Human Computer Interaction - COMP 341/441

# YELP

By: Kanyarak Anuchitlertchon, Linette Maliakal, Uljana Sejko, Janeen Soria

## **Table of Contents**

- Project Participants
- Abstract
- Project Narrative
- Design Consideration
- Design & Specification
- Testing & Iterative Design
- Restrictions
- Conclusion

## **Project Participants**

## Kanyarak Anuchitlertchon: Side Sections & Combine

I contributed by giving input and coming up with ideas by joining discussions on what to change or keep for final product. I am the head of the side section and the bottom of the web page. I worked on the side information, which includes business hours, "Payment Methods," "More Info," You Might Also Consider," "Ask the Community," and bottom of the page. I combined all sections from each of my teammates' work into one complete project and make sure the website interactions function properly.

#### **Linette Maliakal:** Editor of Heading and More Business Info Sections

I contributed in various areas, and I discussed ideas together with my group. I worked on the upper part of Yelp by designing it. I got rid of the login button and combined it with the "Sign Up" button to save space and prevent repetition. "Sign Up" and "Sign In" are separately clickable. I moved the "Add Photo" button to be in closer proximity with business photos. I also embedded the map as small reference point, and it redirected to the Google maps page when the address and image of map is clicked. I came up with idea of modifying the reactions, like "Funny" and "Cool," in "Reviews" and replaced them with a thumbs up icon and a thumbs down icon. I changed the star colors, though of and decided on getting rid of the map pop-up window and rather imbedded a small view of the map into the business home page for a point of reference, and came up with turning "Write a Review" into a window that opens up on the

business page. I got rid of the "Write a Review", "Events", and "Talk" features on the navbar as they were either repetitive, unclear, or irrelevant. I also took away the "Details" report on statistics of the business and people visiting it since it was more helpful for business owners, and not the audience we focused on.

## Ulijana Sejko: Idea Developer

Overall, I contributed to this project by giving a lot of design ideas for improvement and implementing some features. I focused on implementing the left side of the F-shape. I worked closely with Nat to improve the "More Info" section and business hours. For the business hours section, I thought the layout of all the hours was unnecessary, so I proposed the idea to follow Google Reviews' model. We then implemented an expand and compress feature so with a simple click the user can see the availability of the business for the week. I came up with the idea of using check marks instead of a "Yes" or "No" for the "More Info" section. I created the "Payment Method" because the original Yelp did not have it as its own entity before, but just as checklist options under "More Info". I improved the iconography for the dollar signs by highlighting them green to signify the price, while graying out the unused dollar signs. I also implemented the "Advanced Search" option for users who wanted to add more options to their search. Moreover, at the top of the old Yelp, I suggested to remove the sections "Landscaping," "Home Services," "Write a Review," "Events," and "Talk." Instead, we organized it by including "Restaurants," "Bars," and "Other Services. Another idea I came up with was changing the rating stars into circles with the star inside instead of squares with the stars inside. Lastly, I also came up with the idea of including a hyperlink for the address of the business that will direct the user to Google Maps.

### Janeen Soria: Review Section and Ask the Community

I contributed to different parts of the project. For instance, I decided that the background colors of Yelp should be reversed from what it originally is, and I designed the Reviews section by making it a scrollable feature so it can remove the feeling of empty space. I also implemented the boxes that say "Helpful" or "Not Helpful" about the Thumbs Up and Thumbs Down icons so the user is aware of what they do. The numbers near the icons were also implemented so users can see the amount of people who rated the review. The idea to make the top section, which contains the logo and search bar, "lock" was an idea that I suggested. The top section remains at the top while the user scrolls down the business page so it would be more convenient. I also helped decide which side sections of the original Yelp to remove. Sections like "Other Places Nearby," "Browse Nearby," and "Near Me" were removed. I contributed to the design of the "Ask the Community" window, and also came up with the idea of making the "Ask the Community" into a button that should be located at the top right of the Reviews and be separated by the two black lines. Throughout the project, I attended many group meetings and discussions on the different sections about what to remove and keep from the original Yelp business page.

## **Abstract**

#### **Brief Outline**

When we were brainstorming ideas, we wanted to choose an application that is commonly used. We considered social media, media-streaming, and shopping applications that can be improved. We discussed the problem domains of different applications. What is their focus? What are they trying to do? Does their application successfully express its problem domain? These were questions that we considered when choosing an application. Eventually, we chose Yelp because we believe that it poorly implements its problem domain of representing businesses and their customer reviews.

Yelp is a website and mobile application that allows users to learn more about a certain business. It allows users to build a community that helps to inform them about certain businesses' features and services. The focus of this project is Yelp's website application and how it portrays businesses to a non-registered user's perspective.

#### **Good Features**

Yelp is heavily based on location and how it shows customers' views on the business. It allows users to find businesses in the location of their choice, and it helps them find related businesses relative to their interests. Yelp creates a community because it emphasizes its reliance on its users. The application displays photos, ratings, and reviews from real people who experienced the business's services.

#### **Bad Features**

While Yelp offers a lot of information to the user, it does this in a repetitive, cluttered, and unorganized way. It poorly distributes and highlights the most important information. Yelp's lack of organization and clarity of the reviews and right-side information do not always follow a sensible pattern. When the user reaches the bottom of the business page, there is a lot of empty space on the right side. Yelp attempts to make their application more convenient to use by providing many categories and links. However, it creates more clutter and they are often repetitive. There are three different sections to find nearby businesses and three different ways to access the business website, and because of this, Yelp does a poor job at utilizing the information to the users' benefit.

## **Project Narrative**

#### Goals

When viewing a business page in Yelp, there is a lot of information to consider, and, oftentimes, users feel overwhelmed from all the features that Yelp offers. The goal of this project is to

reduce cognitive overload by redesigning Yelp to be more organized, more convenient, and less cluttered. The application is redesigned so users can clearly recognize and sort the important information from the distractions and unhelpful features. We aimed to use clearer diction and more universal icons to remove ambiguity within the application.

## Areas to Improve

We aimed to make Yelp more organized and easier for the user to follow. The original Yelp follows an F-shape pattern, and the redesigned Yelp maintains the shape, but it more conveniently highlights the important information. Sections such as the business hours, payments, more information, and recommended places are kept in the redesigned Yelp, because they include important information that the user wants to know clearly and quickly. The original version currently shows the first reviewer of a business and which reviews said key words. Instead, the website application should sort their reviews so users can immediately view the most helpful reviews. We want to make it easier for the user to locate the more important, immediate information of the business.

## **Design Consideration**

## Color, Contrasts, and Themes

The original Yelp uses white and gray as its background colors. At the top of the application, where the map and photos are, the background is gray while the rest of the business page is white. The application consistently uses warm colors like red, orange, and yellow, and then it uses blue to signify hyperlinks. Color is often used to draw in the users' attention when there is important information. Color helps users' vision when searching for something. However, the overuse of colors in the old Yelp makes it difficult for users to know what to focus on. Orange in the application is associated with the "Order Online" button, some of the star colors, and some registered user icons. Blue is frequently used because Yelp links users to different parts of the application. Yelp highlights different areas of the business page to help users distinguish which features are the most important.

In our redesigned Yelp, we minimized the amount of colors to mainly be white, gray, and red. The top part of the application now has a white background and the rest of the business page is gray. The color white is lighter than gray, so it pops out more to the user, and we want the most important information to be more easily identifiable. White is the background to the photos, map, address, business phone number, business website, and a feature that allows users to send the information to their phones. When users want to quickly learn about a business, they would want to know information like its images, address, and website. The white background contrasts with the red above it and the gray below it so it grabs users' attention. Moreover, gray is the background color for the rest of our redesigned Yelp, because it visually assists users in recognizing the different groups. For instance, sections like "Reviews" has a

white background over the gray background, and it would signify to users that "Reviews" is a category. When it comes to vision, people are more sensitive to differences in color. The contrast of white over gray clearly shows the different groups within the redesigned application. Warm colors like red, orange, and yellow are apparent in our new Yelp, but they are used minimally. Red is only used for the topmost part in our redesign, and it is also used for a few buttons. Red is used for "Sign Up/Sign In," "Write a Review," "Share," "Bookmark," "Add a Photo," and the search button, because they are buttons that express interactions with the community. Although we are focusing on a non-registered user's perspective, these buttons portray how Yelp creates a community. Red is consistent with the buttons and users would associate the color with them. Red, orange, and yellow are also used in the star icons in rating the businesses because we believed the warm colors that flowed together. Initially, the yellow used for one star was a very pale yellow that did not gradiently match the higher star ratings. Thus, we changed the colors as follows below:

I star = #FFCC00, 2 stars = #FFB300, 3 stars = #F28500, 4 stars = #E65100, 5 stars = #C7170A

This range of colors is strictly used in the star ratings so as draw attention to them, an important feature about what Yelp is meant to provide visitors.

When designing our new Yelp, we did not completely rely on red and green as contrasting colors because some users may have red-green color blindness. When green is used, it is assisted by a universal icon. For instance, business hours has a green clock near the times, but if a user is color blind, they can still understand through the icon that the section represents the open time. The "More Info" section uses green for checks and gray for the "X" icon. If the user is not color blind, then it is easier for them to identify which services, like "Wi-Fi," is available because it uses a universal icon, and green helps highlight the icon when compared to the gray icons near them. If the user is color blind, the icons express which services are available.

### Positive Highlighting and Focus

In order to draw the user's attention to the more important, general aspects of the site, we changed the way buttons looked on Yelp. We got rid of the three-dimensional look of the buttons, as we felt it seemed old-fashioned. The new buttons simply have shadowing to contrast them from the background, as if they are a layer on top of the main page. We also bolded, colored, and provided the users with a visual range of what the price range could be under the business name. Originally, it merely had the price in black, but by giving it the same look as how the price range looks under the advanced search option, it keeps it consistent and makes it quicker to understand what it conveyed.

#### **Users and Mental Models**

We choose to reduce clutter which makes a better mental model. Since users learn from mental experience, regular users know how to get to the information that they want even without looking at the site because they are familiar with it. We decided to keep the modified

yelp similar to the original version so regular users are not thrown off and quickly learn changes and new features that are provided.

### **Reducing Cognitive Load**

When using the original Yelp, it requires too much scrolling and too much clicking because of too much clutter. The website imposes a large cognitive load on the user. Our design choices have the purpose of lowering the cognitive load. For example, the page is shortened so it requires less scrolling, and we reduced the number of redundant links, links that send users to the same page, in the site. For some information which does not require a full page, we implemented a small pop-up window instead of a separate page so distractions are reduced for the user.

### Gamification, Simulations, Tutorials, Practice

The original Yelp does not have tutorials, but for our redesigned Yelp, we considered affordance. For instance, when the user hovers their mouse over the Thumbs Up or the Thumbs Down icon, it shows a box that says "Helpful" or "Not Helpful." When users hover their mouse over the dollar signs, they are given a legend where it shows the price range of every variation of the dollar sign. Hyperlinks are included in our redesign and they are blue and underlined so it is apparent to users that it is a link. We also implemented universal icons, like the dollar signs, the check marks, and the Thumbs Up and Thumbs Down, so it further assists users on their understanding of the application's features.

## **Processing of Visual Information**

The original Yelp implements an F-pattern to its application. Users scan the top part, where the red bar, map, and images are, and then go down to look at the reviews and then the sections at the right. For example, users would see the reviews first then the sections, like "Hours" and "More Business Info." When users want to quickly learn about a business, the information at the right side would be more helpful to read first than the reviews. Users would want to know about the business's general information first before reading reviews that are more specific. We redesigned Yelp so it maintains the F-shape, except the reviews are on the right and the sections are at the left. When scanning the page, users can learn general information about the businesses conveniently. We incorporated specific icons for payment methods and universal icons under "More Info" because they can help users understand information faster. If users have more questions about the business, they then look at the reviews, where some previous customers highlight their specific experiences. The F-shape in the new Yelp helps lead the user from immediate, more important information to information that is more specific and perhaps not as urgent to know.

#### **Application of Gestalt Laws**

The Gestalt Law of Similarity was used in the Payment Method section. Here, we grouped payments methods into three categories: Credit Cards, Digital, and Physical. In our case, credit cards like Visa, Discover, Mastercard, and American Express are group together because visual elements that share properties or attributes are perceived as belonging together. When we look at the first group of Credit Cards they all have the standard credit card look. Additionally, when we look at the Digital we see a pattern in "Android Pay" and "Apple Pay". Moreover, at the physical grouping we have cash or check. Since our our vision and brain will try to organise and sort these shapes, we are helping the user group based upon multiple attributes and create a more concise and clear mental model of the payment section.

Another Gestalt Law used is that of Proximity. It states that items located in close proximity will be perceived as a single entity or group. In our case the credit card, digital, and physical are three groups that portray a coherent presentation of like elements to form the required whole, that of payment methods.

### **User Aptitude and Competence**

In redesigning the Yelp interface, we had to consider the various types of users that would visit the site. In the current version, the problem with users becoming overwhelmed after viewing the site for a brief amount of time is a prevalent issue. This prevents them from being able to properly navigate the site and understand the various features offered to them. Thus, we tried to design Yelp in a way that increased the user's competence and would prompt them to want to visit it again. With the levels of competence in mind from Robinson's Model, we made the following changes:

### Unconscious Incompetence

In this stage, the user may not even recognize some of the features offered because they do not know how to use them. In the original design, there are parts of Yelp that users did not know existed. For example, the details section by the business name lists out statistics in terms of rating the business received over a period of time. However, since we have focused on the user's point of view and not the business owner, we have taken away this tab as it does not help the user in their goal of determining whether they will visit the establishment.

#### Conscious Incompetence

Here, the user would be able to recognize the deficiency they have in the particular skill and see the value in having that particular skill. New users on Yelp have a sense that they can learn more about the business by exploring the business page. They know that there are features that allow them to read reviews, look at photos, and find the location of it, thought it may not be blatantly obvious. Th users also encounter other features they might not know how to use. For instance, at the right side of the page, there are many sections that allow users to see what business are nearby them. Since there are many sections of similar information, users may not know how to discover other businesses, through Yelp's features, in an efficient way. Users would know how to learn more about a business but they would lack the skill of knowing which

information is the most relevant or helpful toward what they are searching. The original Yelp page has highlighted reviews that show keywords that have appeared frequently. However, those reviews are not the most important reviews if they are based on the appearance of a certain word. The other reviews can be sorted by Highest Rated, but reviews can be rated on how Useful, Funny, or Cool the review is, which is not the best way to rate a review. Users may not know that those buttons help sort the reviews and they also do not know which reviews are actually the most helpful.

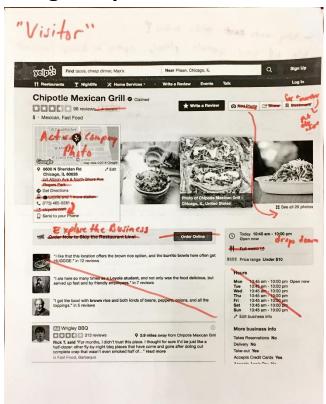
### **Unconscious Competence**

At this point, the one navigating the site would understand the skill, yet need to follow back through it to demonstrate it again. In navigating through the new site, Yelp users would be able better understand the navigations of the site and how to go back and forth between features. To do so, we made improvements in the mapping of the site by minimizing the amount of separate windows being opened. We created windows that open on the same page for buttons such as Write a Review so that you are kept on the business's page rather than being taken away to a whole separate window. Doing this would help with the association in the user's mind of writing the review and the particular business. Anything that doesn't involve making an account and directly has to do with the specific business that was looked up would open up a window on the business page. Buttons such as Sign Up/Sign In, Add Photo, or Bookmark would take the user to a separate window requesting them to sign up for an account or otherwise login.

#### Conscious Competence

Now the user would already have had enough practice that the skill becomes something they can do without actually thinking hard about it. This would apply to the elite registered users of Yelp that actively comment and participate in the Yelp community, giving valued feedback to other visitors on businesses. Providing the user with the advanced search option allows them to refine their search even further to find the perfect place for them. In the designing process of the UI, we tried to make the site more concise and clear for even the elites to be able to navigate it faster and with ease.

## **Design & Specification**





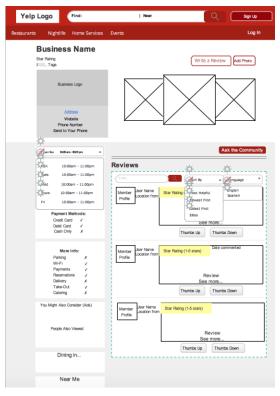


## **Planning**

When actively redesigning Yelp, we had one main goal: simplicity. We believed the original Yelp has many features that we could modify or remove. We met up numerous times a week, so we can discuss as a group what changes we should make. Rather than writing out all of Yelp's features, we printed out the business page of the Chipotle near Loyola University Chicago and used it as our example. It was much easier for us to write notes and cross out features on paper than to make a list of what to keep. It also visually helped us see the empty spaces we had left once we decided to remove some features. With the remaining parts, we made a list of all the clickable interactions to see where they would lead the user. We wanted to reduce the amount of times the user leaves the business page and which links leads to the same place. Once we finished the list, we were ready to reference it and the printed-out page to create our mockup.

#### Mockup

We used Justinmind for our mockup because we decided that it was not difficult to learn or use. We met up as a group to discuss placement. Since we crossed out some parts of the original Yelp, we had more room on the business page to move or add features. We discussed buttons, interactions, and icons. After our discussion, we individually worked on parts of the mockup in our own time.



#### Demo

Although we used Justinmind for our mockup, we switched to Proto.io because we later experienced difficulty accessing Justinmind. Proto.io was also not difficult to use or learn, and it allowed all our group members to make changes at the same time. We referenced our mockup

and divided it into three main parts: upper/top part, left sections and bottom part, and the reviews. We distributed roles for each of our members, but we all gave feedback and assistance whenever another group member needed help. Overall, we all made some contributions to each category. Once the parts were put together, we all reviewed each other's sections so we can spot any errors or inconsistencies.

## **Testing & Iterative Design**

In terms of user testing, we approached users using the Think Aloud Protocol in order to get their feedback on things such as the color schemes used, the new layout of the site, and the usage of the map. Majority of the people we asked preferred having the links to the map to take the user directly to Google maps rather than opening a larger window in the site to view the map. Though responses varied in terms of who preferred the address as a link to the map and who preferred the visual image as a link to the map. Thus, we decided to include both, being considerate of both texual and visual thinkers. Our testers thoroughly enjoyed having the reviews scrollable, as it did not take them into an endless feed like a platform such as Facebook. They felt more inclined to look at more reviews and it allowed them to maintain their focus on the business itself. People also felt the payment methods were more clear and noticeable than before, and found it to be an important helpful feature when quickly viewing a business to know what to bring there.

Below is the KLM-GOMS Model for Writing a Review function on the current version of the Yelp business page:

Action	KLM-GOMS Code	Time (In Seconds)
Move hand to mouse	H (hand to mouse)	0.40
Move mouse to "Write a Review" button	M + P (mental prep & touchpad to button)	1.20 + 1.10
Click on "Write a Review"	BB (double clicking on button)	0.20
Choose a rating of 4 stars	M + B (mental prep & click on stars)	1.20 + 0.20
	BB (double clicking on button/4 <sup>th</sup> star)	0.20
	H (hand from touchpad to keyboard)	0.40

Type "Great place!" in review	T(12) (typing "Great place!" characters)	12*0.01 (avg. typist speed)
Click on "Post Review"	H (hand from keyboard to mouse)	0.40
	M + P (mental prep & mouse to button)	1.20 + 1.10
	BB (double clicking on button)	0.20
TOTAL:		10.2

Below is the KLM-GOMS Model for Writing a Review function on the redesigned version of the Yelp business page:

Action	KLM-GOMS Code	Time (In Seconds)
Move hand to mouse	H (hand to mouse)	0.40
Move mouse to "Write a Review" button	M + P (mental prep & touchpad to button)	1.20 + 1.10
Click on "Write a Review"	BB (double clicking on button)	0.20
Choose a rating of 4 stars	M + B (mental prep & click on stars)	1.20 + 0.20
	BB (double clicking on button/4 <sup>th</sup> star)	0.20
	H (hand from touchpad to keyboard)	0.40
Type "Great place!" in review	T(12) (typing "Great place!" characters)	12*0.01 (avg. typist speed)
Click on "Post Review"	H (hand from keyboard to mouse)	0.40
	M + P (mental prep & mouse to button)	1.20 + 1.10
	BB (double clicking on button)	0.20

101AL.
--------

## **Restrictions**

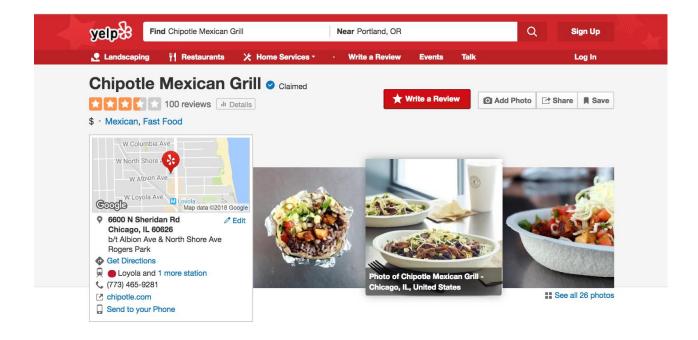
We were unable to use justinmind anymore because some of our group members were experiencing trouble with their installment of justinmind in their computers Proto.io did not have a drag and drop for every interaction we had in mind so we often had to build them from scratch

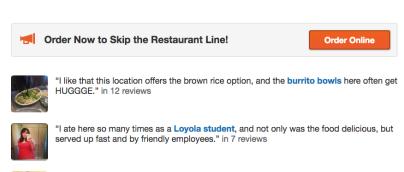
## **Conclusion**

From our beginning stages of redesigning Yelp, we had a simple goal in mind: make Yelp more simple. The original Yelp is designed in a way where it seems like more information, more features, and more interactions are better. After exploring the application, we decided that less information would greatly improve Yelp's interface. Although we removed and revised many parts of the application, we maintained the essence of Yelp. The application is about creating a community, and we believe our design would make users feel like they can be a part of it.

## **Overall Comparison**

The original Yelp is at the top, and the redesigned Yelp is below it.







"I get the bowl with brown rice and both kinds of beans, peppers, onions, and all the toppings," in 5 reviews





🛣 🛣 🛣 😭 316 reviews

**3.9 miles** away from Chipotle Mexican Grill

Rick T. said "For months, I didn't trust this place. I thought for sure it'd be just like a half-dozen other fly-by-night bbq places that have come and gone after doling out complete crap that wasn't even smoked half of..." read more in Fast Food, Barbeque



Ad Dog House Grill

• 6.5 miles away from Chipotle Mexican Grill

Savannah B. said "Was taking a walk around, didn't want to spend much money today so we stopped in at this little hot dog place. The ladies there were very nice. It was a very clean cozy place to grab a bite!" read more

in Burgers, Fast Food, Hot Dogs

### **Ask the Community**

Yelp users haven't asked any questions yet about Chipotle Mexican Grill.

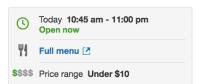
Ask a Question

#### Recommended Reviews for Chipotle Mexican Grill

Your trust is our top concern, so businesses can't pay to alter or remove their reviews. Learn more.

Search within the reviews

Sort by Yelp Sort ▼ Language English (100) ▼



#### **Hours**

10:45 am - 11:00 pm Mon 10:45 am - 11:00 pm Tue 10:45 am - 11:00 pm 10:45 am - 11:00 pm Wed Thu 10:45 am - 11:00 pm 10:45 am - 11:00 pm **Open now** 10:45 am - 11:00 pm Fri Sat

Sun

Edit business info

#### More business info

Takes Reservations No Delivery No

Take-out Yes

Accepts Credit Cards Yes

Accepts Apple Pay No

Good For Lunch, Dinner

Parking Street

Bike Parking Yes

Good for Kids Yes

Good for Groups Yes

Attire Casual

Ambience Casual

Noise Level Average

Alcohol Beer & Wine Only Outdoor Seating Yes

Wi-Fi No

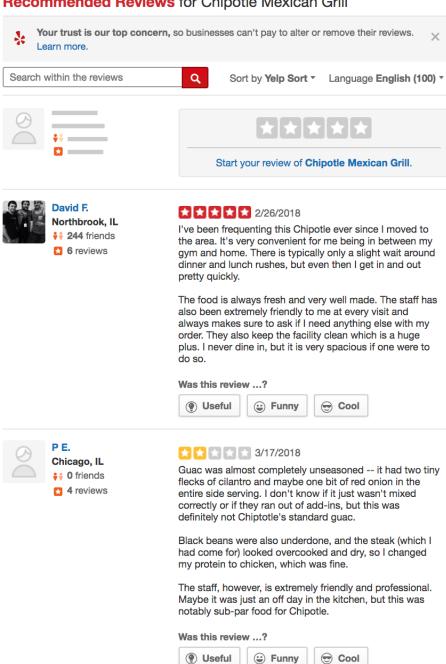
Has TV No

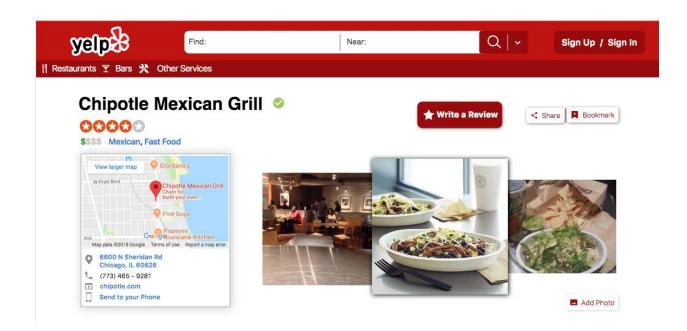
Caters Yes

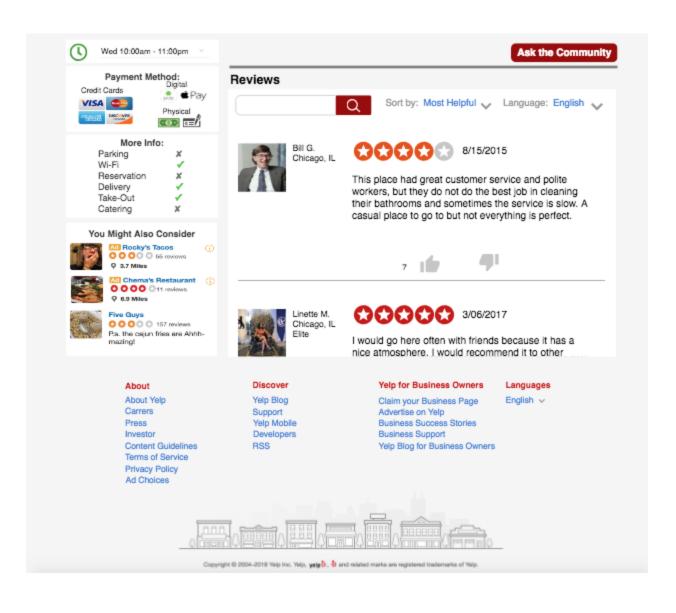
This business is a Yelp advertiser.



#### Recommended Reviews for Chipotle Mexican Grill







## **Specific Comparisons**

The original Yelp sections is at the left (it continues onto the following page) and the redesigned Yelp sections is at the right.

#### **Hours**

 Mon
 10:45 am - 11:00 pm

 Tue
 10:45 am - 11:00 pm

 Wed
 10:45 am - 11:00 pm

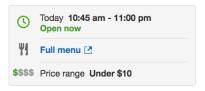
 Thu
 10:45 am - 11:00 pm

 Fri
 10:45 am - 11:00 pm

 Sat
 10:45 am - 11:00 pm

**Sun** 10:45 am - 11:00 pm

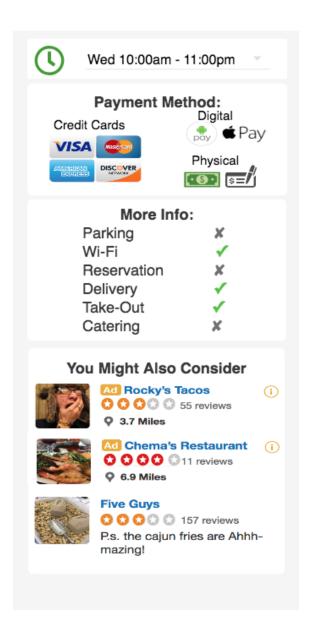
Edit business info



#### More business info

Takes Reservations No. Delivery No Take-out Yes Accepts Credit Cards Yes Accepts Apple Pay No Good For Lunch, Dinner Parking Street Bike Parking Yes Good for Kids Yes Good for Groups Yes Attire Casual Ambience Casual Noise Level Average Alcohol Beer & Wine Only Outdoor Seating Yes Wi-Fi No Has TV No

Caters Yes



#### Other places nearby

Find more Fast Food Restaurants near Chipotle Mexican Grill

Find more Mexican Restaurants near Chipotle Mexican Grill

#### **Browse nearby**

- Restaurants
- Y Nightlife
- Shopping
- ••• Show all

#### **Dining in Chicago**

- Q Search for reservations
- Book a Table in Chicago

#### **Best of Chicago**

Things to do in Chicago

#### **People found Chipotle Mexican** Grill by searching for...

Chipotle Restaurant Chicago

#### Near Me

Burritos Near Me

Fast Food Near Me

Mexican Restaurants Near Me

Take Out Near Me

#### You might also consider



Tropi Cuba Chicago's 🙃 Cuban Grill

113 reviews

Rosa N. said "I've passed this place a million times and I always say..." read more



Ad Brown Bag Seafood (i)



Mike H. said "I usually love this place. Today we had a rude cashier,..." read more

#### People also viewed



Star Grill 🔁 🔁 🔯 🔯 🖾 38 reviews

The first gyro I ever tried and the best yet!



Blaze Fast-Fire'd Pizza 

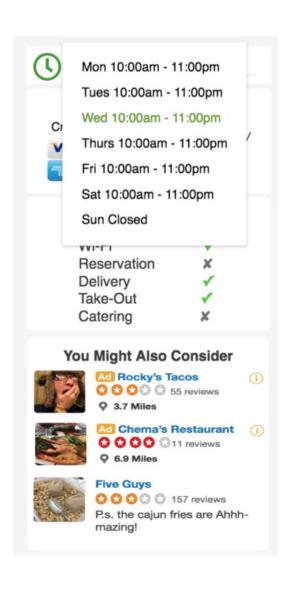
My personal favorites are either the barbeque chicken or the build your own pizza.



**Potbelly Sandwich Shop** 

It is right next to the Loyola campus so it will be filled with college students a lot of the time.

## Here is our side section with the drop-down business hours



# Added features to the redesigned Yelp

