SW Engineering CSC648/848 Fall 2015

EZ Restaurant

Team: 11

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History Table

Date	Revision Number	Comments
29 Sep 2015	Revision #1	Initial Draft
30 Sep 2015	Revision #2	Changes made according to instructor's suggestion

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1. Executive Summary

We are a small group of developers, creators of EZ Restaurant. EZ Restaurant is a restaurant hosting, booking and reservation website that serves four major groups: restaurant owners, users, hosts/hostesses and the site administrators. Our website shall help users easily search for restaurants by name, location or category. It shall let registered users make, change and cancel reservations, as well as leave reviews of restaurants they have dined in. For restaurant owners who are not able to build and maintain their own websites, our website shall provide a platform to promote consumer awareness, to advertise their restaurants by posting special events and to attract customers by allowing reservations in advance. For hosts/hostesses, our website shall let them see lists of reservations and customers' information. For site administrators our website shall let them easily find and edit information about restaurants and users in the database, as well as moderate inappropriate reviews. One special feature that separates EZ Restaurant from other reservation sites is our ability to let users search for restaurants by special events and occasions such as anniversary, business and live music. By finding matches in these categories, our website shall provide unique experiences for both users and restaurant owners. The website shall be intuitive, easy to use and operate by the users, restaurant owners and hosts/hostesses.

2. Use Cases

I. User

Dave needs to make a reservation for the anniversary dinner for tomorrow night. He really wants it to be perfect but he doesn't have enough time and skills to do a good research. So he visited EZ Restaurant. First, he searches the keyword "anniversary". From the search results, he checks the rating, review and the short description of the restaurant. After he finds the restaurant he likes, he goes to the restaurant page. On the restaurant page, Dave starts to check the photos, menu and the event notices of the restaurant to make sure there are no unexpected activities during the dinner. After that, he picks the date and the time and provides his personal information to make a reservation.

II. Restaurant owner

Scott recently opened the restaurant. However, he doesn't have any technical skill to build up a webpage for his restaurant, so he decides to register his restaurant at EZ Restaurant. He goes to the registration page and provides name, profile picture, description, location, menu, keywords, and extra photos of the restaurant. Then he decides the username and the password to make sure no other restaurant owners have access to the restaurant page once it's approved. After the submission, all he has to do is waiting for the administrator to review the registration form and approve.

III. Website administrator

Sally is the administrator of EZ Restaurant. She is a well-trained developer who has worked with this website for a few years. First, she logs in to the website, which directs her to the admin view. Then she finds out there are two new restaurants waiting for approval. She checks the contents of the registration form and approves them after she finds them appropriate. She also checks the bug reports from the user and contacts her tech team. Finally, she checks the **reviews** of the restaurant and deletes the reviews that she finds abusive.

IV. Host/Hostess

Sue is the hostess of the registered restaurant. First, she logs in to the website, which will direct her to the host view. She has a view of a calendar that shows upcoming reservations for the restaurant. She can also add the call-in or walk-in reservations through the web page. Finally, she reads the reviews that customers left. If she finds any negative and abusive reviews, she can always report and ask the administrator to review it.

3. Data Glossary

User: can access restaurant information and make reservations. No login/registration required.

Registered user: retains user privileges and gains extra usability features in exchange for providing personal information. Must login/register a user account to access extra features.

Registered user account: account for registered users. Stores the user's username, real name, contact information, and a short history of previous reservations. Accessing the history allows posting of reviews/ratings that will be shown on the restaurant's page.

Restaurant/owner: client for our website, either the owner of a restaurant or a representative of the restaurant. Responsible for registering the restaurant, providing all relevant info, and being the primary contact for any issues with tech support. Must create an "owner" account and use account to access registered user's comments and restaurant information changes.

Owner account: account for the owner/representative of a restaurant. Allows access to the restaurant's information. Changes to the data will be updates after the first submission and admin approval of the restaurant. Can also access all the other features of the website available to a registered user.

Host/Hostess: employee of a restaurant owner. Must register/login with an employee account linked to an owner account. Will use host view to manage current day's list of reservations.

Admin: can access all data in the database. Responsible for approving new restaurant registration, responding to owner complaints against users, and modifying list of registered users and owners/restaurants. Requires a master account.

Master account: account that allows full access to all aspects of the website and the ability to modify data in the database and the website itself. Only given to admins.

Reservation: securing a specific time slot at a selected restaurant for a number of people. Can be made using the website or by calling into the restaurant and having the host manually entering into the list. Can only be canceled by calling into the hostess for manual removal or re entering information at website. Registered users have a streamlined interface due to information having been stored. Requires a calendar date, a start time, name, and contact information.

Extra usability features: these include being able to make/change/cancel reservations without having to re enter information, post ratings/reviews/comments for the restaurants the registered user has visited, and gaining advance notice of upcoming special events from restaurants.

Special events: planned occasions restaurant's can add to their listings that can be advertised to registered users as promotions.

Reviews: after a confirmed visit, registered users can write about their experience for public viewing. Subject to moderation from admin and responses by the restaurant.

Host view: employee screen that lists all the day's reservations as well as provisions for adding/modifying/deleting reservations.

Owner/Restaurant view: owner's screen that allows owner to add or modify the restaurant's name, description, location, profile picture, photos, videos, reservation time slots, create employee accounts, as well as view and respond to registered user reviews.

Registered user view: registered user screen that allows registered users to access their extra usability features as well as opt out of any options they do not like (notifications, upcoming event reminders, etc).

Keywords: details about the restaurant that will be used to categorize which restaurants are returned in a search. Examples include type of cuisine, a propensity toward a type of event (anniversary, birthday, concert, etc) and the like.

Search result: a list of restaurants in our database that closely match either the keywords or are nearby and offer similar categories as alternatives. Includes a short description from the owner and aggregated rating from registered users.

Restaurant page: specific restaurant page where the information the owner inputted from his account page is displayed for the user. Includes the menu, photos and videos, a form to make a reservation, a visible way to "make a reservation", reviews from registered users about their experiences and navigation to the restaurant. If there are any upcoming events the restaurant wants to advertise, it will be displayed in the events notice.

Events notice: an optional bulletin a restaurant can add to their page to advertise their restaurant's upcoming occasions i.e. live music appearance, comedy, Valentine's Day, holidays, etc

Username: each account made on the website must have a unique name associated with it for identification purposes.

Report: a general form for the users, owners and his employees can use to bring the admin's attention to bugs, technical problems, or reviews that need moderation.

4. Functional specifications

All users shall be able to:

1. Search for restaurants by their name, location, category, and special events;
2. Click and see detailed information on the restaurant of interest, including its photos, address, phone number, hours of operation, other customers' reviews, time availability and upcoming special events;
3. Register on the website with minimal required personal information, including name, phone number and email address;
4. Clearly see the website's privacy policy during registration;
5. Report to the administrator if there are any bugs.

In addition, registered users shall be able to:

6. Log into their accounts to make/change/cancel reservations;
7. Post ratings and reviews of restaurants that she/he has dined in;
8. Change personal contact information (phone number, email and address if available);

Restaurant owners shall be able to:

9. Register for service from the website by providing required information, including business name, address, phone number, business hours, restaurant category and a minimum set of photos;
10. Upload additional information such as menus and video files;
11. Opt for reservation service from the website by providing time and capacity availability;
12. Edit the above information after registration;
13. See customers' ratings and reviews, respond to them and report inappropriate reviews to site administrator;

Hostess/Host shall be able to:

14. Log into/out of the restaurant's host view;
15. See display of upcoming reservations, including customers' names, reservation times and special instructions;
16. Check in reserved customers;
17. Add walk-in customers to waiting list if the restaurant is full, and see an estimate of waiting time;
18. See customers' ratings and reviews, report inappropriate reviews to site administrator.

Site Administrators shall be able to:

19. Log into the site administrator view;
20. See pending restaurant registration requests and approve/deny them;
21. See complete list of registered restaurants and users and search through different fields;
22. See restaurant owner's report of inappropriate reviews and arbitrate;
23. Delete information if necessary, such as users and restaurants, which requires the master key.

5. Non-Functional Specifications

1. The website's pages shall load fast (< 5 seconds) and be responsive with high-speed internet connection common in US households;
2. The website shall host around 200 restaurants and experience no significant performance degradation with up to 50 concurrent users;
3. Any personal/sensitive information shall be displayed in https pages;
4. Application be viewable in a standard desktop/laptop/mobile browsers, and shall render correctly on the two latest versions of all major browsers: Mozilla, Safari, Chrome and IE;
5. Application shall be very easy to use and intuitive. Except for the administrator view, no prior training shall be required to use the website;
6. Google analytics shall be added for major site functions.

6. Competitive Analysis:

Feature	OpenTable	Table8	Bookatable	Our Future Product
Bulletin	-	-	-	+
Search by Best Rated	+	-	-	+
Search by Type of Food	+	-	+	+
Search by Occasion	-	-	-	++
Menu	+	-	-	+
Reviews	+	+	+	++

+ feature exists; ++ superior; - does not exist

Our product shall offer a wide variety of search options for the user. We will list restaurants that are ideal for certain occasions such as an anniversary dinner. All three of our competitors do not have this option for their users. We will also allow the user to search for restaurants by best rated. Two out of the three of our competitors do not have this option for their users. We will also have a PDF of the menu for each restaurant. Only one of our competitors gives the user the option to view the menu of a certain restaurant. And we will have a bulletin for each restaurant. This will contain upcoming events and information such as live music for a certain restaurant. None of our competitors have this feature for their users.

7. System Architecture:

Item	Details
Architecture	Three-Tier Architecture using LAMP stack **Server:** Type: Virtual Ubuntu Server 14.01.1 LTS x64 Location: http://sfsuswe.com. Running in the AWS (Amazon Web Services) cloud. **Shell Account:** URL: sfsuswe.com Access method: SSH via Port 22 **Database:** type: MySQL with version: 5.5.44-0ubuntu0.12.04.1-log Web Access: http://sfsuswe.com/phpmyadmin Database Name: student_f15g11 **Web page**: http://sfsuswe.com/~f15g11
Supported Browsers	Standard desktop/laptop/mobile browsers Google Chrome v47.0.x and v46.0.x Mozilla Firefox 41.0 and 40.0.x Internet Explorer 11 and 10 Safari MAC OS: 8.0.8 and Windows:5.1.7
Version Control	EC2-hosted SVN repository URL:http://sfsuswe.com/svn/f15g11 Access method: http or svn+ssh
Tools	NetBeans 8.0.2 IDE with PHP and SVN Plug-in
Frameworks	Twitter Bootstrap v3.3.5 jQuery v2.1.4
Languages	HTML5 CSS3 JavaScript 1.8 PHP 5.6
Analytics	Google Analytics

8. Team

Pooja Kanchan: Team Lead, SVN manager

Adrian Lee: Technical lead, Database manager

Sabreen Michael: Documentation lead

SeungKeun Kim: Front end lead

Haichuan Duan: Backend lead

Michael Lee: QA lead, Performance analyst