medical and not a personal choice; there were no options other than side salads and french fries”

“Yeah the one time they gave my boyfriend fried parmesan chips when he's lactose intolerant.”

“Sometimes, I'll come across a place that has limited options (as per my restrictions), poor taste in food and food that makes me feel sick.”

Server Interviews: Interviews with servers was important in determining if our product could contribute to achieving efficient service at restaurants. After compiling the responses, we found that servers are not usually aware of the ingredients in a menu item. Due to this minimal knowledge, they have to consult the kitchen multiple times to make sure appropriate substitutions are made. Increased communications point during a busy service can cause errors and make the process inefficient. In addition, several of servers interviewed said that service would be more efficient if customers have prior knowledge of their menu items.

Empathy Tools: This method allowed us to sense how the DRs affected the user's experience and service at restaurants. We implemented this method by going to restaurants and specifying a random DR. Overall, we found that servers seemed misinformed about DRs (eg: the difference between Vegetarian and Vegan). The service was slower due to increased communication points that were needed to clarify modifications. Additionally, one of our team members pointed out that the taste of the dish was impacted due to the ingredient substitutions.

Design and Justification

To design this application, our team focused on implementing the following concepts:

Minimalism and Simplistic: Minimalist, easy to follow design. In addition, our team sought to minimize the “form-filling” that users would have to do when entering their information and leaving reviews, in contrast to other applications. This is why we designed our application so that there are three main screens for the user to look at. The first screen is the “food screen” which shows information on top restaurants, and has a search bar that users can use to search for new options. The second screen is the map screen which allows the user to look for restaurants that are located near their current location. We decided to display limited information to the user to allow for the interface to retain its minimalistic appearance, and to avoid overwhelming the user with information. If the user wishes to read more information about a restaurant, they can select the “see more” section, which directs them to a detailed page.

Map view and Icons: The icons on the map screen (coloured faces) represent the ratings of a particular restaurant. The green happy face indicates that the restaurant has received reviews that are positive. The yellow neutral face indicates that the restaurant has received neutral reviews. The red upset face indicates the restaurant has received poor reviews. We used this visual ranking system because it is easy for users to quickly see which restaurants in their local area are highly reviewed and have a good reputation. In addition, the colour scheme and facial expressions are easy for the user to follow and understand. Selecting restaurant icons on the map allows the user to see the name, ranking and dietary restrictions that the restaurant caters to.

User Based Reviews: From our investigation our team found that people are most likely to believe other users facing the same problem. This is why we chose to keep the review system to review restaurants and featuring restaurants on the app based on user reviews.

User Information: The third main screen is the profile page, which contains information on the user’s listed dietary restrictions. To avoid a “form filling” approach for integrating user information, we focused on using tags for the dietary restrictions, that users can select when they initially create their profile. In addition, when writing reviews, the user can select tags to indicate which types of dietary restrictions the restaurant caters to. This streamlines the sign up and review writing process for the user, and prevents the user from having to continually type in their dietary restrictions.

Heuristic Evaluation and Findings

Our team sent our Hi-fidelity prototype to another team to conduct a heuristic evaluation. During the heuristic evaluation, we received positive feedback and suggested improvements for our application prototype.

Positive Feedback: In general, our evaluators enjoyed the minimalist design of our application, which made the application easy to follow, even for novice users. The evaluators also stated that the symbols we used on the map to indicate the relative rankings of the restaurant and the icons on the bottom of the screen were intuitive in their meaning. In

addition, the overall flow of the application was found to be straightforward and simple to follow, even for novice users.

“No ambiguous language or confusing terms...Search bar on both Food and Map pages is consistent.”

“The objects, actions, and options are visible and clear enough to follow without the need of instructions There are no cases where a user has to remember information from one part of the dialogue to another.”












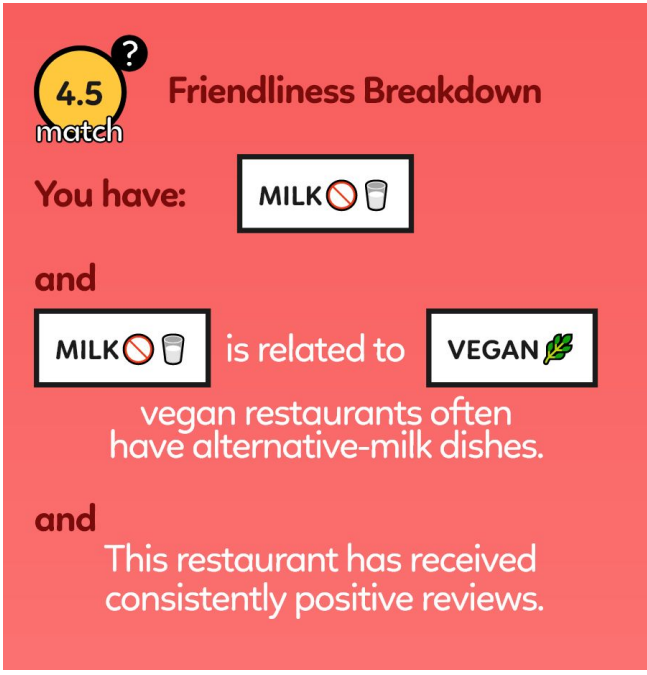
Suggested Improvements: One of the major issues brought up during the evaluation was that there was no back button for the user to return to the previous screen they were on. This made it difficult for the users to recover from errors, such as unintentionally selecting on a restaurant. Our team decided to address this issue by adding a back button to all screens. Another issue brought up during the evaluation was that users were unable to change their dietary restrictions on the profile page. This prevented users from being able to change a potentially incorrect restriction after creating their account. In addition, it also decreases the user's flexibility to use the application. We addressed this issue by adding a “change dietary restriction” option on the profile page. This allows the user to easily change their restrictions. After the creation of their account. Some of our evaluators also pointed out that it was difficult for the user to tell which page they were currently on. This issue was addressed by highlighting the icon in the main navigation bar corresponding to the screen that the user is on. Moreover, some evaluators felt that there was an unneeded blank space on the restaurant menu page and they suggested adding a description of the restaurant. We improved this by rearranging buttons and adding labels with informative symbols to indicate the type of food the restaurant serves and a “view in map” functionality.

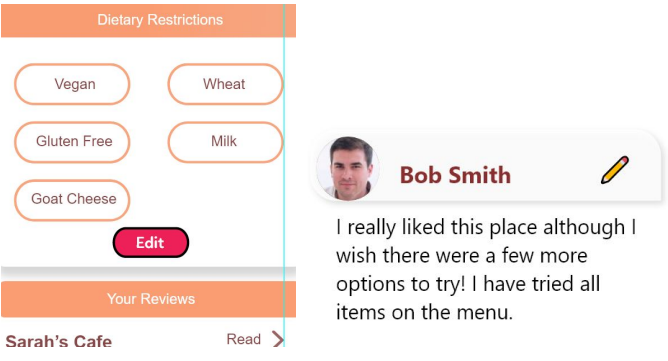
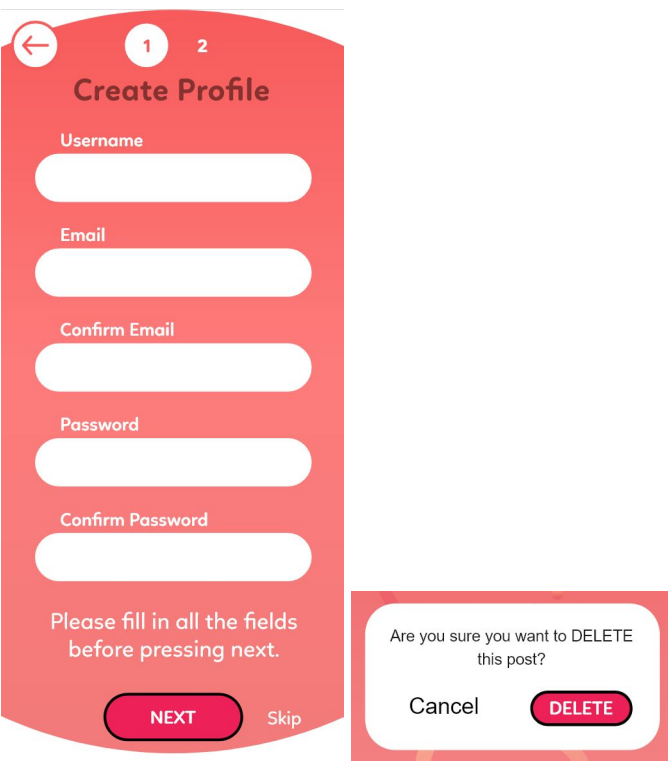
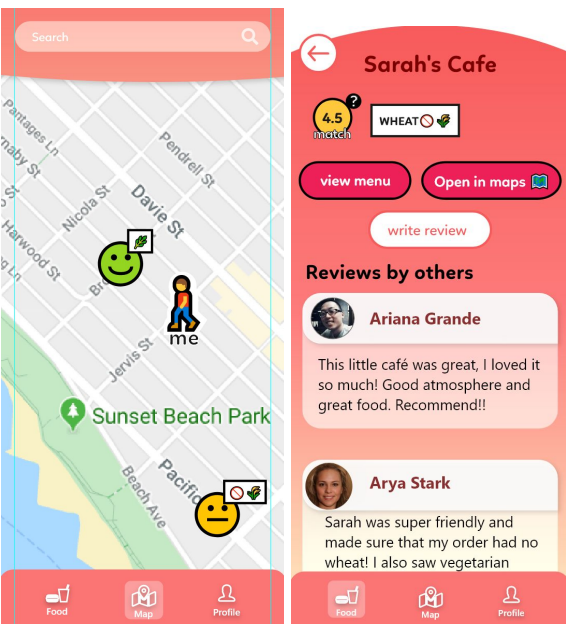
“If a user wanted to remove a dietary restriction from his/her profile, he/she should be able to immediately navigate to their list of selected restrictions and easily remove it with a tap. An experienced user may want to quickly access this feature when going out to eat with friends that have different dietary restrictions”

“adding “back” navigations at each page will eliminate most problems I encountered.”

It was brought to our attention that our application had no help or documentation section on how to use the application. Our team ultimately decided not to include a help/documentation section, as our design of the application was developed to be as simple and easy to use as possible for even novice users.

Design Changes

<p>UnRestricted Styleguide</p> <p>Font - Linotte aAbBcCdDeEfGgHhIiJjKkLlMmNn oOpPqQrRsStTuUvVwWxXyYzZ 123456789</p> <p>Font - Linotte Regular aAbBcCdDeEfGgHhIiJjKkLlMmNn oOpPqQrRsStTuUvVwWxXyYzZ 123456789</p> <p>Colors</p> <div> <div>#F85B5B</div> <div>#1B1B1B</div> <div>#853231</div> </div> <p>Graphics</p>  <p>Logo</p> <p>UI Elements</p> <div> <div>  Secondary Button  Primary Button  Friendliness Indicators  Back Button  Rating Circle </div> <div>  Text Field  DR Badge  DR Badge (selected) </div> <div>  Menu Bar Based off common design used in Instagram, google photos, etc. </div> </div> <p>Design Justification</p> <p>UnRestricted helps people find food that is friendly to dietary restrictions. UnRestricted's design reflects it's friendly nature. From simple colors, to a rounded font, to an easy-to-use UI, UnRestricted is all about friendliness.</p>	<p>We added a style guide to our Adobe XD document. Our style guide helped us keep our user interface elements consistent.</p> <p>We used Adobe XD's component feature, so whenever an element was edited in the style guide, it affected the element throughout the prototype. This enabled us to make small iterative changes based on feedback which would have otherwise been time-consuming and tedious.</p> <p>The style guide also allowed us to agree upon a design direction based on the inspiration we collected at the start.</p>
 	<p>We received feedback that it was not clear what the friendliness score featured on restaurants meant. We added embedded help messaging that makes the match score transparent and understandable.</p> <p>The friendliness breakdown modal pop-up attempts to inform and educate the user about their dietary restrictions at the same time as showing the user why it gave a good score to a restaurant.</p>

 <p>The screenshot shows a mobile app interface. At the top, there's a section for 'Dietary Restrictions' with buttons for 'Vegan', 'Wheat', 'Gluten Free', 'Milk', and 'Goat Cheese'. Below this is an 'Edit' button. The next section is 'Your Reviews' for 'Sarah's Cafe', with a 'Read' button. A user profile for 'Bob Smith' is shown with a photo and a review: 'I really liked this place although I wish there were a few more options to try! I have tried all items on the menu.'</p>	<p>We added controls for editing and deleting reviews posted by a user, as well as controls for editing the profile.</p> <p>It is important for a user to feel that they have control over the content they post to our application. This ensures the user will be comfortable contributing.</p>
 <p>The screenshot shows a 'Create Profile' form with five input fields: 'Username', 'Email', 'Confirm Email', 'Password', and 'Confirm Password'. Below the fields is a message: 'Please fill in all the fields before pressing next.' and two buttons: 'NEXT' and 'Skip'. To the right, a confirmation modal is shown with the text 'Are you sure you want to DELETE this post?' and two buttons: 'Cancel' and 'DELETE'.</p>	<p>We received feedback that our application had consistently poor error handling. To fix this problem we added three user interface elements:</p> <ol style="list-style-type: none"> 1. A back button on every page (an emergency exit). 2. Error messaging wherever errors may occur. Errors also highlighted input elements where the error occurred (which is difficult to see in the screenshot, but obvious when using the application). Error messaging explains why the error happened and what the user can do to recover. 3. Error prevention with confirmation modal pop-ups.
 <p>The screenshot shows a mobile app interface with a map view on the left and a restaurant detail view on the right. The map shows a street grid with a location marker and a 'me' icon. The restaurant detail view for 'Sarah's Cafe' shows a 4.5 star rating, a 'WHEAT' badge, and buttons for 'view menu', 'Open in maps', and 'write review'. Below this, there are reviews by other users, including Ariana Grande and Arya Stark.</p>	<p>We received feedback that the map screen did not convey information about restaurants. We wanted to keep the simplicity of the map. Our solution was to add small badges in the top-right containing an emoji associated with a dietary restriction. This emoji helps the user identify restaurants and understand how they uniquely addresses their dietary needs.</p> <p>We also added a user location indicator.</p> <p>We received feedback that some user interface elements blended in with the</p>

	background. We gave them a border and a different color.
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Recommendations for Next Iteration of Design

For the next iteration of this project, we felt that we should include an “educational component” to our project. This would consist of implementing a documentation page that contains information on what restrictions correspond to particular types of diets. We feel this would be useful to users they may have recently had to change their diet due to health or other personal reasons. This documentation page would potentially include information on what main food groups cannot be consumed when following a particular diet, and recommendations on other food groups that can be consumed.

To expand the scope of our project, we could also make our project web based to improve the scope and increase our audience. This could also allow us to include more information on our page as computers have larger screens than mobile devices. *(We could expand our technical capabilities through a web-based application so that the mobile version focuses on the main aspects the application is attempting to solve)*

Conclusion

Our team worked to design the application UnRestricted, a food recommendation application for individuals with dietary restrictions. We designed this application to address the issue of having to find good, local food that caters to one’s dietary restrictions. Throughout the design process we conducted research by issuing user surveys, having interviews with servers in the food industry, and using empathy tools. The research process helped inform our team on the direction we should take to develop our application. We aimed to design an application, that allowed for potential users to quickly find restaurants that were close to their current location, had menu options that met their dietary requirements, and had good quality food. We intentionally developed our application to have a minimalistic design, to make it easy for all potential users to use the application. We achieved this by using intuitive icons on our screens, and only displaying essential information to the user. Our design process also consisted of performing usability testing by conducting a heuristic evaluation by an external group of developers. We took the findings from the heuristic evaluation and integrated them into an updated version of our hi-fidelity prototype. Overall, followed the design process allowed our team to develop an application that was consistent with proper design protocol, and gave us a deep understanding of all elements that go into designing a good, usable final product.

Appendix

Representation of participants with food restrictions

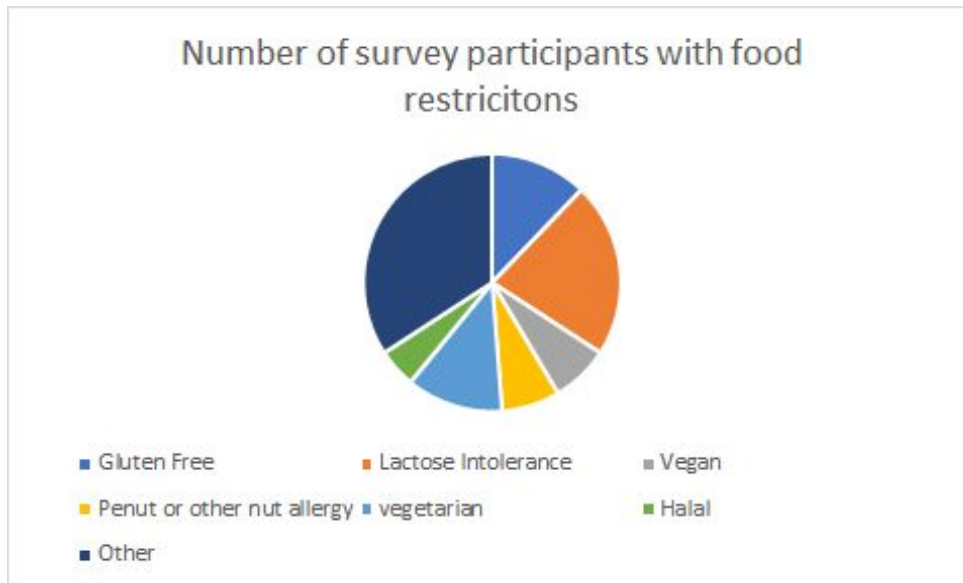


Fig 1: Food restrictions represented through the survey

Important aspects of Restaurants

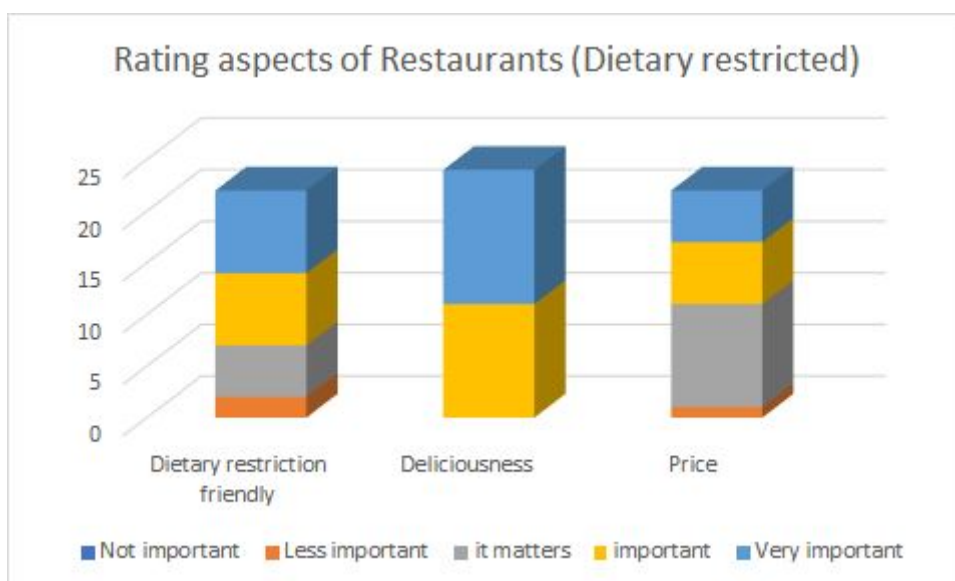


Fig 2: When focusing on responses with dietary restrictions only, the “Dietary restriction friendly” aspect is rated as important more often.