**Diamond Valuation System**

**Software Requirements Specification**

**2.0**

**17/06/2024**

**Table of contents**

1. Introduction
   1. Purpose
   2. Scope
   3. Definitions, Acronyms, and Abbreviations
   4. References
2. Specific Requirements
   1. External Interface Requirements
      1. User Interfaces
      2. Hardware Interfaces
      3. Software Interfaces
      4. Communications Interfaces
      5. 3.1 Front End Details
      6. 3.2 Technical Requirements
      7. 3.3 Functional validations
      8. 3.4 Classes / Objects
      9. 3.5 Non-Functional Requirements
      10. 3.6 Inverse Requirements
      11. 3.7 Design Constraints
      12. 3.8 Logical Database Requirements
      13. 3.9 Other Requirements
3. Analysis Models
4. Change Management Process
5. **Introduction**

The Diamond Valuation System is a comprehensive software platform designed to manage customer requests for diamond valuation. It provides tools for estimating diamond values, submitting valuation requests, and generating detailed valuation certificates. The system supports the entire valuation process, from initial customer contact to result delivery and handling unclaimed items. It integrates data from leading online jewelry platforms to ensure accurate pricing information and offers a user-friendly interface for both customers and staff.

* 1. **Purpose**

The purpose of this document is to outline the requirements and specifications for developing the Diamond Valuation System. The system aims to provide a user-friendly platform for customers to estimate diamond values and manage the entire valuation process efficiently.

* 1. **Scope**

A homepage introducing the company, services, diamond knowledge, lookup tools, valuation services, and a blog for sharing insights.

Tools for users to estimate diamond value based on various criteria including diamond origin, shape & cut, measurements, carat weight, color, clarity, cut proportions, polish, symmetry, and fluorescence.

A function for users to estimate diamond value using a certification number issued by the company.

Management of the diamond valuation process, from customer request submission to the final delivery of results and samples.

The ability to print diamond valuation certificates using the company's template.

Procedures for handling unclaimed valuation results and samples, including sealing reports and commitment forms, subject to managerial approval.

Configuration of pricing and service times for different valuation services.

Declaration and synchronization of valuation parameter categories and pricing data from top online jewelry platforms.

A statistical dashboard to display key information about the valuation process and results.

* 1. **Definitions, acronyms, and abbreviations**

|  |  |
| --- | --- |
| **Abbreviation** | **Word** |
| Diamond Origin | Source of the diamond |
| Shape & Cut | Diamond’s physical form and cut quality. |
| Measurements | Dimensions of the diamond |
| Carat Weight | Weight of the diamond |
| Color | Color grade of the diamond |
| Clarity | Absence of inclusions and blemishes |
| Cut Proportions | Precision of the diamond's cut |
| Polish | Quality of the diamond's surface finish |
| Symmetry | Alignment of the diamond's facets |
| Fluorescence | Diamond’s reaction to ultraviolet light |
| Dashboard | Display of key metrics related to valuation |
| A | Admin |
| M | Manager |
| C | Customer |
| G | Guest |

* 1. **References**

Company Policy Documents: Guidelines for diamond valuation and customer service.

Industry Standards: International standards for diamond grading and valuation.

Online Jewelry Platforms: Sources for synchronizing pricing data.

User Manuals and Training Guides: Documentation for using the system.

**ERD/DB Diagram:**

A diagram of a company

Description automatically generated

**Flow Screen:**

A diagram of a flowchart

Description automatically generated

1. **Specific requirements**

The Valuation system will have 6 roles:

1. Manager
2. Customer
3. Consulting staff
4. Valuation staff
5. Admin
6. Guest

**Usecase list:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | User Login/Logout | Login | Admin/Manager/Staff/Valuation Staff | User logs into the system using their credentials. |
| 2 | Logout | User logs out of the system. |
| 3 | Dashboard and Reporting | View Dashboard and Statistics | Admin/Manager | Views the dashboard for statistical analysis and reporting of valuation requests and other key metrics. |
| 4 | Manage User | View User | Admin/Manager/Staff/Valuation Staff | Views details of user accounts. |
| 5 | Create User | Admin | Admin creates a new user account. |
| 6 | Edit User | Admin edits details of an existing user account. |
| 7 | Delete User | Admin deletes an existing user account. |
| 8 | Manage Customer | View Customers | Admin/Manager/Staff/Valuation Staff | Views details of customer profiles. |
| 9 | Create Customer | Admin/Staff/Manager | Creates a new customer profile. |
| 10 | Edit Customer | Edits details of an existing customer profile. |
| 11 | Delete Customer | Deletes an existing customer profile |
| 12 | Manage Services | View Services | Admin/Manager/Staff/Valuation Staff | Views details of existing services. |
| 13 | Create Service | Admin | Admin creates a new valuation service. |
| 14 | Edit Service | Admin edits details of an existing service. |
| 15 | Delete Service | Admin deletes an existing service. |
| 16 | Manage Request Services | View Valuation Request | Admin/Manager/Staff/Valuation Staff | User views details of valuation requests. |
| 17 | Submit Valuation Request | Staff/Customer | User submits a valuation request for a diamond. |
| 18 | Process Valuation Request | Staff/Valuation Staff | User processes the valuation request and assigns it for valuation. |
| 19 | Update Valuation Request Status | User updates the status of the valuation request as it progresses through the valuation process. |
| 20 | Approve Sealing Report | Manager | Manager approves the sealing report for unclaimed valuation results. |
| 21 | Approve Commitment Form | Manager approves the commitment form for lost receipts. |
| 22 | Manage Diamond Certificate | View Diamond Certificate | Admin/Manager/Staff/Valuation Staff | User views details of diamond certificates. |
| 23 | Create Diamond Certificate | Valuation Staff | Valuator creates a diamond certificate based on the valuation results. |
| 24 | Edit Diamond Certificate | Valuator edits details of an existing diamond certificate. |
| 25 | Print Diamond Certificate | Prints the diamond certificate for the customer |
| 26 | Delete Diamond Certificate | Deletes an existing diamond certificate |
| 27 | View Home Page | View Home Page | Customer | Customer views the home page, which introduces the company, services offered, diamond knowledge resources, search and valuation functionalities, and blog. |
| 28 | Login/Logout | Login | Customer logs into the system using their credentials. |
| 29 | Logout | Customer logs out of the system. |
| 30 | Register Customer Account | Register | Customer create a account to logs into the system |
| 31 | Manage Account | Edit Profile | Edits details of account profile. |
| 32 | Diamond Valuation Estimation | Estimate Diamond Value by Criteria | Customer inputs criteria such as diamond origin, shape & cut, measurements, carat weight, color, clarity, cut, proportions, polish, symmetry, and fluorescence to estimate the diamond's value. |
| 33 | Estimate Diamond Value by Certification Number | Customer inputs a certification number issued by the company to estimate the diamond's value. |
| 34 | Valuation Request Management | Submit Valuation Request | Customer submits a valuation request form. |
| 35 | View Valuation Request Status | Customer views the status of their submitted valuation request. |
| 36 | Handling Unclaimed Valuation Results | Request Commitment Form for Lost Receipt | Customer requests a commitment form to receive their diamond sample if they have lost the valuation receipt. |

* 1. **External interface requirements**

**UI (Fontend):**

Login User :

* Email
* Password

Add User

* Email
* First Name
* Last Name
* Password
* Phone Number
* Enabled
* Roles
* Photos

Edit User

* Email
* First Name
* Last Name
* Password
* Phone Number
* Enabled
* Roles
* Photos

Add Customer

* Email
* First Name
* Last Name
* Password
* Phone Number
* Location
* Enabled

Edit Customer

* Email
* First Name
* Last Name
* Password
* Phone Number
* Location
* Enabled

Add Service

* Name
* Money
* Content
* Photo

Edit Service

* Name
* Money
* Content
* Photo

Add Request

* Customer Phone
* Note
* Status
* Services

Edit Request

* Customer Phone
* Note
* Status
* Servicess
  1. **Technical requirements**

Login User

LU – Successful Login

LU – Fail Login

Logout User

LU – Succesful Logout

LU – Logout and Clear User Data

Create User

# CU - Handle Image Upload and Preview

# CU - Submit Form with Valid Data

# CU - Submit Form with Existed Email or Invalid Email

# CU - Cancel Form Submission

# Edit User

# EU - Fetch and Display User Data

# EU - Submit Form with Valid Data

# EU - Cancel Form Submission

EU - Password Field Behavior

# Delete User

# DU - Open Delete Confirmation Dialog

# DU - Cancel Delete Action

# DU - Confirm Delete Action

Create Customer

CC - Successful Form Submission

CC - Form Submission with Existed Email or Invalid Email

CC - Cancel Form Submission

Edit Customer

EC - Fetch and Display Customer Data

EC - Successful Form Submission

EC - Cancel Form Submissions

EC - Password Field Behavior

Delete Customer

DC - Open Delete Confirmation Dialog

DC - Cancel Deletion

DC - Confirm Deletion

Add Service

AS – Validate form submission with invalid image file

AS – Submit the form with valid data

AS – Validate cancel button functionality

Edit Service

ES - Verify that the existing service details are pre-filled in the form fields.

ES – Successful service edit

ES – Cancel button functionality

Delete Service

DS – Open and close delete confirmation dialog

DS – Delete a service

DS – Display success message on successful action

Add request

AR - Successful Form Submission

AR – Submit the form with invalid data

AS – Validate cancel button functionality

Edit Request

ER - Verify that the existing service details are pre-filled in the form fields.

ER – Successful request edit

ER – Cancel button functionality

Delete Request

DR – Open and close delete confirmation dialog

DR – Delete a request

DR – Display success message on successful action

Add Certificate

AC - Successful Form Submission

AC – Submit the form with invalid data

AC – Validate cancel button functionality

Edit Certificate

EC - Verify that the existing service details are pre-filled in the form fields.

EC – Successful certificate edit

EC – Cancel button functionality

Delete Certificate

DR – Open and close delete confirmation dialog

DR – Delete a certificate

DR – Display success message on successful action

Vỉew Home Page

VHP – Successful Load Home Page

Login Customer

LC - Successful Login **V**

##### LC - Fail Login with Invalid Credentials **V**

Logout Customer

LU - Successful Logout **V**

LU - Logout and Clear Customer Data **V**

Register Customer Account

RCA – Successful Register

RCA – Fail Register

RCA – Password Confirm not match

Manage Account

MA - View Profile **V**

MA - Edit Profile Button Visibility **V**

MA - Enter Edit Mode **V**

MA - Cancel Edit **V**

Estimate Diamond Value by Criteria

EDVBC - Successful Estimate with Valid Criteria

EDVBC - Invalid Carat Value

EDVBC - Change Shape and Estimate

EDVBC - Change Color and Estimate

EDVBC - Change Clarity and Estimate

Estimate Diamond Value by Certification Number

EDVBCN - Successful Estimate with Valid Certification Number

EDVBCN - Invalid Certification Number

EDVBCN - Empty Certification Number

EDVBCN - Valid Certification Number for Popular Shape

EDVBCN - Valid Certification Number for Rare Color

EDVBCN - Valid Certification Number for Various Carat Weights

Submit Valuation Request

SVR - Successful Submission with Valid Data

SVR - Form Submission with Missing Required Fields

SVR - Invalid Email Format

SVR - Form Submission with Optional Notes Field Empty

View Valuation Request Status

VVRS - Successful Status View

VVRS - Invalid Request ID

VVRS - Empty Request ID

VVRS - View Status for Completed Request

Request Commitment Form for Lost Receipt

RCFFLR - Successful Submission with Valid Data

RCFFLR - Form Submission with Missing Required Fields

RCFFLR - Invalid Email Format

RCFFLR - Form Submission with Non-numeric Amount

RCFFLR - Form Submission with Future Date

RCFFLR - Form Submission with Optional Notes Field Empty

RCFFLR - Successful Submission with Optional Notes Field Filled

* 1. **Functional validations**

### Home Page Access:

**Guest:**

F1 Guest can view the home page.

**Customer:**

F2 Customer can view the home page.

**Consulting staff:**

F3 Consulting staff can view the home page.

**Valuation staff:**

F4 Valuation staff can view the home page.

**Manager:**

F5 Manager can view the home page.

**Admin:**

F6 Admin can view the home page.

### Diamond Valuation Estimation:

**Guest:**

F7 Guest cannot access valuation tools.

**Customer:**

F8 Customer can estimate diamond value using criteria.

F9 Customer can estimate diamond value using a certification number issued by the company.

F10 Certification number entered should exist in the database.

**Consulting staff:**

F11 Consulting staff can estimate diamond value using criteria.

F12 Consulting staff can estimate diamond value using a certification number issued by the company.

F13 Certification number entered should exist in the database.

**Valuation staff:**

F14 Valuation staff can estimate diamond value using criteria.

F15 Valuation staff can estimate diamond value using a certification number issued by the company.

F16 Certification number entered should exist in the database.

**Manager:**

F17 Manager can estimate diamond value using criteria.

F18 Manager can estimate diamond value using a certification number issued by the company.

F19 Certification number entered should exist in the database.

**Admin:**

F20 Admin can estimate diamond value using criteria.

F21 Admin can estimate diamond value using a certification number issued by the company.

F22 Certification number entered should exist in the database.

### Diamond Valuation Process Management:

**Customer:**

F23 Customer can submit a diamond valuation request.

F24 Customer can view the status of their diamond valuation request.

**Consulting staff:**

F25 Consulting staff can view all submitted valuation requests.

F26 Consulting staff can contact customers about their valuation requests.

F27 Consulting staff can receive diamond samples for valuation.

F28 Consulting staff can create valuation receipts.

F29 Consulting staff can return valuation results and samples to customers.

**Valuation staff:**

F30 Valuation staff can perform diamond valuations.

F31 Valuation staff can record valuation results.

**Manager:**

F32 Manager can oversee all valuation requests and processes.

**Admin:**

F33 Admin can manage all valuation requests and processes.

### Printing Diamond Valuation Certificates:

**Consulting staff:**

F34 Consulting staff can print diamond valuation certificates.

F35 Certificate format should match the company’s template.

**Valuation staff:**

F36 Valuation staff can print diamond valuation certificates.

F37 Certificate format should match the company’s template.

**Manager:**

F38 Manager can print diamond valuation certificates.

F39 Certificate format should match the company’s template.

**Admin:**

F40 Admin can print diamond valuation certificates.

F41 Certificate format should match the company’s template.

### Handling Unclaimed Valuation Results:

**Consulting staff:**

F42 Consulting staff can create sealed reports for unclaimed valuation results.

F43 Report creation must be approved by a Manager.

**Manager:**

F44 Manager can approve the creation of sealed reports for unclaimed valuation results.

**Admin:**

F45 Admin can approve the creation of sealed reports for unclaimed valuation results.

### Handling Lost Valuation Receipts:

**Consulting staff:**

F46 Consulting staff can create commitment forms for lost valuation receipts.

F47 Form creation must be approved by a Manager.

**Manager:**

F48 Manager can approve the creation of commitment forms for lost valuation receipts.

**Admin:**

F49 Admin can approve the creation of commitment forms for lost valuation receipts.

### Price List and Service Duration Declaration:

**Manager:**

F50 Manager can declare the price list and service duration for each valuation service.

**Admin:**

F51 Admin can declare the price list and service duration for each valuation service.

### Valuation Parameters Declaration:

**Manager:**

F52 Manager can declare valuation parameters.

**Admin:**

F53 Admin can declare valuation parameters.

### Synchronizing Data with Online Jewelry Platforms:

**Admin:**

F54 Admin can synchronize valuation data with online jewelry platforms.

### Dashboard Statistics:

**Manager:**

F55 Manager can view dashboard statistics.

**Admin:**

F56 Admin can view dashboard statistics.

* 1. **Function requirements**

**Function requirements:**

1. User Login/Logout
2. Dashboard and Reporting
3. Manage Users
4. Manage Customers
5. Manage Services
6. Manage Request Services
7. Manage Certificates
8. View Home Page
9. Customer Login/Logout
10. Register Customer Account
11. Diamond Valuation Estimation
12. Valuation Request Management
13. Handling Unclaimed
    1. **Non-functional requirements**
    2. **Inverse requirements**
    3. **Design constraints**
    4. **Logical database requirements**
    5. **Other requirements**
14. **Analysis models**
15. **Change management process**