**Supplementary specification**

**Legal Issues**

The use of open source components is highly recommended if their licensing restrictions can be resolved to allow resale of products that may include open source software. All intellectual rights of the system are owned by the University of The Witwatersrand.

**Information in Domain of Interest**

**Order**

* The order will only be produced once it has been paid for. The order status must have changed to “paid” in order for production of the order to commence. An orders must also have a customer ID and number attached to it else they cannot be paid for.
* The system doesn’t accept new orders after Wednesday for the current week. But orders can be placed in advance for the following weeks or months.

**Pricing**

* Pricing of a product cannot be less than the cost of making the product.
* The sale price of the product will be the cost of making that product with a mark-up added.
* The markup can be specified as a percentage or a fixed price.

**Cost of inventory items**

* The cost of an inventory item will consist of the latest prices of that item (raw ingredient). When there is a change in price of the inventory item, the latest prices and the quantity bought will be taken into account. The cost price of the item will be weighted average of the previous price with the current stock on hand and the latest prices of that item with the quantity bought.

**Reports**

1. **Weekly Order profitability report by delivery date:**

This report shows profitability from currently placed orders, grouped according to delivery date. The doughnut drills down to list all the orders. The administrator then can select and deselect orders to see the effect on profit. The administrator can drill down even further to see this effect in greater detail.

1. **Product Popularity report:**

This report shows products that have had the most sales throughout different seasons.

In the existing business process our client procures stock in bulk ahead of time, but this procurement is done based on instinct. This report can help her get an idea of what products might be in high demand during a particular season and therefore buy stock accordingly for those products.

1. **Order tracking report:**

This report shows orders with different statuses for different actions to be performed or reminders to be sent.

One of the problems the client was mixing up orders. For each day, the report shows all orders that need to be delivered or collected on that day with the corresponding addresses. At delivery and collection of each order, she selects that the order has been collected/delivered. Then at the end of the day, she sees all the orders that have not been collected/delivered. She then sends a reminder/call to the customer or delivers the order.

**Risk List and Management Plan**

1. **Prank orders**

This will be managed by assigning a reference number to client when they place an order. The client will have to make a payment before the client commences production of the product. The client will be informed when the status of the particular reference number changes to paid.

1. **System crash**

Our client will back up system records with manual records and operate as she has done in the past, only now her guesses will much more educated.

1. **Data corruption**

The system will have a function to be reset to a time just before the data corruption occurred. Data recovery can be used to retrieve the corrupted data from a second storage

1. **Unprotected data**

The database architecture will be designed so that all data will belong to an appropriate dataset.

1. **Traffic overload**

A test will be conducted at our client’s busiest business periods. We will ensure that the server can handle the peak traffic experienced on her webpage.

**References**

[1] Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development, Third Edition, Craig Larman, October 20, 2004

[2] FOOD SAFETY IN BAKERY, <http://www.shumaonline.com/Foodsafetyandhygiene.html> , Last Accessed March 2017

[3] Business Intent, <http://www.sacb.co.za/> last accessed March 2017

**Quality attributes**

**Functional**

* System management of the following use cases:

For Customer:

* + Create Account
  + Create Order
  + Create Reservation
  + Create delivery request

For Restaurant Manager:

* + Manage Stock Inventory
  + Create Recipe/Menu planning
  + Manage Reservations
  + Create Dish/Food costs
  + Manage Customer database
  + Track delivery
  + Manage Accounting/Financial Administration
  + Manage Waiters’/Waitresses’ duties, off-days, leaves, etc.
  + Create Reports – Analytics
  + Create Special events

For System Administrator:

* + Create backup

**Reliability**

**Recoverability**

Provide a function that allows you to restore your last activity in power failure or loss of an internet connection.

**Performance**

The system should be able to handle multiple user requests simultaneously with ease. Send Email notifications fast in less than 60s. Order status is in real time. One bottleneck is a poor internet connection of the user.

**Supportability**

**Adaptability**

Different customers of the Bakery Management System have unique business rules and processing needs while executing an order. Therefore at several defined points in the scenario (for example individual orders and wholesale caters orders have different flow paths) various pluggable business rules will be enabled.

**Configurability**

Different customers desire varying configurations for their Bakey Management System (Ordering), such as filtering certain products to be displayed on their catalog ( for example filtering halal products to be displayed on the catalog). The system will be somewhat configurable to reflect these these needs. Additional analysis is required in this area to discover the areas and degree of flexibility and the effort to achieve it.

Capability:

It must be able to maintain all the data of the number of the customers and are registered on the Gourmet Management System, as well as maintain the functionality/duties that the manager has to maintain and create.

**Security**

System will generate login credentials and users will be able to generate their own encrypted passwords.

**Usability**

The Gourmet Management System will consist of HCI conventional interfaces that incorporate efficiency, quick responsiveness and accuracy for the three main stakeholders.

**Reliability**

* 24/7 Online Support
* A dedicated server to reduce system failure
* Accounts can be retrieved from archive
* Password reset and recoverability
* Consistent interface

**Performance**

* Response time to user interaction must be within a normal time (8 seconds)
* Low utilization of computer re
* 24hours x 7 days operation.

**Supportability**

* 24/7 Online support
* Tool tips to ensure easier navigation

**Constraints**

**Implementation**

* Cost: The amount of money that it takes to produce said product (both how much the materials to create the product cost as well as the money it takes to fuel the production)
* Quality: The level of excellence of the product—whether it meets or exceeds expectations/specifications
* Schedule: The time necessary to create the product added with the amount of time it will take to deliver it
* Change management: How users adapt to the system
* Security & Management f

**Hardware**

* Hardware limitations (timing requirements, memory requirements)
* Hardware needs to be in conjunction with the browser software to be used

**Software**

* The product must be browser and platform independent and compatible with Laptops, tablets, mobile-phones etc.

**Legal issues**

* Exclusive patent rights of the system if the scholarship
* All intellectual rights to the system and ownership of the source code will reside with the University of Witwatersrand.
* Sharing

**Interfaces**

**Hardware Interfaces**

* Memory requires hard drives with sufficient space
* Gourmet Restaurant servers to host the data
* Internet ISP dedicated modem

**Software Interfaces**

Front end services for the system

* Nodejs
* Reactjs
* Ionicjs
* Electronjs
* scss/css3
* HTML5

Back end services for the system

* Php
* Mysql
* mongoDB
* graphQL
* Apache

Web Server Supporting tools for the system

* Google Maps API (for Maps and location)
* Facebook/twitter/Instagram APIs (for social media

**Business (Domain) Rules**

**Application Specific**

* A customer must be registered to have access to the system
* A customer may have many orders but orders may only be made by one signed-in customer.
* A manager must have registered to have access to the system
* A manager must own the Gourmet Restaurant to qualify to for the system manager role
* To deliver an order, payment must be successful from the customer

To place online order, customer must use Visa or Mastercard payment option All orders that are placed

on products with the Availability status of “available” do not need confirmation by the manager

* To accept an order, customer must not be barred from the website/restaurant.

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**Information in Domains of Interest**

* Business Automation – Focusing on moving the traditional restaurant management to an automated process that will ensure less work for managers.
* Business Success – Focusing on increasing profits of the business through creating an easier platform for customers to place orders from various locations.
* Business Strategy – Focusing on improving the strategy of the business through collecting and analysing trends to signal weaknesses and strengths.

**Risk List and Management Plan**

|  |  |
| --- | --- |
| **Risks** | **Mitigation Plan** |
| Scope may be too large and may need some refining | We will consult with our client as frequently as possible during each iteration for us to reduce and refine our scope to the best of our ability with help from our lecturer. |
| Lack of testing time due to unforeseen circumstances | Regular maintenance checks of the system and focus groups to test the software to monitor unforeseen circumstances. |
| Failure to satisfy the system requirements of the company | When consulting with our client we will give them feedback on how far we have reached in every iteration and let the client know in due time of any possible failures we may encounter |
| Security | All users of the system sign will sign in using personal credentials. |