DUY TÂN UNIVERSITY
International School

CAPSTONE PROJECT 2

CMU-SE-451 / CMU-IS-451 / CMU-CS-451

TEST PLAN DOCUMENT

Version 2.1

Date: 1 - Mar - 2021

EXPERT-DRIVEN SMART DASHBOARD APPLICATION

Submitted by

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Approved by

Capstone Project 2 - Mentor:

Name	Signature	Date
Binh, Thanh Nguyen		26 - May - 2021

PROJECT INFORMATION			
Project Acronym	EDSDA		
Project Title	Expert-Driven Smart Dashboard Application		
Project Web URL	https://sda-research.ml/		
Start Date	01 - Mar - 2021		
End Date:	02 - Jun - 2021		
Lead Institution	International School, Duy Tan University		
Project Mentor	Ph.D Binh, Thanh Nguyen		
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Team Members	Tin, Pham Van	tinphamvan123ail.co@gmm	0932.535.175
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DOCUMENT INFORMATION			
Document Title	Test Plan		
Author(s)	Team C2SE.06		
Role	[EDSDA] Test Plan v2.2		
Date	01 - Mar - 2021	Filename	[EDSDA] 007 Test Plan
URL	https://github.com/sdateamdtu2020/SDA-v2.0		
Access	Project and CMU Program		

REVISION HISTORY

Version	Person(s)	Date	Description	Approval
Draft	Tin, Pham	01 - Mar - 2021	Initiate document	x
2.0	Tin, Kieu	14 - Mar - 2021	Finish content of interface design	x
2.1	Tin, Kieu	25 - May - 2021	Update content, fix typo	x

TABLE OF CONTENTS

1. 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.

2. SCOPE OF TEST

2.1. 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.

2.2. USER INTERFACE

- **Dashboard scene**
    - Navigation bar scene.
        - Menu Button
            - File
            - View
            - Help
        - File Button
            - Save
            - Clear
            - Open recent
        - View Button
            - Out to layout nodes
            - Fit view
            - Zoom 100%
            - Zoom in
            - Zoom out
            - .
        - Logo
- **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.

2.3. 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

2.4. 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.

3. TEST STRATEGY

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

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

4. TEST CRITERIA

- The Testing process finishes when 90% test cases pass status.
- Testing all test cases.
- The document will be delivered to the customer when finished each sprint.

5. TEST MANAGEMENT

5.1. 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

5.2. COMMUNICATION TOOLS

- **Slack**: Report bugs, notify updates,...
- **Trello**: Tracking issues.
- **Discord**: discuss online.
- **Skype**: Contact, discuss with mentor Binh.

5.3. TEST MANAGEMENT TOOLS

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

6. RISKS & ASSUMPTIONS

6.1. 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 happens.	L	Low damaged
M	Sometime happened	M	Medium damaged
H	Usually happened	H	Serious damaged

6.2. ASSUMPTIONS

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

7. TEST SCHEDULE

No	Task Name	Duration (Hours)	Start	Finish	Resources
1	**Test Sprint 1**	**35**	**Mar 1, 2021**	**Mar 14, 2021**	
1.1	Test Plan document	4			Kieu
1.2	Write Test Case document	31			Kieu
2	**Test Sprint 2**	**75**	**Mar 15, 2020**	**Mar 28, 2021**	
2.1	Write Test case for all features in Base UI	35			Kieu
2.2	Test the feature in Base UI	40			Kieu
3	**Test Sprint 3**	**65**	**Mar 29, 2021**	**Apr 11, 2021**	
3.1	Testing the data pipeline for raw data sources	15			Kieu
3.2	Write test cases for new UI	50			Kieu
4	**Test Sprint 4**	**90**	**Apr 19, 2021**	**May 2, 2021**	
4.1	Test RML process	10			Hoa
4.2	Test DW ETL process	10			Kieu
4.3	Test workflow for DW	10			Kieu
4.4	Test default Screen	5			Kieu
4.5	Test introduction screen	5			Kieu

4.6	Test about screen	5			Kieu
4.7	Test Toolbox screen	10			Kieu
4.8	Test Show Example screen	35			Kieu
5	**Test Sprint 5**	**100**	**May 3, 2021**	**May 16, 2021**	
5.1	Test RDF generator & ETL pipeline	5			Hoa
5.2	Test dim & measure detector	5			Kieu
5.3	Test automatic processing	5			Hoa
5.4	Test the import widget	5			Kieu
5.5	Test the logic of import function	10			Kieu
5.6	Test the Tree View of EDSDA data source on widget	5			Kieu
5.7	Test the data in Information component	20			Kieu
5.8	Test Toolbox UI	15			Kieu
5.9	Write test for visualization on Charts	5			Kieu
5.10	Continue Test the Show Example screen	25			Kieu
6	**Test Sprint 6**	**109**	**May 17, 2021**	**May 30, 2021**	
6.1	Test data of visualization on Charts	12			Kieu
6.2	Test UI of Charts	5			Kieu

6.3	Test the Tree View of data source on widget	5			Kieu
6.4	Test Connector and port of widgets	5			Kieu
6.5	Write Test for visualization on Maps & Table	10			Kieu
6.6	Write test for Import function	5			Kieu
6.7	Test function of import	7			Kieu
6.8	Test the UI on domain: sda-research.surge.sh	40			Kieu
6.9	Import data from UI	2			Kieu
6.10	Test RDF format	2			Kieu
6.11	Test workflows, data pipelines	4			Hoa
6.12	Test consistancy of RDF and DW	4			Kieu
6.13	Public User Acceptance Test	8			All member

8. REFERENCES

- Trello issues tracking: https://trello.com/b/4TXGKBgu/edsda-issues
- Sprint backlog & burndown chart: https://docs.google.com/spreadsheets/d/1a1GqHsPL9oKJyFvqAPi3B2CEYL89deCXzCUGTDB_kcw/edit#gid=283855912