Augmented Reality Food Menu

Version <2.0>

Revision History

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| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 31/10/17 | 1.0 | Add detailed information for all of the sections | Phu-Khoa Nguyen, Xuan-Vinh Nguyen |
| 19/11/2017 | 2.0 | Fixed misrepresented sections | Phu-Khoa Nguyen, Xuan-Vinh Nguyen |
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# Introduction

The purpose of this document is to collect, analyze and define high-level needs and features of "Augmented Reality Food Menu". It focuses on the capabilities needed by the stakeholders, and the target users, and why these needs exist. The details of how the "Augmented Reality Food Menu" fulfils these needs are detailed in the use-case and supplementary specifications.

# Positioning

## Problem Statement

|  |  |
| --- | --- |
| The problem of | **Boring ordinary 2D menu** |
| affects | Customers and restaurants |
| the impact of which is | Customers cannot imagine what the food really looks like and become unsatisfied as the food is not like expected. Restaurants lose customers |
| a successful solution would be | Gain more interest of customer thereby attracting more customers. Customers make the right choice of what they want |

## Product Position Statement

|  |  |
| --- | --- |
| For | Customers and restaurants |
| Who | want to make better food choices and want to attract more customers respectively |
| The AR food menu | is a mobile application on Android operating system |
| That | enables customers to see realistic virtual 3D models of dishes with detailed information about the ingredients included and how the plate is presented. In addition, there are also visualized ratings and reviews for each dish that customers can take into account when making decision. In addition, users can order their dishes directly using the application and the restaurant staffs can checkout as well as modify/view orders |
| Unlike | Ordinary menus which only contain 2D images and plain text |
| Our product | Provide 3D model of a dish that can be interacted with users. |

# Stakeholder and User Descriptions

## Stakeholder Summary

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| Team leader  (Khac-Tuan Nguyen) | Primary for managing the whole software process | Hold meetings  Assign tasks  Decide priorities  Monitor team members to write reports and documents |
| Designer (Bao-An Nguyen Tang) | Primary for the software architecture | Design UI, software architecture |
| Developer (Bao-An Nguyen Tang, Phu-Khoa Nguyen, Khac-Tuan Nguyen, Xuan-Vinh Nguyen) | Primary for implementing the software | Implement features Responsible for problem solving and algorithms |
| Customers and restaurant staffs | Primary for using and giving feedback/ratings for the application | Use application Give feedbacks about the using experience Report errors |
| TA  (Mr. Tuan-Thanh Ho, Mr. Huy Nguyen) | Primary for providing guidance and reviews/giving advices for the whole process | Give instructions Give advices Review the documents and the whole process |

## User Summary

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Description** | **Responsibilities** | **Stakeholder** |
| Customers of restaurants | Primary end users | View 3D models of food Order food Customize food Give ratings/reviews for specific dishes View orders | Themselves |
| Restaurant staffs | End users | View orders Check orders Modify orders | Themselves |

## User Environment

Only are 3 users (a customer, a waiter or waitress in charge, and a chef) at a time involves in a task cycle. This could not be changed.

The amount of time involved for a task cycle depends on how long one user can give the his/her food decision and when the customers ask for order checkouts.

There are some unique environmental constraints: mobile, connecting to the Internet, have a target object (in this case, it is a menu provided by the restaurant staff) to view 3D models of dishes.

The application is an Android-based. iOS version could be developed in the future.

Users may be asked to login to Facebook to give reviews and ratings.

## Summary of Key Stakeholder or User Needs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Need** | **Priority** | **Concerns** | **Current Solution** | **Proposed Solutions** | |
| Clear, beautiful, details 3D models | Medium | Customers | Use free 3D models from Internet | | Provide sufficient lighting when taking photos which are used to create 3D models |
| Clear UI/UX | High | All stakeholders | Design clear UI/UX | |  |

## Alternatives and Competition

There is an application named "Kabaq" that enables users to see virtual 3D food on their table in-restaurant and when ordering online. This application is quite popular in the community and is widely used from restaurants to in-airplanes. Their weakness is that they do not provide customers with any ratings or reviews so that the customers can not have the best purchase decision.

# Product Features

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Feature | Description | Priority |
| 1 | Visualize food | Provide users with interactive virtual 3D models | High |
| 2 | Order food | The users can order the dishes they want and give details as well as special requirements (if any) | High |
| 3 | Checkout order | The users (restaurant staffs) can easily checkout or modify the orders of customers | High |
| 4 | Customize food | The users can customize their dishes as they desire | High |
| 5 | View order | The users can view the order | High |
| 6 | Login | The users can easily login use Facebook account | Medium |
| 7 | Share | The users can easily share the meal on Facebook if they have already logged in | Medium |
| 8 | Give/See ratings and reviews | The users can easily give/see ratings and reviews of specific dishes if they have already logged in | Medium |

# Non-Functional Requirements

* Easy to use: there will be no more than 3 Unity scenes for a function
* Maintainable: divide main functions into corresponding Unity scenes
* There should only exists unrecognized delays when users interact with the models: there exists 1-second delay when scanning picture for displaying 3D models
* Fast response time for every activity: no more than 10s synchronization process between Chef and Waiter/Waitress session