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| **International School**  **CAPSTONE PROJECT 1**  **CMU-SE-450 / CMU-IS-450 / CMU-CS-450**  TEST CASE DOCUMENT  Version 1.3.1  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** | | | |
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| **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 | | |
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| **DOCUMENT INFORMATION** | | | |
| --- | --- | --- | --- |
| **Document Title** | Test Case Document | | |
| **Author(s)** | Team C1SE.06 | | |
| **Role** | [SDA] Test\_Case\_v1.3.1 | | |
| **Date** | 12 - Dec - 2020 | File name | [SDA] Test\_Case\_v1.3.1 |
| **URL** | <https://github.com/sdateamdtu2020/sda-documents> | | |
| **Access** | Project and CMU Program | | |

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## REVISION HISTORY

| **Version** | **Person(s)** | **Date** | **Description** | **Approval** |
| --- | --- | --- | --- | --- |
| Draft | Hoa, Vo | 12 - Aug - 2020 | Initiate document | x |
| 1.0 | All members | 19 - Aug - 2020 | Finish content, format | x |
| 1.1 | All members | 05 - Sep - 2020 | Update test case sprint1 | x |
| 1.2 | All members | 19 - Sep - 2020 | Update test case sprint2 | x |
| 1.3 | All members | 16 - Nov - 2020 | Update test case sprint 3, 4 | X |
| 1.3.1 | Tin Pham | 12 - Dec - 2020 | Update test case sprint 4 | x |
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# PURPOSE

The purpose of this checklist family is to exercise the functional areas of Smart Dashboard Application application. It is the intention of this checklist family that by exercising these areas of the application we will evidence (verification and validation):

* That everything that should be happening and present, is in fact, happening, happening correctly, present and correct present.
* That nothing that should not be present or inaccurate, is present or inaccurate.

# SCOPE

This checklist does test User Interface, Features, Data Warehouse and RDF Data Cubes of Smart Dashboard App.

# ASSUMPTIONS

The following assumptions were identified and utilized in the construction of this checklist:

* User Interface (UI)
* User experience (UX)
* Functional
* Data warehouse
* Data Cubes

# VARIANT USES

This checklist can be executed as is for all of the features in Sprints.

# CHECKLIST

## SPRINT 1

| **Application Testing Checklist - Sprint 1** | | | |
| --- | --- | --- | --- |
| **Tested By** | All member | **Date** | 15/9/2020 |
| **Application Name** | **Smart Dashboard Application** | | |
| **No** | **Procedure** | **Pass/Fail**  **(P/F)** | **Comments** |
| **InfoSection** | | | |
| C01 | InfoSection have 2 column: Image column & content column | P |  |
| C02 | SubHeader font size 18px | P |  |
| C03 | SubHeader color: #4b59f7 | P |  |
| C04 | SubHeader margin-bottom: 16px | P |  |
| C05 | Heading font size 48px | P |  |
| C06 | Heading color: #1c2237 | P |  |
| C07 | Heading margin-bottom: 24px | P |  |
| C08 | SubTitle font size 48px | P |  |
| C09 | SubTitle color: #1c2237 | P |  |
| C10 | SubTitle margin-bottom: 24px | P |  |
| C11 | Background color: #101522 | P |  |
| **Navbar in Homepage** | | | |
| C01 | Logo: , Has Link to “/” | P |  |
| C01 | Height: 80px; | P |  |
| C02 | Has 4 item: Home, Dashboard, About, Contact | P |  |
| C03 | Mobile: height: 100vh  Transition from left to right in 0.5s | P |  |
|  | Display in Android devices | P |  |
|  | Display in IOS Devices | F |  |
|  | Mobile: 4 item display in row | P |  |
|  | Background-color: #101522 | P |  |
| **Navbar in Dashboard** | | | |
| C01 | Logo: , Has Link to “/” | P |  |
| C01 | Height: 80px; | P |  |
| C02 | Has 6 items: New, Help, Save, Example1, Example2, Example 3 | P |  |
|  |  |  |  |
| **Homepage** | | | |
| C01 | InfoSection1:  SubHeader: Environment Analysis System  Header: Smart Dashboard Application  Description: We help business owners increase their revenue. Our team of unique specialist can help you achieve your business goals.  Button: About us, Link to “/about” | P |  |
| C02 |  | P |  |
| C03 | InfoSection2:  SubHeader: Smart Dashboard Application  Header: What is SDA  Description: Means that a dashboard that is convenient for users to analyze and review data.  Button: Go to Dashboard, Link to “/dashboard” | P |  |
| C04 |  | P |  |
| C05 | InfoSection3:  Header: Need more information ?  Description: Contact us if you need more information about our services.  Button:Contact Us, Link to “/contact” | P |  |
| C06 |  | P |  |
| **About page** | | | |
| C01 | InfoSection1:  SubHeader: Smart Dashboard Application  Header: About us ?  Description: This is a project for Capstone 1 of Team C1SE.06.  Button:NULL | P |  |
| C02 |  | P |  |
| C03 | InfoSection2:  Header: Mentor  Description: Ph.D Binh Thanh Nguyen  Button:NULL | P |  |
| C04 | InfoSection3:  Header: Mentor  Description: M.Sc Huy Truong Dinh  Button:NULL | P |  |
| C05 | InfoSection4:  Header: Scrum Master  Description: Hoa Vo Van  Button:NULL | P |  |
| C06 | InfoSection5:  Header: Team Member  Description: Tin Pham Van  Button:NULL | P |  |
| C07 | InfoSection6:  Header: Team Member  Description: Dong Ky Huu  Button:NULL | P |  |
| C08 | InfoSection7:  Header: Team Member  Description: Kieu Tran Thanh  Button:NULL | P |  |
| **Contact page** | | | |
| C01 | InfoSection1:  SubHeader: Email  Header: Contact us  Description: If you need more information, send mail to us: "sdadevteamdtu@gmail.com"..  Button: NULL | P |  |
| C02 |  | P |  |
| C03 | InfoSection2:  SubHeader: Error  Header: Find an error?  Description: If you found an error, open issues on Github Repository: "@sdateamdtu2020" 😁.  Button: NULL | P |  |
| C04 |  | P |  |
| **Toolbar** | | | |
| C01 | Climate: Average Temperature, Average Precipitation, Average Rainfall | P |  |
| C02 | Atmosphere: Air Quality Station, Air Quality Filter | P |  |
| C03 | Population: Population | P |  |
| C04 | Industry: Industry Production | P |  |
| C05 | Forest: Forest Cover Area, AfForestation | P |  |
| C06 | Operators: Statistics Merge, Simple Merge | P |  |
| C07 | Visualization: Column Chart, Line Chart, Pie Chart, Maps | P |  |
| C08 | Open: Visualization: true | P |  |
| C09 | List Item can collapse | P |  |
| C10 | List Item can expand | P |  |

### 

## SPRINT 2

| **Application Testing Checklist - Sprint 2** | | | |
| --- | --- | --- | --- |
| **Tested By** | All member | **Date** | 9/28/2020 |
| **Application Name** | **Smart Dashboard Application** | | |
| **No** | **Procedure** | **Pass/Fail**  **(P/F)** | **Comments** |
| **ETL Process** | | | |
| C01 | Verify that the length of database columns are as per the data model design specifications. | P |  |
| C02 | Verify that the table and column data type definitions are as per the data model design specifications. | P |  |
| C03 | Verify that the unique key and foreign key columns are indexed as per the requirement. | P |  |
| C04 | Verify that the table was named according to the table naming convention. | P |  |
| C05 | Verify that the columns that cannot be null have the ‘NOT NULL’ constraint. | P |  |
| C06 | Compare count of records of the primary source table and target table. Check for any rejected records. | P |  |
| C07 | Compare unique values in a column between the source and target. | P |  |
| C08 | Compare max, min, avg, max length, min length values for columns depending on the data type. | P |  |
| C09 | Compare null values in a column between the source and target. | P |  |
| C10 | Count of records with null foreign key values in the child table. | P |  |
| C11 | Count of invalid foreign key values in the child table that do not have a corresponding primary key in the parent table. | P |  |
| **Dashboard** | | | |
| C12 | Connector between 2 node | P |  |
| C13 | Drag Item from Toolbar and add new node to Mashup Content | P |  |
| C14 | Humidity:  In Tree View   * must drop all the cities available in the data source when clicking on the drop button. | P |  |
| C15 | * must close completely after clicking the “close” button. | P |  |
| C16 | * scrolls sidebar displays the city in the tree view area when scroll. | P |  |
| C17 | * ports must be able to connect to other nodes for interacting. | P |  |
| C18 | Humidity:  In Line Chart   * Ca Mau: * 2012 : 81.3 * 2013 : 81 * 2014 : 81 * 2015 : 80 * 2016 : 80.6 * 2017 : 80.8 * 2018 : 80.7 * 2019 : 80.8 | P |  |
| C19 | * Ha Noi: * 2012 : 70 * 2013 : 81 * 2014 : 75 * 2015 : 82 * 2016 : 89 * 2017 : 75 * 2018 : 86 * 2019 : 83 | P |  |
| C20 | Humidity:  In Column Chart   * Ca Mau: * 2012 : 81.3 * 2013 : 81 * 2014 : 81 * 2015 : 80 * 2016 : 80.6 * 2017 : 80.8 * 2018 : 80.7 * 2019 : 80.8 | P |  |
| C21 | * Ha Noi: * 2012 : 70 * 2013 : 81 * 2014 : 75 * 2015 : 82 * 2016 : 89 * 2017 : 75 * 2018 : 86 * 2019 : 83 | P |  |

## SPRINT 3

| **Application Testing Checklist - Sprint 3** | | | |
| --- | --- | --- | --- |
| **Tested By** | All member | **Date** | 10/17/2020 |
| **Application Name** | **Smart Dashboard Application** | | |
| **No** | **Procedure** | **Pass/Fail**  **(P/F)** | **Comments** |
| **Dashboard** | | | |
| C01 | Industry:  Tree View must drop all the years available in the data source when clicking on the drop button. | P |  |
| C02 | Industry:  Tree View must close completely after clicking the “close” button. | P |  |
| C03 | Industry:  Tree View scrolls sidebar display the years in the tree view area when scroll. | P |  |
| C04 | Industry:  Tree view ports must be able to connect to other nodes for interacting. | P |  |
| C05 | Industry:  In Maps: “Run“ button after clicking must be able to display the data after getting connected from the other nodes. | P |  |
| C06 | Industry:  In Maps buttons “+” and “-” must be able to zoom in or zoom out to see the map more clearly. | P |  |
| C07 | Industry:  In Maps must be able to display properties when moving the cursor on the map. | P |  |
| C08 | Industry:  Map nodes must close completely after clicking the “close” button. | P |  |

## SPRINT 4

| **Application Testing Checklist - Sprint 4** | | | |
| --- | --- | --- | --- |
| **Tested By** | Smart Dashboard Application | **Date** | 11/14/2020 |
| **Application Name** | **Smart Dashboard Application** | | |
| **No** | **Procedure** | **Pass/Fail**  **(P/F)** | **Comments** |
| **RDF Data Cubes** | | | |
| C01 | Unique DataSet | P |  |
| C02 | Validate that Dataset has at least one observation | P |  |
| C03 | Validate that Dataset has at most one Data Structure Definition | P |  |
| C04 | Only attributes may be optional |  |  |
| C05 | Data Structure Definition (DSD) has at least one measure | P |  |
| C06 | An observation has at least one dataset | P |  |
| C07 | Validate that there is no duplicate observation | P |  |
| C08 | A dimension has at least one range | P |  |
| C09 | All measures have values | P |  |
| C10 | Dimension is a property of Component class | P |  |
| C11 | Measure is a property of Component class | P |  |
| **Dashboard** | | | |
| C01 | Visualization Temperature Filter By Year  An TreeView Year: 2012 to 2019 | P |  |
| C02 | Visualization Temperature Filter By City  An TreeView City: 13 Cities | P |  |
| C03 | Visualization Temperature Filter By period of city  An dropdown City: 13 Cities  An dropdown FromYear: 2012 to 2019  An dropdown ToYear: 2012 to 2019 | P |  |
| C04 | Visualization Humidity Filter By Year  An TreeView Year: 2012 to 2019 | P |  |
| C05 | Visualization Humidity Filter By City  An TreeView City: 13 Cities | P |  |
| C06 | Visualization Humidity Filter By period of city  An dropdown City: 13 Cities  An dropdown FromYear: 2012 to 2019  An dropdown ToYear: 2012 to 2019 | P |  |
| C07 | Visualization Rainfall Filter By Year  An TreeView Year: 2012 to 2019 | P |  |
| C08 | Visualization Rainfall Filter By City  An TreeView City: 13 Cities | P |  |
| C09 | Visualization Rainfall Filter By period of city  An dropdown City: 13 Cities  An dropdown FromYear: 2012 to 2019  An dropdown ToYear: 2012 to 2019 | P |  |
| C10 | Visualization Industry Production Filter By Year  An TreeView Year: 2012 to 2019 | P |  |
| C11 | Visualization Industry Production Filter By City  An TreeView City: 64Cities | P |  |
| C12 | Visualization Industry Production Filter By period of city  An dropdown City: 64 Cities  An dropdown FromYear: 2012 to 2019  An dropdown ToYear: 2012 to 2019 | P |  |
| C13 | Visualization Afforestation Filter By Year  An TreeView Year: 2012 to 2019 | P |  |
| C14 | Visualization Afforestation Filter By City  An TreeView City: 64Cities | P |  |
| C15 | Visualization Afforestation Filter By period of city  An dropdown City: 64 Cities  An dropdown FromYear: 2012 to 2019  An dropdown ToYear: 2012 to 2019 | P |  |
| C16 | Visualization Humidity year 2012 in maps  Data: Sơn La: 80.2 Gia Lai: 80.8 Đà Nẵng: 79.9 | P |  |
| C17 | Visualization Humidity City in Column Chart  Data: Đà Lạt: 83.8 Đà Nẵng: 79.9 Bãi Cháy: 84.2 Cà Mau: 81.3 | P |  |
| C18 | Visualization Humidity Period of City in Column Chart  Data:  From Year: 2012. To Year: 2016 City: Đà Nẵng  Data: 2012: 79.9, 2013: 81.0, 2014: 80.6, 2015: 80.7, 2016: 80.6 | P |  |
| C19 | Visualization Humidity Period of City in Line Chart  Data:  From Year: 2012. To Year: 2016 City: Đà Nẵng  Data: 2012: 79.9, 2013: 81.0, 2014: 80.6, 2015: 80.7, 2016: 80.6 |  |  |

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