Institute of Technology Australia

Business Requirements Document

e-Commerce Website for

Bazaar Ceramics.

**Prepared by:** Gonzalo Soto

|  |  |  |  |
| --- | --- | --- | --- |
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# Introduction

## Summary

Bazaar Ceramics is a producer of ceramics housewares. Their unique art pieces are outgrowing the boundaries of its local market.

Its presence on Adelaide has consolidated over the past years. The positive results of their efforts to increase their reach, created the opportunities to open their business in the broader national and international market.

Current system largely paper based and with minimal automation, has proved to be costly and inadequate to fulfil the promotion, sales and administration required for this task, leading the client to consider the development of an e-Commerce solution suitable to conduct the business.

The purpose of this document is to perform and record an analysis of Bazaar Ceramic’s business requirements, that will contribute in defining the features and functionalities to be integrated within the web application. Such as:

* Catalogue
* Shopping cart
* Payment gateway
* Reports
* CRUD capabilities
* Account management
* System performance
* System infrastructure

The identified stakeholders are listed as follow:

* Project owner
* Management
* Administrative staff
* Bazaar Ceramics customers

## Organisation Profile

|  |
| --- |
|  |
| Figure 1 - Governance |

## Scope

The scope of this project is to develop a complete e-commerce solution, including related documentation and its deliverable items.

The solution consists on an e-commerce website that provides browsing and purchasing functionalities to Bazaar Ceramics customers and administrative functionalities to Bazaar Ceramics management.

Documentation includes requirements documents and specifications, plans and project maps, design, mock-ups and prototypes, development and testing documentation and user manuals.

### Roles and Responsibilities

**Developers**

• To build a solution according to the agreed requirements and following industry standards.

• To provide documentation.

• To provide training.

• To involve stakeholders in every phase of the project.

**Business owner**

• To participate and provide feedback.

• To approve testing results.

• To respect agreements

**Management**

• To participate and provide feedback.

• To provide availability for interviews and questionnaires.

• To approve testing results.

### Deadline

The final solution must be handed to Bazaar Ceramics by the end of March 2021. Including documentation and related deliverable.

## Cost/Benefit Analysis

### Costs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fixed Costs ($)** | **Goods sold ($)** | **Total Costs**  **($)** | **Sales**  **($)** | **Total Profit**  **($)** | **ROI (%)** |
| 1,100.00 | 2,560.00 | 3,660.00 | 4,000.00 | 340.00 | 0.09 |

The cost of the solution is AUD $ 2,500.00, additionally the costs of keeping and maintaining the system over a year are listed in the following table.

|  |  |  |  |
| --- | --- | --- | --- |
| **Domain**  **($)** | **Hosting**  **($)** | **SSL Certification**  **($)** | **Payment Gateway**  **(Per transaction)** |
| 20.00 | 1,200.00 | 20.00 | 2.9% + $0.30 |

### Benefits

Once the solutions is deployed and fully operative. The benefits are listed as follows:

• Reduction of marketing costs.

• Reduction of administrative costs.

• Quick and Accurate inventory management.

• Opportunity to reduce property rental related costs.

• Opportunity to reduce managerial wages.

• Positive impact on the company online image.

• Increased reach on remote markets.

## Accountability to Sponsor

For the Bazaar Ceramics project, the role of project sponsor is covered by the business owner Kym Hayward.

For better chances of successful completion of the project, participation and cooperation is required from both the developer and the project sponsor in every phase of the project life cycle.

To ensure a high degree of flexibility and a stronger involvement from the stakeholders, the project will be developed with an Agile approach.

### Considerations

* This methodology relies heavily on sponsor availability.
* A higher degree of flexibility risks to overthrow the boundaries of the defined scope.
* Being a product oriented approach, where the product keeps evolving and there is not a specific end line, Agile can potentially result in higher costs for the completion of the project.

### Final Statement

The coding will be built according industry standards, using architectural patterns and ensuring best practices are being implemented.

The documentation will be complete and thorough. Written to be comprehensive by any person.

The solution and all related deliverable will be completed and handed to the sponsor withing agreed deadlines.

## Assumptions

1. The client will provide the data for the database.
2. The client will provide any image, picture, logo, or content to appear on the website.
3. The scope of the project might change over the course of the project life cycle on an approval.
4. The client will guarantee their availability and involvement in the project.
5. The client will provide honest feedback.
6. The client will provide the necessary IT infrastructure.
7. Sufficient budget has been allocated for the completion of the project.

|  |  |  |
| --- | --- | --- |
| **#** | **Probability of occurrence** | **Impact on project if not met** |
| 1 | High | Database created and tested using mock data |
| 2 | High | Website created using placeholders |
| 3 | Medium | Change of project cost and deadlines |
| 4 | Medium | Client not satisfied with final product |
| 5 | High | Client not satisfied with final product |
| 6 | High | Product inoperable by the client |
| 7 | High | Project failure |

## Constraints

* The boundaries of the project’s scope are respected.
* The project will be concluded within the end of March 2021.
* The project will be concluded within the initial budget set on $2,500.00.
* The product will comply with Australian policies and legislation.
* The quality of the product delivered will be in accordance to the requirements and performance marks agreed upon.
* The product will render correctly on all major browsers.

## Dependencies

* Project scope has been defined.
* Project owner is available and invested in participating in the project.
* Agreement on what constitutes the Minimal Viable Product (MVP) is reached.
* Content, imagery, logos and data for the database, are available.
* The necessary IT infrastructure is available.

# General Business Requirements

## Product Perspective

The website is an e-commerce solution with online purchasing and administrative capabilities. Users can log in as either customer or admin, accessing different pages and functionalities.

The front-end will display, on different pages, information about the company and the products available for sale and will provide functionalities to buy products online and to contact the company.

The back-end consists on an admin dashboard that provides functionalities to manage user accounts, inventory and to produce reports.

The customers can register and log in with their account credentials.

## General Requirements

The customers will access the website to:

* View information about the company.
* Directly contact the company.
* Browse the products catalogue.
* Search products.
* View products details.
* Create a personal account.
* Add or remove products from the personal shopping cart.
* Purchase the products in their shopping cart.
* Register.
* Log in.
* Change password.

The administration staff will access the website to:

* Maintain products from the catalogue.
* Maintain Customer accounts.
* Produce sales reports

## User Characteristics

**Client (Unregistered or Registered):** An individual interested in the products offered by the company, that access the website to browse the company’s catalogue, explore the offers available and possibly purchase products.

A customer access the website without any specific knowledge of its content, structure and functionalities. Aside from being most likely adults, customers don’t belong to any specific age, economic, political or religious group and should be considered technically untrained.

**Administrator:** An individual that works for the company and has the authority to manage products inventory and customer information. Admins are trained in the usage of the system.

# Business Requirements

## **Client**

### Unregistered

Unregistered clients can access the website without having an account. They can access to every single functionality, but the checkout.

While on the website they are allow to:

* **Register**: Create an account and become registered customers.
* **Navigate**: Browse the website pages.
* **Contact** **company**: Send a message to Bazaar Ceramics through a form.
* **Select** **category**: Select what category of products to see from a drop down list.
* **Browse** **catalogue**: Browse to the catalogue of products sorted by category.
* **Search** **product**: Use the search bar.
* **View** **product** **detail**: Select a product to view its details.

### Registered

A registered client is a user that has registered an account on the website. A registered client has access to all the customer facing part of the website and its functionalities. All the operation performed by the unregistered client, can also be performed by the registered client.

* **Log** **in**: Login into their account.
* **Change** **password**: Change the password of their account.
* **Add** **product** **to** **cart**: Select a product to add to their shopping cart.
* **Manage** **shopping** **cart**: Add, update, or remove items from their shopping cart.
* **Checkout**: Provide shipping details, and make online payments.

## Administrator

An administrator user is authorised to manage the products inventory and the registered customers accounts. They are allowed to access back-end of the system.

* **Manage inventory**: Maintain products from the inventory
* **Manage accounts**: Maintain registered customers accounts
* **Sales report**: View sales report produced by the system.

# Business Process Model

## **Client**

### **Unregistered**

#### ***Sign up***

|  |
| --- |
|  |
| Figure 2 – Sign up process |

### Registered

#### ***Sign*** in

|  |
| --- |
|  |
| Figure 2 – Sign in process |

#### Purchase

|  |
| --- |
|  |
| Figure 3 – Purchase process |

### Administrator

#### Manage products

|  |
| --- |
|  |
| Figure 4 – Maintain Products from Back-End |

## Events

### Unregistered client

* Access the website
* Navigates to a page
* Selects category
* Search product
* View product details
* Add to cart
* Redirected to sign up page
* Register account

### Registered client

* Add to cart
* Checkout
* Payment details
* Process purchase
* Logout

### Administrator

* Login
* Dashboard
* View customers
* Maintain clients
* Maintain products
* Logout

## Use Cases

|  |
| --- |
|  |
| Figure 5 – Use cases |

# Business Data Model

## Data Model

|  |
| --- |
|  |
| Figure 6 – Data model |

## Data descriptions

### Table structure for table categories

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Type | Null | Default |
| id | int(11) | No |  |
| name | varchar(255) | No |  |
| slug | varchar(255) | No |  |
| created\_at | timestamp | Yes | NULL |
| updated\_at | timestamp | Yes | NULL |
| deleted\_at | timestamp | Yes | NULL |

### Table structure for table orders

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Type | Null | Default |
| id | int(11) | No |  |
| user\_id | int(11) | No |  |
| order\_no | varchar(255) | No |  |
| created\_at | timestamp | Yes | NULL |
| updated\_at | timestamp | Yes | NULL |
| deleted\_at | timestamp | Yes | NULL |

### Table structure for table order\_details

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Type | Null | Default |
| id | int(11) | No |  |
| user\_id | int(11) | No |  |
| product\_id | int(11) | No |  |
| unit\_price | float | No |  |
| quantity | int(11) | No |  |
| total | float | No |  |
| status | varchar(255) | No |  |
| order\_no | varchar(255) | No |  |
| created\_at | timestamp | Yes | NULL |
| updated\_at | timestamp | Yes | NULL |
| deleted\_at | timestamp | Yes | NULL |

### Table structure for table payments

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Type | Null | Default |
| id | int(11) | No |  |
| user\_id | int(11) | No |  |
| order\_no | varchar(255) | No |  |
| amount | float | No |  |
| status | varchar(255) | No |  |
| created\_at | timestamp | Yes | NULL |
| updated\_at | timestamp | Yes | NULL |
| deleted\_at | timestamp | Yes | NULL |

### Table structure for table products

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Type | Null | Default |
| id | int(11) | No |  |
| name | varchar(255) | No |  |
| price | float | No |  |
| description | text | No |  |
| category\_id | int(11) | No |  |
| sub\_category\_id | int(11) | No |  |
| quantity | int(6) | No |  |
| image\_path | varchar(255) | No |  |
| featured | tinyint(4) | No |  |
| created\_at | timestamp | Yes | NULL |
| updated\_at | timestamp | Yes | NULL |
| deleted\_at | timestamp | Yes | NULL |

### Table structure for table sub\_categories

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Type | Null | Default |
| id | int(11) | No |  |
| name | varchar(255) | No |  |
| slug | varchar(255) | No |  |
| category\_id | int(11) | No |  |
| created\_at | timestamp | Yes | NULL |
| updated\_at | timestamp | Yes | NULL |
| deleted\_at | timestamp | Yes | NULL |

### Table structure for table users

|  |  |  |  |
| --- | --- | --- | --- |
| Column | Type | Null | Default |
| id | int(11) | No |  |
| username | varchar(255) | No |  |
| full\_name | varchar(255) | No |  |
| email | varchar(255) | No |  |
| password | varchar(255) | No |  |
| street\_address | varchar(50) | No |  |
| post\_code | varchar(10) | No |  |
| city\_suburb\_town | varchar(50) | No |  |
| state\_territory | varchar(50) | No |  |
| country | varchar(45) | No |  |
| role | varchar(50) | No |  |
| agent | varchar(255) | No |  |
| ip | varchar(50) | No |  |
| geo\_status | int(11) | No |  |
| geo\_city | varchar(10) | No |  |
| geo\_region | varchar(50) | No |  |
| geo\_region\_code | varchar(10) | No |  |
| geo\_region\_name | varchar(50) | No |  |
| geo\_country\_code | varchar(10) | No |  |
| geo\_country\_name | varchar(50) | No |  |
| geo\_latitude | varchar(50) | No |  |
| geo\_longitude | varchar(50) | No |  |
| geo\_timezone | varchar(50) | No |  |
| geo\_currency\_code | varchar(10) | No |  |
| geo\_currency\_symbol\_utf8 | varchar(10) | No |  |
| geo\_currency\_converter | float | No |  |
| created\_at | timestamp | Yes | NULL |
| updated\_at | timestamp | Yes | NULL |
| deleted\_at | timestamp | Yes | NULL |

# Non-Functional Requirements

## Accuracy

* The system must ensure that every data entered by the user is of the correct type and provided in the expected form.
* The system must ensure that the data it provides to the user or to other systems are correct and in the expected form. This include data manipulated by the system (e.g. calculations).

## Audit trail

* Record of every transaction handled by the system must be kept and backed up regularly. The information recorded must include the customer identifier, the products included in the transaction and their quantities, the price of each item and the total price of the transaction. Each transaction should also have an id.

## Availability

* SLA of 99.99%.

## Capacity Limits

* HD 100 GB.
* RAM 4GB

## Data Retention

* Personal and financial information recorded and handled by the system must be protected according to the Privacy Act.
* The storage, usage and further deletion of data will comply with the current legislation.

## Operational Requirements

* Accessibility
* Confidentiality
* Integrity
* Usability

## Performance

* Page load must not exceed 5 seconds on regular conditions.
* Use of minified JS and CSS from CDN.
* SEO optimized
* Responsive

## Recoverability

* Daily back-up
* Risk assessment and disaster recovery plan will be tested and implemented.

## Security

* The website will adopt the HTTPS protocol to encrypt the data transferred
* The website will obtain an SSL certificate
* Server logs will be monitored regularly for suspicious activities
* Data validation will be implemented both on the client side and on the server side
* Encryption on server side will implement reliable and secure algorithms
* Session management must include inactivity timeouts, duration, actions and traceability

## Timing

* Start: 01/03/21
* End: 31/03/21