## 

| **International School**  **CAPSTONE PROJECT 1**  **CMU-SE-450 / CMU-IS-450 / CMU-CS-450**  TEST PLAN DOCUMENT  Version 1.2  Date: 12 - Aug - 2020  **SMART DASHBOARD** APPLICATION  Submitted by  Vo Van Hoa  Pham Van Tin  Ky Huu Dong  Tran Thanh Kieu  **Approved by**  **Capstone Project 1 - Mentor:**  Name Signature Date  Binh, Thanh Nguyen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_14 - Dec- 2020    Name Signature Date  Huy, Truong Dinh \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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| **PROJECT INFORMATION** | | | |
| --- | --- | --- | --- |
| **Project Acronym** | SDA | | |
| **Project Title** | Smart Dashboard Application | | |
| **Project Web URL** | <https://sda-research.ml/> | | |
| **Start Date** | 12 - Aug - 2020 | | |
| **End Date:** | 15 - Dec - 2020 | | |
| **Lead Institution** | International School, Duy Tan University | | |
| **Project Mentor** | PhD Binh, Nguyen Thanh; MSc Huy, Truong Đinh | | |
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| Kieu, Tran Thanh | thanhkieutran391@gmail.com | 0358.583.251 |

| **DOCUMENT INFORMATION** | | | |
| --- | --- | --- | --- |
| **Document Title** | Project Proposal | | |
| **Author(s)** | Team C1SE.06 | | |
| **Role** | [SDA] Test Plan v.1.2 | | |
| **Date** | 16 - Nov - 2020 | File name | [SDA] Test\_Plan\_v1.2 |
| **URL** | <https://github.com/sdateamdtu2020/sda-documents> | | |
| **Access** | Project and CMU Program | | |

## 

## REVISION HISTORY

| **Version** | **Person(s)** | **Date** | **Description** | **Approval** |
| --- | --- | --- | --- | --- |
| Draft | Hoa, Vo | 12 - Aug - 2020 | Initiate document | x |
| 1.0 | All members | 12 - Nov - 2020 | Finish content of proposal | x |
| 1.1 | All members | 13 - Nov - 2020 | Update Scope Of Test | x |
| 1.2 | Tin, Pham | 16 - Nov - 2020 | Update task schedule | x |
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# QUALITY OBJECTIVES

Planning for the project Smart Dashboard Application testing, to ensure that the testing is done according to plan, implement fully the necessary requirements, high work efficiency and give the best product.

# SCOPE OF TEST

## FUNCTIONS

* **Drag & Drop**
  + Drag Widgets from the toolbar.
  + Drop Widgets to the mashup content dashboard.
* **Data Widgets**
  + Filter by year.
  + Filter by city.
  + Filter by multiple cities
  + Filter by multiple years.
* **Visualization Widgets**
  + Column Chart content.
  + Line Chart content.
  + Pie Chart content.
  + Map content.
* **Connect Data between Connected Widgets**
  + Fetch data from Data Widgets to Visualization Widget.
  + Fetch data from Data Widgets to Operator Widget and Visualization Widget.
* **Operators** 
  + Merge data from multiple Data Widgets.
* **Connector**
  + Draw connector from a point of widget.
  + Draw connector that connects multiple widgets together.
* **Example**
  + Example content.

## USER INTERFACE

* **Dashboard scene**
  + Navigation bar scene.
    - Logo
    - Group Button
      * New
      * User Guide
      * Example 1
      * Example 2
      * Example 3
  + Toolbar Scene.
  + Mashup Content scene.
  + Output log scene.
    - Properties
    - Widget Infos
    - Output log
* **Average Humidity scene**
  + Visualization widget in tree view.
  + Filter by city.
  + Visualization data by Column chart, Line chart.
* **Industry scene**
  + Visualization widget in tree view
  + Filter by city.
  + Filter by year.
  + Visualization data by Maps.

## Databases

* **Staging Area Tables**
  + Extract data from CSV
  + Transform the data
  + Load data to the Staging Area Tables
    - Load data into Forest Source Data Staging
    - Load data into Population Source Data Staging
    - Load data into Industry Source Data Staging
    - Load data into Climate Source Data Staging
* **Fact Tables**
  + Load data into Forest Source Data Staging to Fact Forest
  + Load data into Forest Source Data Staging to Fact Population
  + Load data into Forest Source Data Staging to Fact Industry
  + Load data into Forest Source Data Staging to Fact Climate
* **Dimension**
  + Dim Year
    - Queries available values years in Fact tables but not duplicate
    - Load the values into Dimension Year
  + Dim City
    - Queries available values City in Fact tables but not duplicate
    - Load the values into Dimension City

## RDF Data Cubes

* **Dimension**
  + Dimension must have a label.
* **Measure**
  + Measure must have a label.
* **Dataset**
  + Dataset must have dimensions.
  + Dataset must have at least one measure.
* **Data Structure Definition**
  + Data Structure Definition must have dimensions.
  + Data Structure Definition must have at least one measure.
* **Observation**
  + Observation must have values.

# TEST STRATEGY

We are using Black box testing due to fast lifecycle of project:

* Manual Test (Exploratory Testing).
* Acceptance Test.
* Functional Test (Function, UI).

# TEST CRITERIA

* The Testing process finishes when 90% test cases passed status.
* Testing all test cases.
* The document will be delivered to the customer when finished sprint time.

# TEST MANAGEMENT

## TEAM

| **Full Name** | **Email** | **Phone number** | **Role** |
| --- | --- | --- | --- |
| Hoa, Vo | hoavo.dng@gmail.com | 0935.193.182 | Scrum master |
| Tin, Pham Van | tinphamvan123@gmail.com | 0932.535.175 | Team member |
| Dong, Ky Huu | kyhuudong@gmail.com | 0898.246.980 | Team member |
| Kieu, Tran Thanh | thanhkieutran391@gmail.com | 0358.583.251 | Team member |

## COMMUNICATION TOOLS

* **Slack**: Report bugs, notify updates,...
* **Messenger**: Chat, discuss.
* **Discord**: discuss online.
* **Skype**: Contact, discuss with mentor Binh.
* **Gmail**: Contact, discuss with mentor Huy

## TEST MANAGEMENT TOOLS

| **Purpose** | **Tool** | **Vendor/In-house** | **Version** |
| --- | --- | --- | --- |
| Excel Sheet to track Test Plan and Test Case | Google Sheet | Google | Latest |

# RISKS & ASSUMPTIONS

## RISKS

| **Risk** | **Definition** | **Probability** | **Severity** | **Mitigation Strategy** |
| --- | --- | --- | --- | --- |
| Scope Risk | A high numbers of modules | H | H | All team members join to test system  Testing in each plan |
| Scheduling Risk | Testing projects are not efficiently or completely | M | M | Move the not finish part of module to the next sprint |
| Time management | Most of the time is for development, not for testing. | M | H | Overtime |
| Operation Risk | Ineffective processing, system failures, or unanticipated circumstance define operational risk | M | M | Estimate more time to testing and other issues |

| **Probability** | | **Severity** | |
| --- | --- | --- | --- |
| L | Rarely happened. | L | Low damaged |
| M | Sometime happened | M | Medium damaged |
| H | Usually happened | H | Serious damaged |

## ASSUMPTIONS

## 

| **Assumption to be proven** | **Impact of Assumption being incorrect** | **Owners** |
| --- | --- | --- |
| Network Available | Dropout network, unstable network | Network Providers |

# TEST SCHEDULE

| **No** | **Task Name** | **Duration (Hours)** | **Start** | **Finish** | **Resources** |
| --- | --- | --- | --- | --- | --- |
| **1** | **Test Sprint 1** | **30** | **Aug 12, 2020** | **Sep 10, 2020** |  |
| 1.1 | InfoSection test | 8 |  |  | Kieu |
| 1.2 | Navbar test | 2 |  |  | Kieu |
| 1.3 | Footer test | 2 |  |  | Kieu |
| 1.4 | Homepage test | 6 |  |  | Kieu |
| 1.5 | About page test | 4 |  |  | Kieu |
| 1.6 | Contact page test | 4 |  |  | Kieu |
| 1.7 | Toolbar test | 4 |  |  | Kieu |
| **2** | **Test Sprint 2** | **64** | **Sep 11, 2020** | **Oct 10, 2020** |  |
| 2.1 | Validating transform process | 10 |  |  | Hoa |
| 2.2 | Validating load process | 10 |  |  | Hoa |
| 2.3 | Validating DW Structure | 8 |  |  | Hoa |
| 2.4 | Modal test | 4 |  |  | Kieu |
| 2.5 | User Guide test | 4 |  |  | Kieu |
| 2.6 | connector between 2 node test | 8 |  |  | Kieu |
| 2.7 | drag & drop node test | 8 |  |  | Kieu |
| 2.8 | Check data in Line Chart on humidity filter by city | 12 |  |  | Kieu |
| **3** | **Test Sprint 3** | **24** | **Oct 11, 2020** | **Nov 9, 2020** |  |
| 3.1 | Check filter by year industry | 8 |  |  | Kieu |
| 3.2 | Check filter by city industry | 8 |  |  | Kieu |
| 3.3 | Check data industry in Maps | 8 |  |  | Kieu |
| **4** | **Test Sprint 4** | **96** | **Nov 10, 2020** | **Dec 12, 2020** |  |
| 4.1 | Validating queries result | 20 |  |  | Dong |
| 4.2 | Validating loading process result | 12 |  |  | Dong |
| 4.3 | Validating Climate Observations | 10 |  |  | Hoa |
| 4.4 | Validating Climate Dimensions & Measures | 10 |  |  | Hoa |
| 4.5 | Validating Industrial Observations | 10 |  |  | Hoa |
| 4.6 | Validating Industrial Dimensions & Measures | 10 |  |  | Hoa |
| 4.7 | Check data industry in Maps | 6 |  |  | Kieu |
| 4.8 | Check filter by city in Temperature | 8 |  |  | Kieu |
| 4.9 | Check connector when merge temperature & industry | 8 |  |  | Kieu |
| 4.10 | Check data in Maps when merge temperature & industry | 8 |  |  | Kieu |