Problem Statement
CookChain

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1 Version Information

Version Information

Version	Date	Comments
1.0	01/15/2016	Initial Draft

2 Executive Summary

This document is the problem statement for Rose-Hulman Institute of Technology CSSE 333 final project CookChain. This problem statement describes the recipe and cooking problem that our project will solve. It has been created in conjunction with an Entity Relationship (ER) diagram and Relational Schema. The introduction covers the problem our project will solve. This document also contains a high level problem summary, a detailed problem statement, and some information about the stakeholders. The detailed problem statement covers the function, form, economy and time side of our project.

3 Introduction

This document describes project CookChain, following by entity-relationship diagram, relational schema, data analyst, milestone reports and final presentation. The entity-relationship diagram, relational schema and data analysis will illustrate how data is related within the CookChain database. Milestone reports detail the periodic progress of our project's development.

Our group uses the relational schema to describe the database based upon the entity-relationship diagram. Primary and foreign key constraints are included inside the relational schema.

During the final presentation, our group will release the beta version web app for IPhone, Android and computer. Users may test and use the web app after the installation. We will demonstrate the web app and talk about our team's development process.

4 Main Content

4.1 High Level Problem Summary

4.1.1 Elevator statement

Everyone has experienced the intense hunger that comes after a long day of work or school, only to stare into the refrigerator having no idea what to cook with the food they have on hand. Currently, no website or app satisfactorily allows such potential users to search for optimal recipes based on ingredients. CookChain is designed to help users find recipes based on their personal preference and ingredients already in their pantry.

4.1.2 Primary Success Criteria

Our primary goal is to develop a web app CookChain that allows users to search recipes based on ingredients. The project's success depends upon having a usable database and login system.

4.1.3 Scope

Within Scope:
1. A functional web app that allows users to creates accounts.
2. Search based on ingredients.
3. Search filter.

Outside Scope:
1. Grocery and ingredients analysis.
2. Grocery delivery.
3. Social Media Sharing.

4.2 Detailed Problem Statement

When deciding to cook a meal, many people face the problem of not knowing what dish to cook or what recipe suits the ingredients on hand. CookChain aims to fix this through a simple and easy to use web interface. Users will be able to log on, input their available ingredients and view a list of possible recipes to make. The users will have the option of either creating an account to save their information for future CookChain use or using the site without saving data. Further implementations will include filtering options that will allow users to tailor the results to fit their preferences, from what style of dish is most appetizing to calorie count.

4.2.1 Function

Function prioritizes is sort from to least from top to bottom.

Function

Function Name:	Description
Search By Ingredients	User inputs and saves their currently available ingredients and selects the search button then a list of possible recipes populate the screen.
User Account Features (Login / Logout / etc.)	Users can log into the system so that they can keep track of their own specific information (e.g. preference, their currently available ingredients, etc.). And the information will stay when logging out and be able to be updated when they login back again.
Account creation	Users can create accounts on the site.
Recipe (Search) Filtering	Users can set different filter when they search for different recipes. Users can search based on amount of time that requires for cooking this meal. The amount of money that requires for cooking this recipe can also be a filter. Based on different demand for calories and nutrition, CookChain can give different result. Users can filter out recipes depending on different allergy they have.
Social Media Sharing	User use the built-in functionality to take photo of the meal that s/he makes, which in turn can be shared on social media sites like Facebook, Instagram, Twitter, and so on.
Available Ingredients saved	Users who have an account will have their list of available ingredients saved when entered

4.2.2 Form

Availability:
1.Web based, work for both IPhone and Andriod platfrom.
2. Can be accessed through anywhere with internet connection.
Usability:
1.Fast response times and lookup times
2. Well defined and friendly user interface.
3. Useful help text and error messages.
Security:
Security of database is extremely important- our system will support:
1.Username, password cross check.
2.Encrypt login.
3.Encrypt account data store.
Maintainability:

1.System must be extremely easy to maintain.
2.Need store all the recipes data and ingredients data.
3.Reliable database and system reboot.

4.2.3 Economy

CookChain is aiming for the big data marktet due to huge user data about grocery lists, ingreidents list and perosonal cooking/eating preference. Most supermarkets will love to buy all the data from CookChain. For future grocery shopping and deliver fucntion, once users see how much convenience the system offers, there will be a very high demand for such a service for both users and supermarkets.

4.2.4 Time

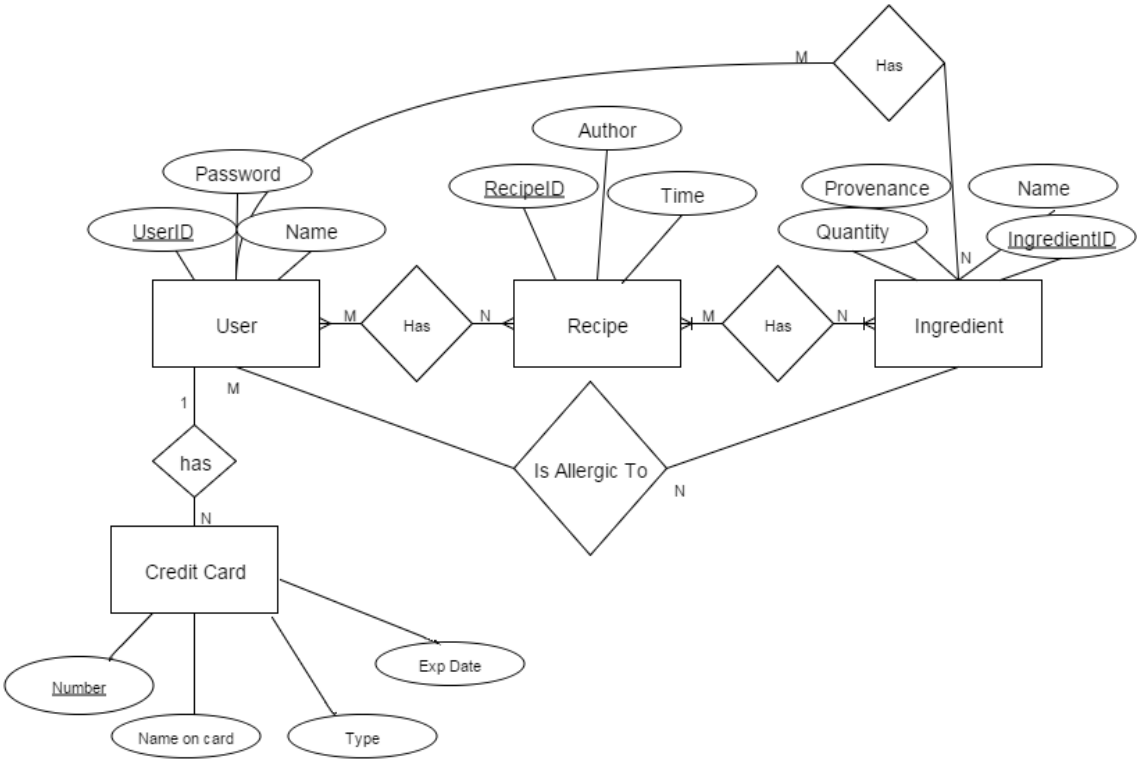
Past:
People tend to use recipes books in the past to figure out what they want to cook and what ingredients they want. But this process costs a lot of time and energy.
Current:
There are a lot of recipes websites and books at the market. However, most of them are focused on recipes instead of ingredients. So it's really hard to find out what recipes can be made based on ingredients users have. CookChain web app is created to solve this problem by letting users to input ingredients then provide recipes list based on input ingredients.
Future:
CookChain can develop into a real software company that works closely with big supermarkets such as Walmart, Kroger, Meijer, etc. CookChain web app will keep track of the personal ingreidents list and grocery delivery when it's needed.

4.3 Key Stakeholders

Key Stakeholders

Stakeholder Name:	Description
Young Adults	Young Adults are end users for the website. They would use the CookChain website to find a recipe for their desired food assisting them to cook by themselves.
Families	Families use the website to find recipes for some new food meeting their nutrition facts with the ingredients they have.
Big Data Brokers	Big Data Brokers invest money in CookChain to get the information about users' data, such as ingredients usage and food preferences.
Project Manager	Project Manager keeps track of the project progress, assigns work to project developers, and gives advice to the project developers.
Professor	Professors invest time and provide training for project developers.

5 ER Diagram



References