## Software System Attributes

### Usability

#### 1.1.1 GUI

* All the text, image text and help documents should be in Vietnamese.
* The interface should be elegant, simple and out-standing.
* The images must be simple and easy to see

#### 1.1.2 Usability for end-users

* Searching tool should be easy to use.
* The website must provide a help page to support novice users.
* The system should remember information (but not confidential) that users have to provide regularly. For example: name, address…

#### 1.1.3 Usability for admin and staff

* Website admin and station’s staff should need only one day of training to be familiar with the system and the application.
* Admin and staff can know about system more exactly with help pages and separate documents.

#### 1.1.4 Installation

* The system must be easy to deploy.
* The documentation for installation must be included. It describes detailed steps for installing or deploying the system. Users can follow the steps without direct help from the developing team.

### Reliability

* Initial data must be collected carefully and correctly
* Not conflict with other software
* Bugs or Defect Rate

|  |  |  |
| --- | --- | --- |
| Type of Defect | Description | Number allowed |
| Fatal | Showstopper - tester cannot proceed with any tests  e.g. system crash | 0 |
| Serious | Tester cannot proceed with any tests on one area of functionality | 30 |
| Medium | The bug does not stop testing - but limits it  e.g. data validation wrong | 72 |
| Cosmetic | The defect is not business logic error, it can be typo text, field length… e.g. screen spelling or error message wrong. | 45 |

### Availability

* Systems have to run 24 hours 7 days
* It must be available all the working time, and can be down in the off-time for maintaining.
* Percentage of time available is about 95% because we can not control some problems such as network disconnecting , power failure…..

### Security

* Password must be encrypted
* Only one person has admin permission.

### Maintainability

#### 1.5.1 Coding standards and naming conventions

* Output of the project must include coding standards and naming conventions documentations. Implementation code must be easy to maintain.
* All code must be clearly commented, including class, method documentations.
* If some components are reused, the documentations of those components must also be included.

#### 1.5.2 Logging

* All the errors should be logged, supporting for bug fixing and maintenance.
* All strange or sensitive situations should also be logged.

#### 1.5.3 Email

* The system must provide an email address to receive users’ feedback or send emails.

### Design constraints

#### 1.6.1 Date/Time Format

Default date format is dd-mm-yyyy For example: 10-05-2008

Default time format is HH24:MM For example: 17:23

#### 1.6.2 Number Format

Decimal places of % is 1 For example: 25.7%

Decimal for length and height is 1 For example: 2.2

Currency format is ##,###,##0.00 (# is digit)

#### 1.6.3 Multi Language

The system will be implemented to support for Vietnamese only . The system should support for internationalization & multiple locations in future.

#### 1.6.4 Page size

The system should be designed and developed to generate HTML page size less than or equal to 50KB, except for some special cases.

#### 1.6.5 Others

The system should be designed work irrespective of any settings on the client workstations in which IE7.0 or above has been installed and run properly.

### Performance

#### 1.7.1 Load time

* Every page should be completely displayed within: average 1.5 second and maximum 5 seconds.
* Application must be loaded from 2 seconds to 6 seconds
* Searching should return and display the result within 2 seconds.
* Data must be cached

#### System throughout

* The system must be capable of scaling up-to 200 users with the addition of faster or greater capacity hardware without software changes. It can support for 120 concurrent logged users into the system.
* The system must be able to process and still meet the response-time targets up-to a maximum of 10000 user-transactions per day for insert, update, & query transactions.
* If the system is busy, it has to inform users about that.

#### 1.7.3 Compatibility

* The system should provide elegant responses for nowadays common screen resolutions: 1024\*768, 1280\*800.
* The output must be compatible with all common browsers: Mozilla Firefox, Internet Explorer, Google Chrome and Opera.