



# 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

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#### Capstone Project 1 - Mentor:

Name

Signature

Date

Binh, Thanh Nguyen \_\_\_\_\_

A handwritten signature in blue ink, appearing to be 'Nguyen Binh Thanh', written over a horizontal line.

\_\_\_\_\_ 14 - Dec- 2020

Name

Signature

Date

Huy, Truong Dinh \_\_\_\_\_

PROJECT INFORMATION			
<b>Project Acronym</b>	SDA		
<b>Project Title</b>	Smart Dashboard Application		
<b>Project Web URL</b>	<a href="https://sda-research.ml/">https://sda-research.ml/</a>		
<b>Start Date</b>	12 - Aug - 2020		
<b>End Date:</b>	15- Dec - 2020		
<b>Lead Institution</b>	International School, Duy Tan University		
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DOCUMENT INFORMATION			
<b>Document Title</b>	Test Case Document		
<b>Author(s)</b>	Team C1SE.06		
<b>Role</b>	[SDA] Test_Case_v1.3.1		
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<b>URL</b>	<a href="https://github.com/sdateamdtu2020/sda-documents">https://github.com/sdateamdtu2020/sda-documents</a>		
<b>Access</b>	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	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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## 1. 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.

## 2. SCOPE

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

## 3. 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


## 4. VARIANT USES


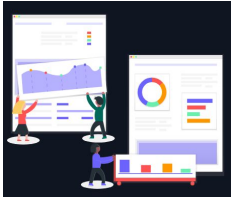
This checklist can be executed as is for all of the features in Sprints.

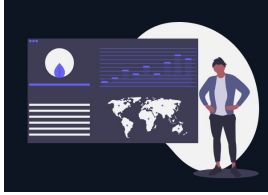


## 5. CHECKLIST

### 5.1. SPRINT 1

Application Testing Checklist - Sprint 1			
<b>Tested By</b>	All member	<b>Date</b>	15/9/2020
<b>Application Name</b>	Smart Dashboard Application		

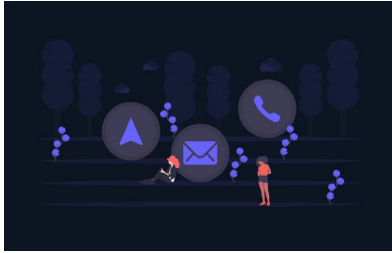
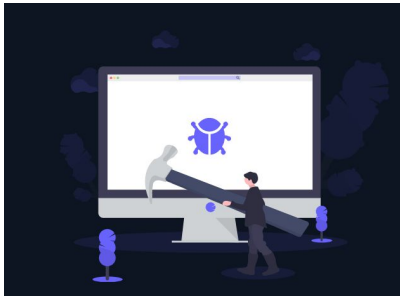
No	Procedure	Pass/Fail (P/F)	Comments
<b>InfoSection</b>			
C01	InfoSection have 2 column: Image column & content column	P	
C02	SubHeader font size 18px	P	
C03	SubHeader color: #4b59f7	P	
C04	SubHeader margin-bottom: 16px	P	
C05	Heading font size 48px	P	
C06	Heading color: #1c2237	P	
C07	Heading margin-bottom: 24px	P	
C08	SubTitle font size 48px	P	
C09	SubTitle color: #1c2237	P	
C10	SubTitle margin-bottom: 24px	P	
C11	Background color: #101522	P	
<b>Navbar in Homepage</b>			
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	
<b>Navbar in Dashboard</b>			
C01	Logo:  , Has Link to "/"	P	
C01	Height: 80px;	P	
C02	Has 6 items: New, Help, Save, Example1, Example2, Example 3	P	
<b>Homepage</b>			
C01	<p>InfoSection1:</p> <p>SubHeader: Environment Analysis System</p> <p>Header: Smart Dashboard Application</p> <p>Description: We help business owners increase their revenue. Our team of unique specialist can help you achieve your business goals.</p> <p>Button: About us, Link to "/about"</p>	P	
C02		P	
C03	<p>InfoSection2:</p> <p>SubHeader: Smart Dashboard Application</p> <p>Header: What is SDA</p>	P	

	<p>Description: Means that a dashboard that is convenient for users to analyze and review data.</p> <p>Button: Go to Dashboard, Link to “/dashboard”</p>		
C04		P	
C05	<p>InfoSection3:</p> <p>Header: Need more information ?</p> <p>Description: Contact us if you need more information about our services.</p> <p>Button: Contact Us, Link to “/contact”</p>	P	
C06		P	
<b>About page</b>			
C01	<p>InfoSection1:</p> <p>SubHeader: Smart Dashboard Application</p> <p>Header: About us ?</p> <p>Description: This is a project for Capstone 1 of Team C1SE.06.</p> <p>Button: NULL</p>	P	
C02		P	
C03	<p>InfoSection2:</p>	P	



	Header: Mentor Description: Ph.D Binh Thanh Nguyen Button:NULL		
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	
<b>Contact page</b>			
C01	InfoSection1: SubHeader: Email	P	

	Header: Contact us Description: If you need more information, send mail to us: "sdadevteamdtu@gmail.com".. Button: NULL		
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	
<b>Toolbar</b>			
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	

## 5.2. SPRINT 2

Application Testing Checklist - Sprint 2			
<b>Tested By</b>	All member	<b>Date</b>	9/28/2020
<b>Application Name</b>	Smart Dashboard Application		
No	Procedure	Pass/Fail (P/F)	Comments
<b>ETL Process</b>			
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	
<b>Dashboard</b>			
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	P	

	+ 2013 : 81 + 2014 : 75 + 2015 : 82 + 2016 : 89 + 2017 : 75 + 2018 : 86 + 2019 : 83		
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### 5.3. SPRINT 3

Application Testing Checklist - Sprint 3			
<b>Tested By</b>	All member	<b>Date</b>	10/17/2020
<b>Application Name</b>	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:	P	

	Tree view ports must be able to connect to other nodes for interacting.		
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	

## 5.4. SPRINT 4

Application Testing Checklist - Sprint 4			
<b>Tested By</b>	Smart Dashboard Application	<b>Date</b>	11/14/2020
<b>Application Name</b>	Smart Dashboard Application		
<b>No</b>	<b>Procedure</b>	<b>Pass/Fail (P/F)</b>	<b>Comments</b>
<b>RDF Data Cubes</b>			
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	
<b>Dashboard</b>			
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	P	



	An TreeView City: 13 Cities		
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	<p>Visualization Afforestation Filter By period of city</p> <p>An dropdown City: 64 Cities</p> <p>An dropdown FromYear: 2012 to 2019</p> <p>An dropdown ToYear: 2012 to 2019</p>	P	
C16	<p>Visualization Humidity year 2012 in maps</p> <p>Data: Sơn La: 80.2 Gia Lai: 80.8 Đà Nẵng: 79.9</p>	P	
C17	<p>Visualization Humidity City in Column Chart</p> <p>Data: Đà Lạt: 83.8 Đà Nẵng: 79.9 Bãi Cháy: 84.2 Cà Mau: 81.3</p>	P	
C18	<p>Visualization Humidity Period of City in Column Chart</p> <p>Data:</p> <p>From Year: 2012. To Year: 2016 City: Đà Nẵng</p> <p>Data: 2012: 79.9, 2013: 81.0, 2014: 80.6, 2015: 80.7, 2016: 80.6</p>	P	
C19	<p>Visualization Humidity Period of City in Line Chart</p> <p>Data:</p> <p>From Year: 2012. To Year: 2016 City: Đà Nẵng</p> <p>Data: 2012: 79.9, 2013: 81.0, 2014: 80.6, 2015: 80.7, 2016: 80.6</p>		