**CMPS411**

**Software Requirements Specification (SRS) Template**

**Social Foodies**

**Software Requirements Specification**

**Document**

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# 1. Introduction

## 1.1 Purpose

This SRS document contains a detailing of the structure and purpose of the CS 411 group project. Its intended readers should include, but not be limited to the professors involved in organizing the course.

## 1.2 Scope

The scope of this course includes production of one software project completed under the name YouChew. The product will enable users to find, view and leave feedback for food venues through the social network site, facebook. The goal of the project is to recreate the complexity of well known food reviewing sites on a small scale with the aim of gaining knowledge and proficiency of the enabling technologies.

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# 2. The Overall Description

## 2.1 Product Perspective

## SiteMap.png

The product can be best summarized with the preceeding document that helps show the overall structure of the product from a high level. The diagram is not a functional requirement specification, but is intended to present the original intention of the project.

### 2.1.1 System Interfaces

### The project does rely on one external system interface, The FourSquare API, for its data needs. Sufficent document on the specifics in how this interfact is used is left within the project. Queries are also made to the Facebook and MapBox API as well.

### 2.1.2 Interfaces

The project's interface is presented through the website on which it is hosted. Users can interact with the site using a browser and traveling to the correct url. Navigation and functionality are clearly visible throughout the site. Future updates might include web controls that enable users to utilize ease of access tools.

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### 2.1.3 Hardware Interfaces

The project may run on a server provided by 1and1 hosting technologies. The hardware of the server includes a 2.1Ghz Quad-Core AMD processor, 4 GB RAM, 750GB of hard disk storage, and software RAID 1 running on a standard Windows 2008 Server operating system.

### 2.1.4 Software Interfaces

Our project connects to the FourSquare API to retrieve venue information. We specifically target the Venues Platform for data access. When accessing the platform, API calls are made to a userless endpoint. OAuth is used to verify calls made by requiring the query include the application's client id and client secret it which are provided by FourSquare upon application registration. Various endpoints exist within the Venues platform and many accept numerous optional parameters for greater control in creating specific queries. More information about the API and documentation can be found at developer.foursquare.com.

The project connects to the facebook API for user interaction with venues. The site asks that the user be logged into a facebook account to leave input for venues. Specific documentation can be found at developers.facebook.com.

The MapBox API is also utilized by our project for displaying venues on maps. Documentation can be found at mapbox.com/developers/api.

### 2.1.5 Communications Interfaces

Our project is deployed in the .NET framework specifically using ASP.NET MVC 4 for project structure. The .NET Framework 4.0+ and IIs server are required within the operating environment.

### 2.1.6 Memory Constraints

No specific testing has been performed on the project, however the environment should have at least 2 GB of RAM for optimal use.

## 2.2 Product Functions

The site requires internet access to perform HTML request queries to an external APIs.

## 2.3 User Characteristics

The intended user base of this project includes anyone with access to the internet. Our site is designed to provide users with fast results to queries about food venues around their area. Viewing and search can be done without an account, but leaving feedback requires logging in with facebook.

## 3. Specific Requirements

**3.1 External Interfaces**

YouChew incorporates a few different external interfaces that provide its overall functionality. The FourSquare API hosts the data that we pull for food venues. Calls to the facebook API are made for user validation and external features. MapBox API is used to generate a map and populate it with food venue information gotten from FourSquare. We also use the HTML geolocator to acquire information about the user's location.

## 3.3 Performance Requirements

Performance of the project should not pose a problem for its ability to function. Given the project has continual access to the external resources it requires, most of the time taken by the project is depedant on user interaction. Web calls made by the project take very little time as it exchanges http request queries for JSON string encoded results.

## 3.4 Logical Database Requirements

Project does require access to a database instance on startup. Once the project makes a connection to an instance of MS-SQL Express, database access is no longer needed. The project makes no real use of the database since data is pulled and handled from an external source.

## 3.5 Design Constraints

Possible constraints definitely include operating environment. The project is meant for a windows environment with the .NET framework and related tools installed. It also requires an internet connection. Hardware provisioned should include at least 2 GBs of installed system RAM for optimal performance.

### 3.5.1 Standards Compliance

The only possible compliance the project is obligated to observe is for fair use of the FourSquare API. Under the conditions listed for fair use, our project complies.

### 3.6.0 Availability

The system does not need to be constantly run in order to maintain itself. The project can be stopped and resumed without causing a loss of data or performance. As mentioned before, when running, the project does require internet access to function.

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### 3.6.1 Security

The project is hosted on a public, open source repository provided by GitHub, so security is not a major concern. The code itself contains no sensitive information regarding users. Program specific keys for use with FourSquare are stored within the code, but given the case where another application were to use its credentials with excess use, FourSquare would notify the registered application team and temporarily block requests until the issue was resolved.

### 3.6.4 Maintainability

The only portion of the system that would not be considered easily extensible would be the method in which external interfaces are used. New objects could be introduced, the view changed, some logic modified, and given the external API handling is left the same, the project could continue to run optimally.

### 3.6.5 Portability

YouChew can easily be ported over to an external server. As previously stated, however, the server must be running a windows environment with .NET capable components.

## 3.7 Organizing the Specific Requirements

Specific requirements regarding the project are grouped into the following. The project should reside in a web server to perform under optimal hardware settings. The project's user interface should be easy to understand and intuitively navigable. The project's purpose is to provide users with location specific data to perform searches on food venues. The project should provide valid data about said venues and also provide a way for users to comment on them. The project should also have functionality regarding displaying user data and keeping track of users.

### 3.7.3 Objects

Several objects exist to represent and encapsulate the values used in our project. A standard user object exists to contain user specific data, but is it not currently used by the project. Food venues are represented with a restaurant class that contains numerous pieces of information including both data relevant to the restaurant and user input. A service exists for use by the project that creates Http requests and returns JSON encoded data that is formated and displayed. A couple of objects exist, but are also unused.

### 3.7.4 Feature

The main purpose of YouChew would also be the feature. The site requires the user given input for a location or search parameters. The site then uses this information to generate a query to an external interface. The interface returns information which is then rendered onto the site.

# Change Management Process

Our team uses Git for source control and revision via an open source repository provided by GitHub. Work loads are provisioned during meetings at which members agree on tasks distribution that best matches the skill set possessed. The project is freely available for download from the same site. Requirements are ultimately completely flexible since the team is essentially its own client. Changes that do occur are informally noted through email, phone, or other electronic messenger service.

# Document Approvals

Approval of this document will go to Prof. Ghassan Alkadi.