

# **NIPH Data Sharing Platform System**

## **(NIPH DSPS)**

### **I. System Planning**

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5. Project Coordinator
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7. Design Report

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1. Setup and Configure Application Software Development
2. Setup and Configure DBMS (MySQL)
3. Create Script connection/ Code connection
4. Create Function or Procedure
5. Create code /script to interact with user interface and DBMS

### **V. System Support**

1. Testing on new system
2. Installation and configuration new system
3. Guideline and training
4. Maintain document

## I. System Planning

1. Project Name: **NIPH Data Sharing Platform System (NIPH DSPS)**

2. Duration: 72days

3. Start & Stop date

Start date: 02/01/2025

Start date: 14/03/2025

4. Project Director:

- **Prof. Chhea Chhorvann**

5. Project Coordinators:

- **Prof. Te Vannarath**

- **Prof. Chhim Srean**

6. Software Developers:

- Sok Ponlork

- Huy Banha

- Em Diya

### 7. Disadvantage of the old system

- *In Cambodia, survey and routine data belong to principal investigators.*

- *Without a mechanism to share these data, they have been mostly underused.*

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### 8. Advantage of the new system

- *Increasing accessibility to a wide range of health data sources for research.*

- *Streamlining data-sharing processes to expedite research outcomes and innovations.*

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## 9. System Requirement

- Operating System: Ubuntu Server

- Web Server: Apache 2.4.43

- Server Site Script: Dart 2.16 (Flutter)

- Data storage: MySQL8.0

- API (PHP Laravel Framework)

- Flutter:

. Project Structure: MVC

. State Management: Getx

. Network: Dio

. App Versioning: Flavor

. Router: Go Router

. Local Storage: Shared Preferences, flutter\_secure\_storage

. Notification: FirebaseMessaging

. Localization: flutter\_localizations

. Service Locator: get\_it

. Assets: flutter\_gen

## 10. Referencing

Facebook, Google, UNDP, CJPH, Research4life

## 11. Project Schedule

### 1-System Planning

Task Description	Start Date	End Date	Total		
			Durations (Days)	Weeks	Months
1-System Planning	02/01/2025	08/01/2025	7	1	1/5

### 2-System Analysis

Task Description	Start Date	End Date	Total		
			Durations (Days)	Weeks	Months
1-Collect Data	09/01/2025	22/01/2025	14	2	2/5
2-Context Diagram					
3-Data Flow Diagram					
4-Flow chart diagram					
5-Entity Diagram					
6-Data Dictionary					
7-Table Diagram					
8-Data Volume					

### 3-System Design

Task Description	Start Date	End Date	Total		
			Durations (Days)	Weeks	Months
1-Draw User Interface layout	23/01/2025	29/01/2025	7	1	1/5
2-Draw User Interface Structure					
3-Design User Interface					
4-Design User Report					
5-User Requirement Test					

### 4-System Coding

Task Description	Start Date	End Date	Total		
			Durations (Days)	Weeks	Months
1-Create tables in MySQL	30/01/2025	28/02/2025	30	5	1
2-Create header and footer interface					
3-Create related functions					
4-Build system					
5- Technical Test and User Requirement Test					

## 5-System Support

System Support					
Task Description	Start Date	End Date	Total		
			Durations (Days)	Weeks	Months
1-System testing	01/03/2025	14/03/2025	14	2	2/5
2-Guideline or help					
3-Install and configuration					
4-Training					
		Grand Total	72	10	2

## II. System Analysis

### 1. Data Collection

Topics of data collections

- *Types of Data Resource*
- *Who can use this system*
- *Roles on users*
- *Permissions on Data Resource*
- *Data Resource management*

Start date: 09/01/2025

Stop date: 22/01/2025

### Questions and Answers:

#### a. *Types of Data Resource*

1. How many types of data resources? what are they?

*They are 3 types of data resources. They are Dataset, File and API.*

2. Who can use this system?

*Everyone has a link / app of **NIPH Data Sharing Platform System (NIPH DSPS)***

3. How many roles on system? What are they?

*They are 4 roles. They are*

*- Data users (Need account on system):*

*Students, researchers, other public health professionals, research institutes  
(Within and outside NIPH)*

*- Data owners (Need account on system):*

*Research institutes, universities, research organizations, government agencies, and all researchers with any health-related data  
(Within and outside NIPH)*

*- DAC Project staffs (Need account on system):*

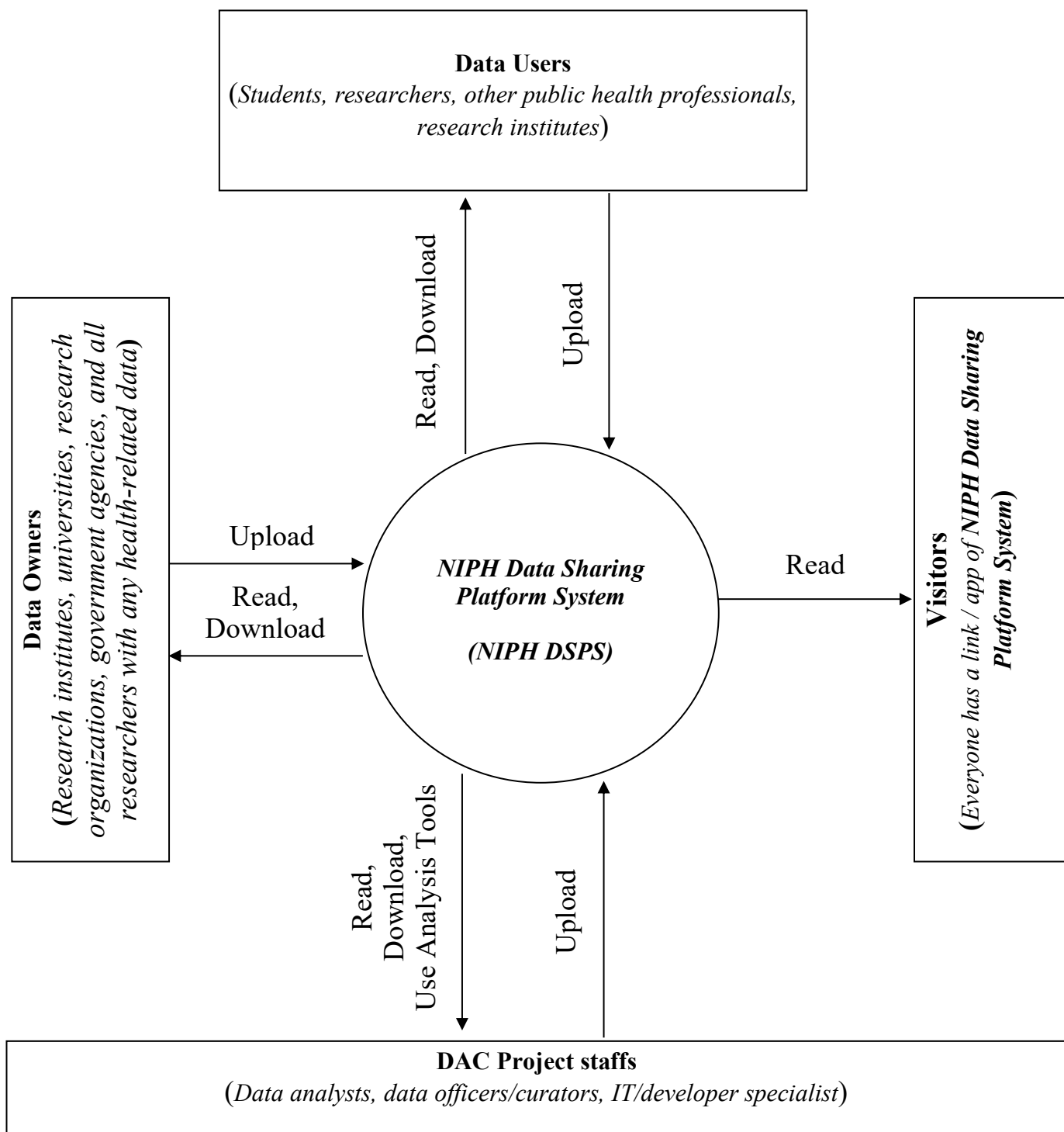
*Data analysts, data officers/curators, IT/developer specialist  
(Support)*

- *Visitors (No need account on system)*

4. Could you provide me the sample of Dashboard that generate from DSPS?

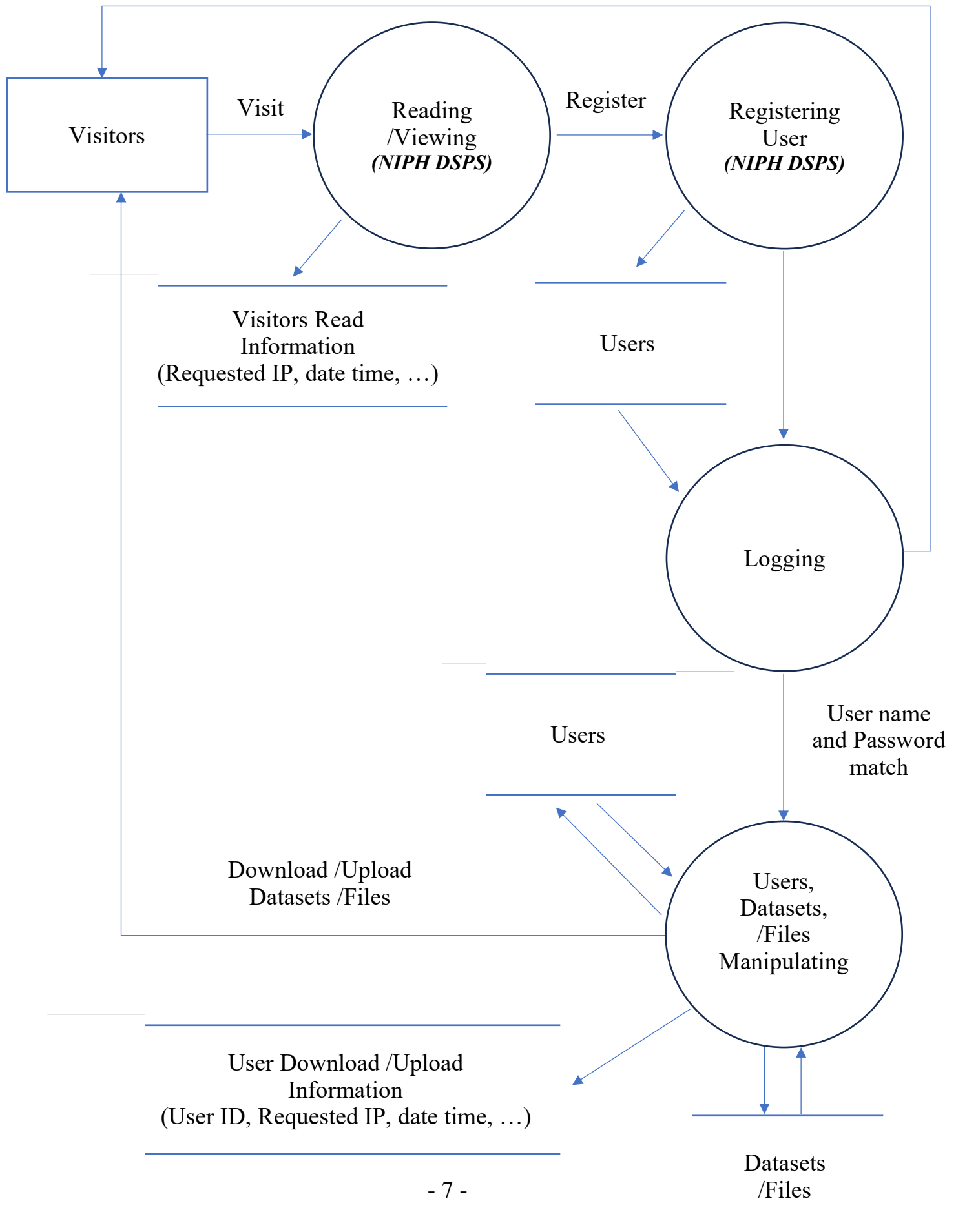
5. Could you provide me the sample of reporting that generate from DSPS?

## 2. Context Diagram of DSPS

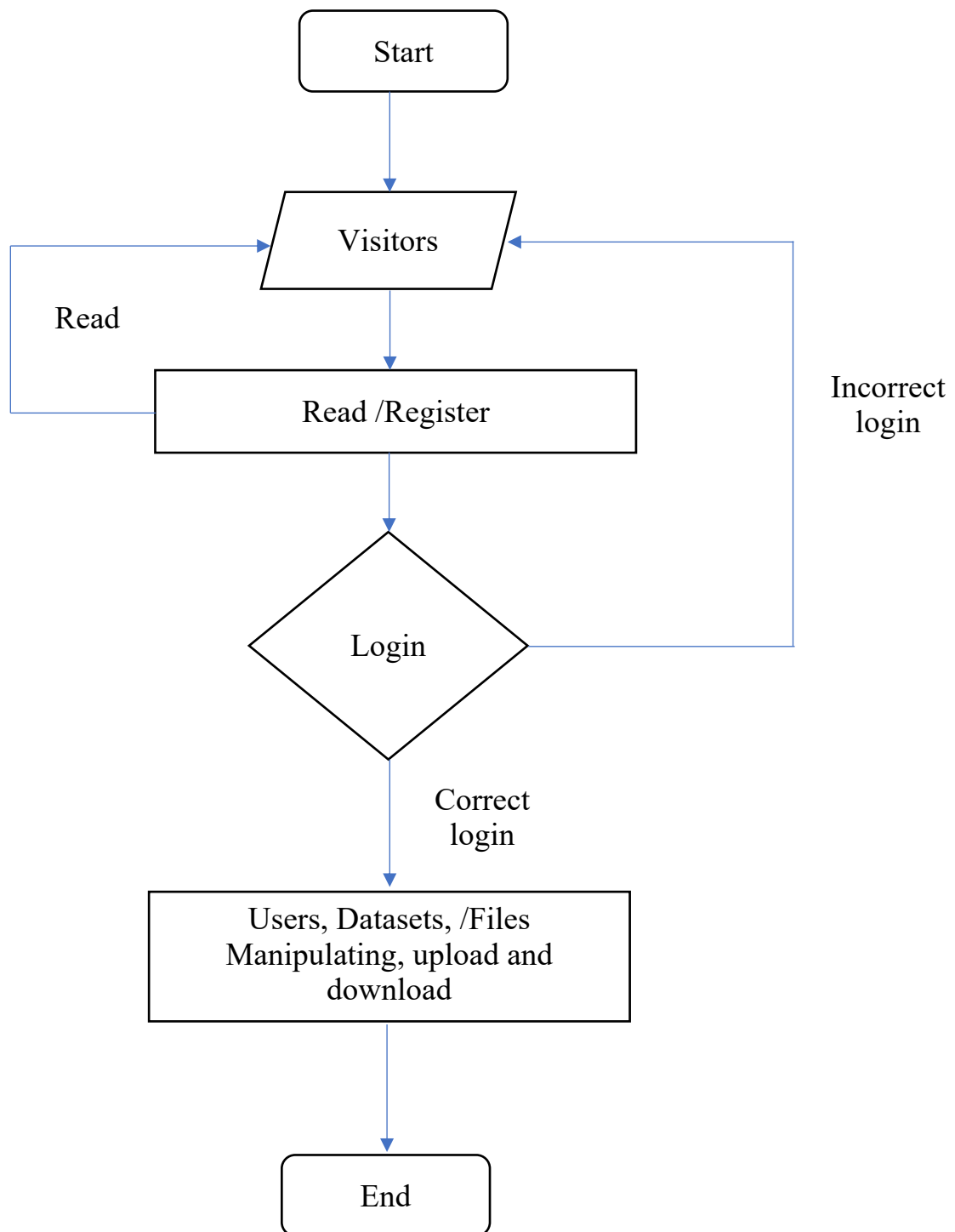


### 3. Data Flow Diagram

User name and Password do not match



#### 4. Flow Chart Diagram

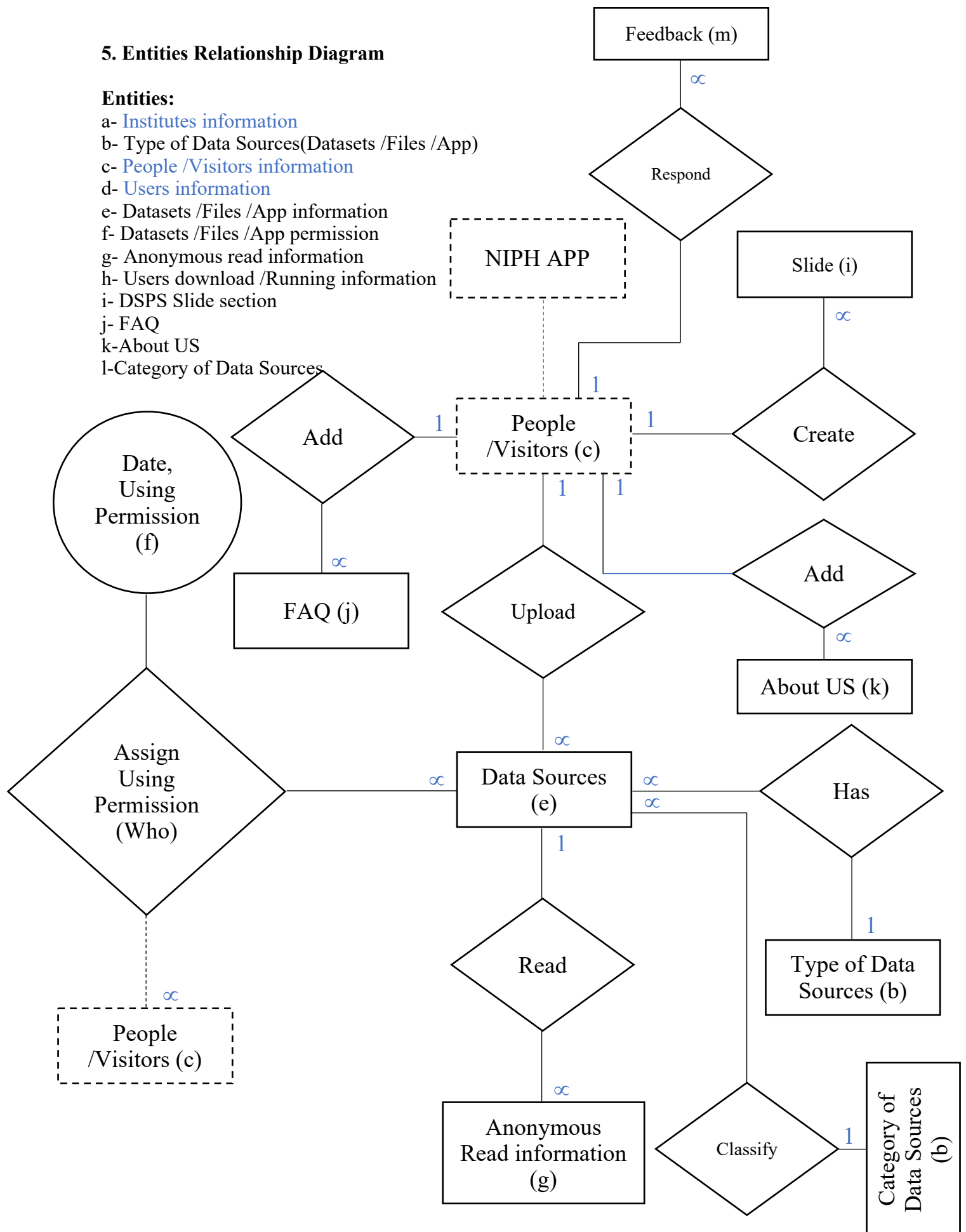


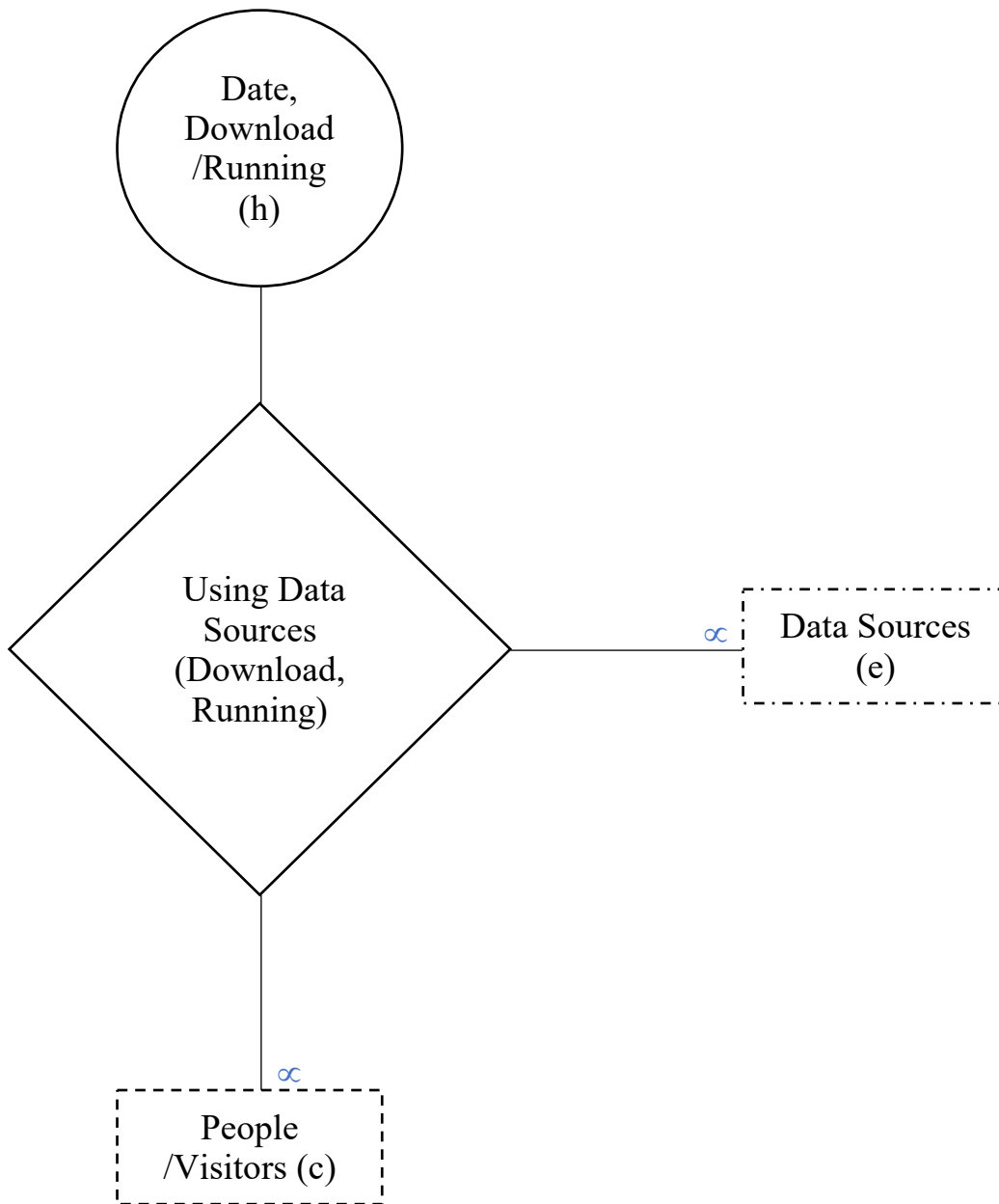


## 5. Entities Relationship Diagram

### Entities:

- a- Institutes information
- b- Type of Data Sources(Datasets /Files /App)
- c- People /Visitors information
- d- Users information
- e- Datasets /Files /App information
- f- Datasets /Files /App permission
- g- Anonymous read information
- h- Users download /Running information
- i- DSPS Slide section
- j- FAQ
- k-About US
- l-Category of Data Sources





## 6. Data Dictionaries and Tables Relationship

### b. Type of Data Sources (dsps\_tbl\_typedatasource)

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdspstds_id	Integer	Primary Key, Auto	
2	dspstds_reg_datetime	Datetime	Null	
3	dspstds_mod_datetime	Datetime	Null	
4	dspstds_reg_by	Integer	Not Null, Foreign key	From ist_tbl_users (NIPH App)
5	dspstds_name_en	Varchar (100)	Null	Datasets /Files /App (csv, xlsx, pdf, R Language)

### e. Data Sources (dsps\_tbl\_datasource)

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdspstds_id	Integer	Primary Key, Auto	
2	dspstds_reg_datetime	Datetime	Null	
3	dspstds_mod_datetime	Datetime	Null	
4	dspstds_reg_by	Integer	Not Null, Foreign key	From ist_tbl_users (NIPH App)
5	fkdspstds_id	Integer	Not Null, Foreign key	From dsps_tbl_typedatasource
6	fkdspstds_id	Integer	Not Null, Foreign key	From dsps_tbl_dspscategory
7	fkisp_id_of	Integer	Not Null, Foreign key	From ist_tbl_people (NIPH APP), Who can upload, Owner
8	dspstds_filename	Varchar (100)	Not Null	File name ('file'+pkdspstds_id + dspstds_reg_by+'_'+random number(4), put in dsps+ dspstds_reg_by folder)
9	dspstds_title_en	Varchar (200)	Null	
10	dspstds_description	Text	Null	
11	dspstds_public_date	Date	Null	
12	dspstds_status	Integer (1)	Not Null	1= Enable, 2=Disable

### f. Data Sources Permission(dsps\_tbl\_datasource\_permission)

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdspstdsp_id	Integer	Primary Key, Auto	
2	dspstdsp_reg_datetime	Datetime	Null	
3	dspstdsp_mod_datetime	Datetime	Null	
4	dspstdsp_reg_by	Integer	Not Null, Foreign key	From ist_tbl_users (NIPH App)
5	fkdspstds_id	Integer	Not Null, Foreign key	From dsps_tbl_datasource
6	fkisp_id_of	Integer	Null, Foreign key	From ist_tbl_people (NIPH APP), Who using this data source

				<b>/app; Other 0 value for all users</b>
7	dspsdsp_datetime	Datetime		
8	dspsdsp_permission	Integer	Not Null	1 = Download, 2 = Execute, 3 = Download and Execute
9	dspsdsp_notes	Text	Null	

**g. Anonymous Read (dsps\_tbl\_anonymous)**

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdspsano_id	Integer	Primary Key, Auto	
2	dspsano_reg_datetime	Datetime	Null	
4	fkdspsds_id	Integer	Not Null, Foreign key	From <b>dsps_tbl_datasource</b>
5	dspsano_client_ip	Varchar (50)	Not Null	Where?
6	dspsano_datetime	Datetime		
7	dspsano_action	Integer	Null	1= Click for details, 2= Click for download

**h. Using Data Sources(dsps\_tbl\_datasource used)**

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdspsdspused_id	Integer	Primary Key, Auto	
2	dspsdspused_reg_datetime	Datetime	Null	
3	dspsdspused_mod_datetime	Datetime	Null	
4	dspsdspused_reg_by	Integer	Not Null, Foreign key	From <b>ist_tbl_users (NIPH App)</b>
5	fkdspsdsused_id	Integer	Not Null, Foreign key	From <b>dsps_tbl_datasource</b>
6	fkisp_id_of	Integer	Null, Foreign key	From <b>ist_tbl_people (NIPH APP), Who downloaded or executed this data source /app</b>
7	dspsdspused_datetime	Datetime		

**i. DSPS Slide (dsps\_tbl\_dspsslide)**

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdspsslide_id	Integer	Primary Key, Auto	
2	dspsslide_reg_datetime	Datetime	Null	
3	dspsslide_mod_datetime	Datetime	Null	
4	dspsslide_reg_by	Integer	Not Null, Foreign key	<b>From ist_tbl_users (NIPH App)</b>
5	fkisp_id_of	Integer	Null, Foreign key	<b>From ist_tbl_people (NIPH APP)</b>
6	dspsslide_title_en	Varchar (100)	Null	Title of Slide
8	dspsslide_description	Text	Null	
9	<u>dspsslide_photoname</u>	Varchar (100)	Null	Photo name ('slide'+date_month_year+ random number(2), put in dspsslide folder

**j. DSFS FAQ (dsfs\_tbl\_dsfsfaq)**

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdsfsfaq_id	Integer	Primary Key, Auto	
2	dsfsfaq_reg_datetime	Datetime	Null	
3	dsfsfaq_mod_datetime	Datetime	Null	
4	dsfsfaq_reg_by	Integer	Not Null, Foreign key	From ist_tbl_users (NIPH App)
5	fkisp_id_of	Integer	Null, Foreign key	From ist_tbl_people (NIPH APP)
6	dsfsfaq_title_en	Varchar (100)	Null	Title of FAQ
7	dsfsfaq_description	Text	Null	

**k. DSFS About US (dsfs\_tbl\_dsfsabout)**

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdsfsabout_id	Integer	Primary Key, Auto	
2	dsfsabout_reg_datetime	Datetime	Null	
3	dsfsabout_mod_datetime	Datetime	Null	
4	dsfsabout_reg_by	Integer	Not Null, Foreign key	From ist_tbl_users (NIPH App)
5	fkisp_id_of	Integer	Null, Foreign key	From ist_tbl_people (NIPH APP)
6	dsfsabout_title_en	Varchar (100)	Null	Title of about us (Vision, Mission, Strategies)
7	dsfsabout_description	Text	Null	

**l. DSFS Category of Data Sources (dsfs\_tbl\_dsfscategory)**

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdsfscate_id	Integer	Primary Key, Auto	
2	dsfscate_reg_datetime	Datetime	Null	
3	dsfscate_mod_datetime	Datetime	Null	
4	dsfscate_reg_by	Integer	Not Null, Foreign key	From ist_tbl_users (NIPH App)
5	dsfscate_title_en	Varchar (100)	Null	

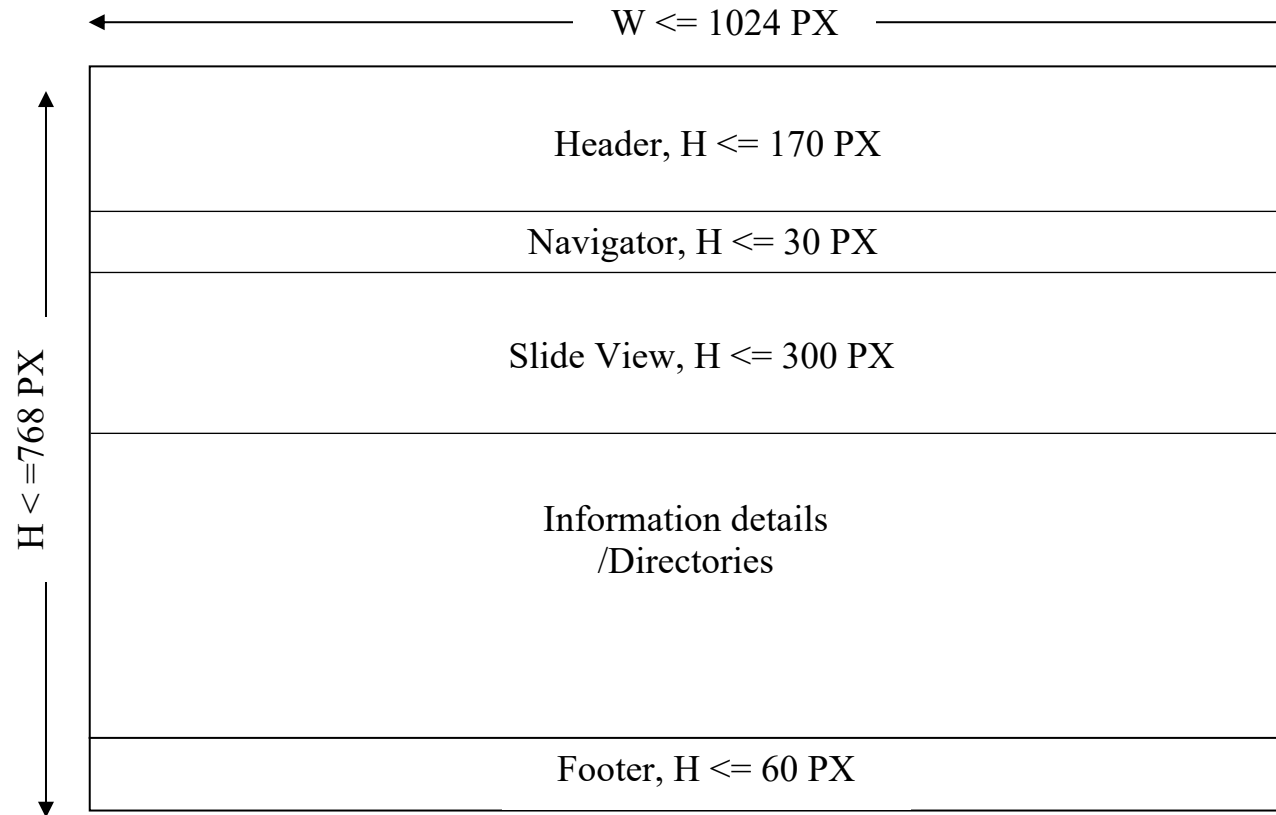
**m. DSFS Feedback(dsfs\_tbl\_feedback)**

No.	Field-Name	Data Type	Set Constrain	Descriptions
1	pkdsfsfb_id	Integer	Primary Key, Auto	
2	dsfsfb_reg_datetime	Datetime	Null	
3	dsfsfb_res_datetime	Datetime	Null	For respond datetime
4	dsfsfb_res_byid	Integer	Null	From ist_tbl_users (NIPH App)
5	dsfsfb_client_ip	Varchar (50)	Null	Where?
6	dsfsfb_name	Varchar (50)	Not Null	
7	dsfsfb_email	Varchar (100)	Not Null	
8	dsfsfb_body_text	Text	Not Null	
9	dsfsfb_respond_text	Text	Null	
10	dsfsfb_status	Integer	Not Null	1 =Received, 2 =Responded



### III. System Design

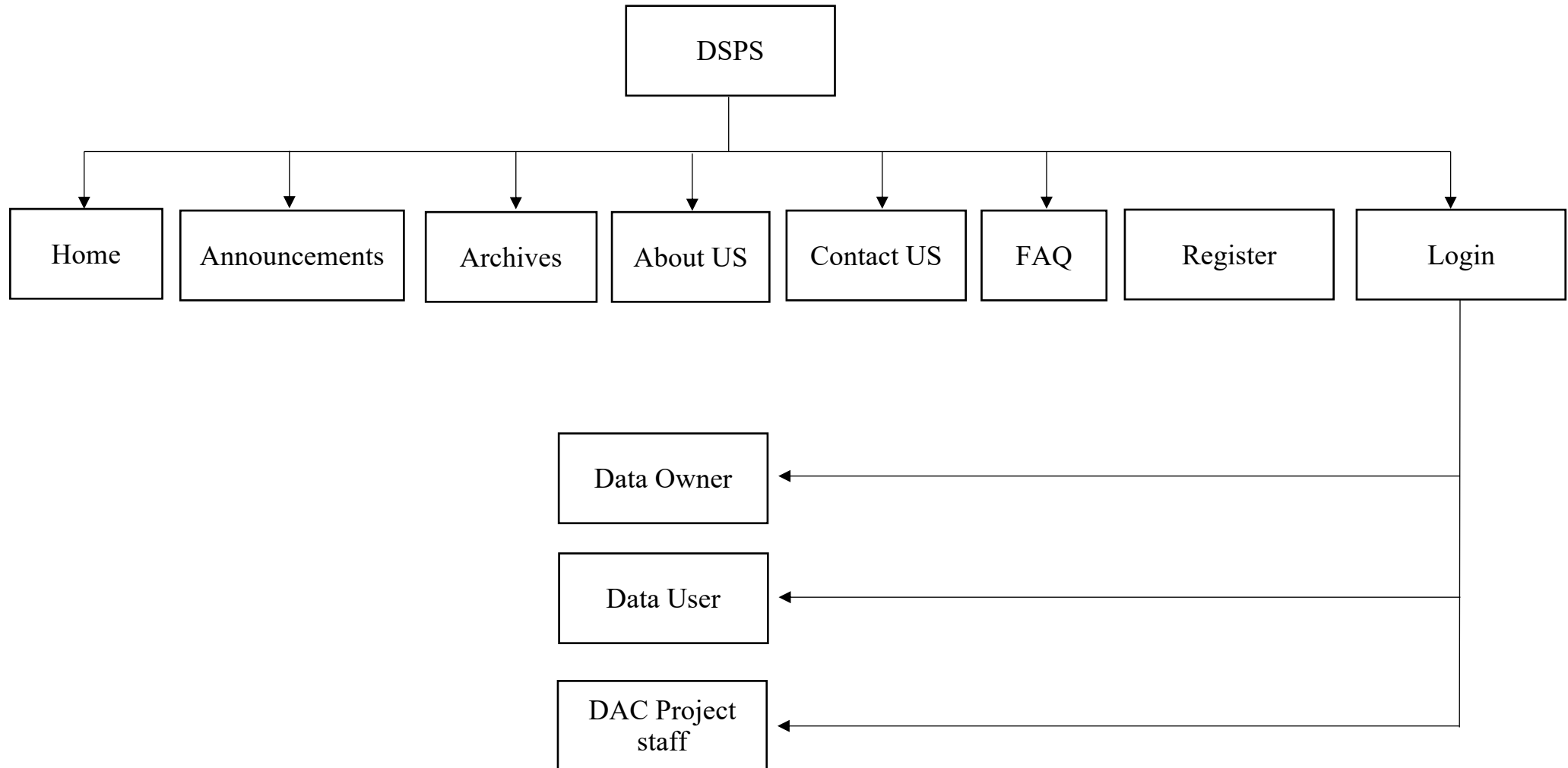
#### 1. Web Layout (LSND)



#### Notes:

- |                        |   |                                     |
|------------------------|---|-------------------------------------|
| - W                    | = | Width of Screen                     |
| - H                    | = | Height of Screen                    |
| - PX                   | = | Pixel                               |
| - Header               | = | dspshheader.dart, name = DspsHeader |
| - Footer               | = | dspsfoter.dart, name = DspsFooter   |
| - Navigator            | = | dspsmenu.dart, name = DspsMenu      |
| - Details /Directories | = | dspsdetail.dart, name = DspsDetail  |
| - Slide View           | = | dspsslide.dart, name = DspsSlide    |

## 2. Web Structure

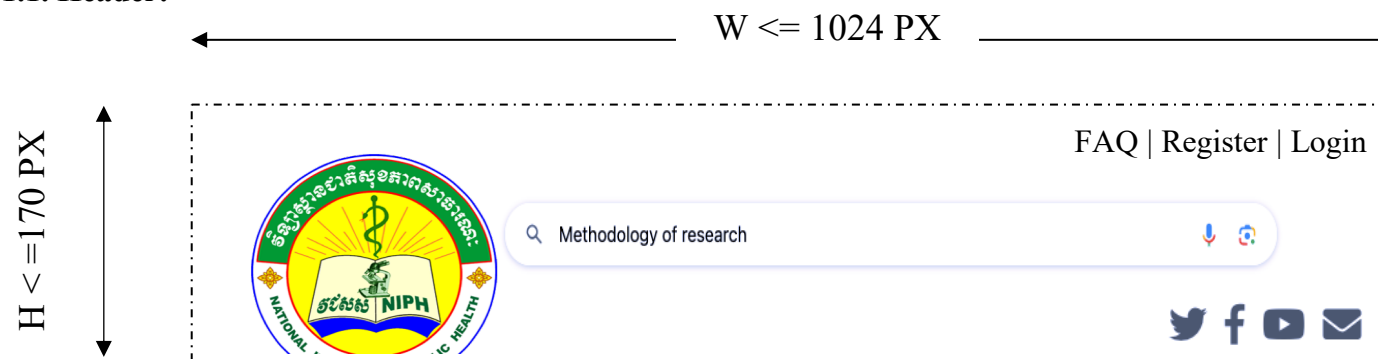




### 3. Design

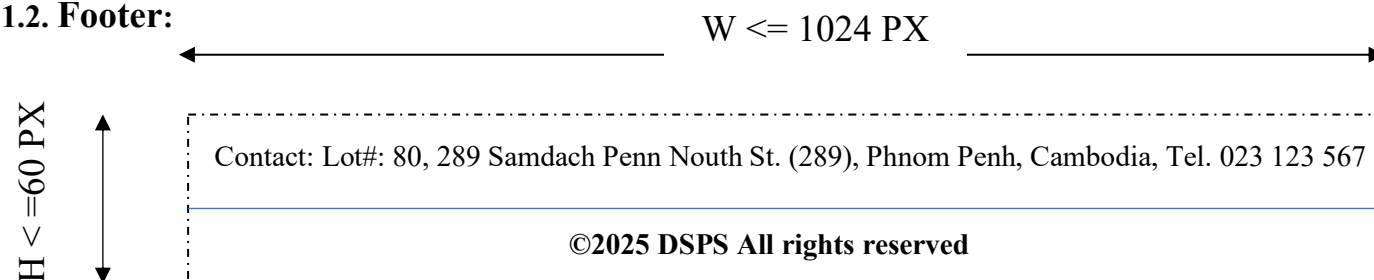
#### 3.1. Home

##### 3.1.1. Header:



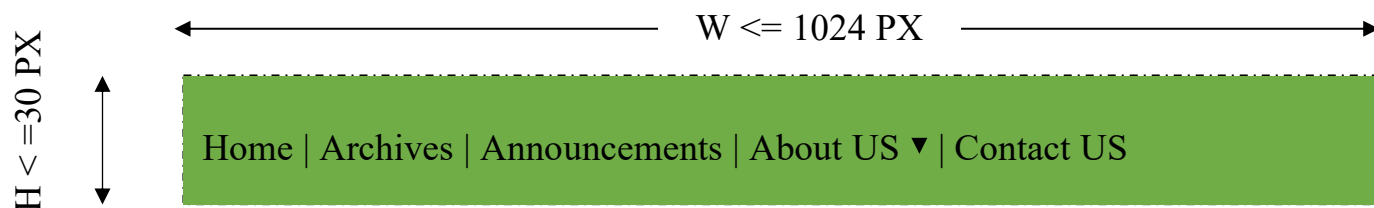
dpsheader.dart, Class Name = DspsHeader

##### 3.1.2. Footer:



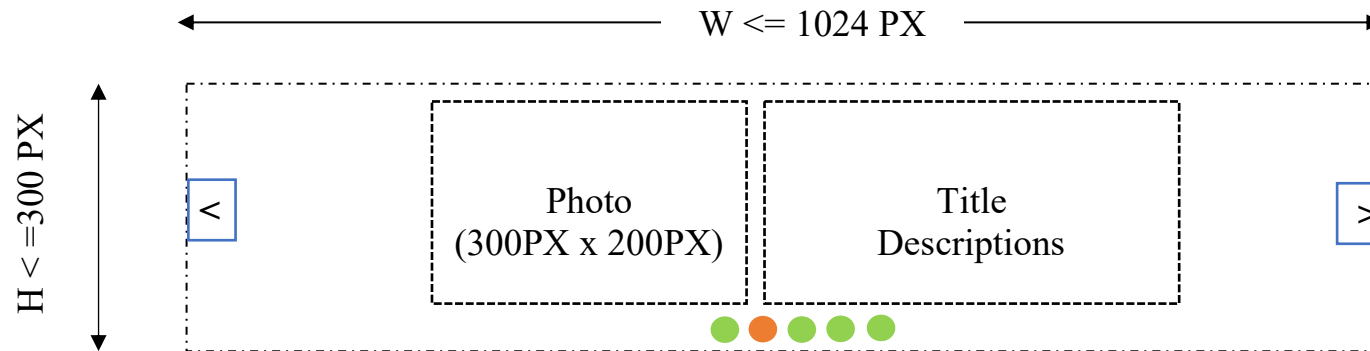
dpsfooter.dart, Class name = DspsFooter

##### 3.1.3. Navigator:



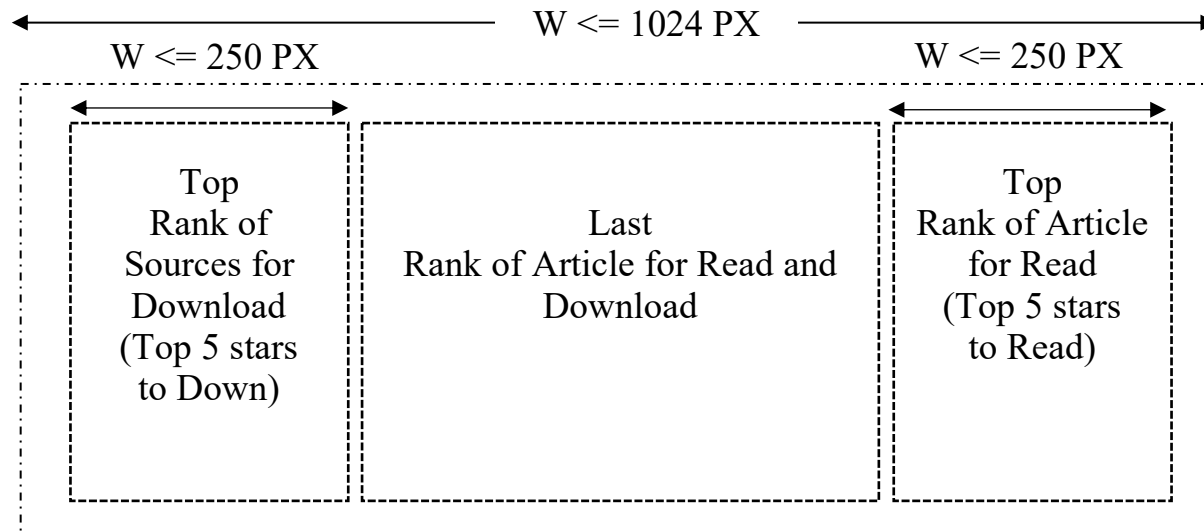
dpsmenu.dart, Class name = DspsMenu

### 3.1.4. Slide View:

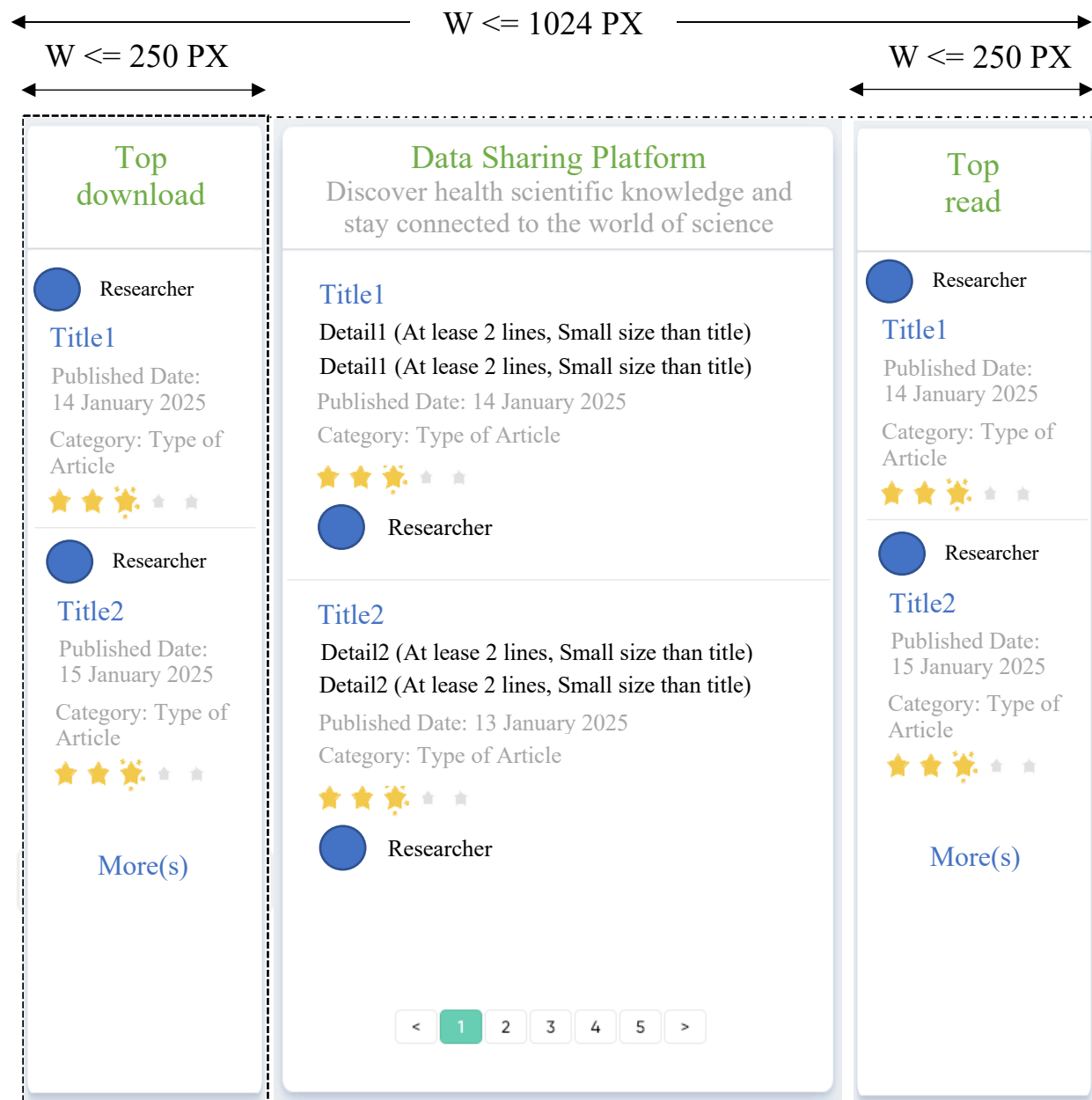


dspsslide.dart, Class name = DspsSlide  
All slides are manipulated by admin role

### 3.1.5. Details /Directories:



dspsdirectories.dart, Class name = DspsDirectories



dspsdirectories.dart,  
Class name = DspsDirectories

No.	Label	Variables	Description
1	Title	dspsd title_en	From <b>dspsd_tbl_datasource</b>
2	Detail	dspsd description	
3	Photo Profile	isp_photo	From <b>ist_tbl_people</b>
4	Researcher	isp_firstname_en , isp_lastname_en	
5	Published date	dspsd public_date	From <b>dspsd_tbl_datasource</b>
6	Category	dspsd title_en	From <b>dspsd_tbl_dspscategory</b>
7	Top download	Count and find max	From <b>dspsd_tbl_datasource_used</b>
8	Top read	Count and find max	From <b>dspsd_tbl_anonymous</b>
9	Top download + Top read		

3.2. Register:

W <= 1024 PX

W <= 250 PX

Top Rank of Sources for Download (Top 5 stars to Down)

Register a new account

It's quick and easy

First name

Surname

Date of Birth?

▼

January ▼

2025 ▼

Gender?

Male ▼

Email Address

New Password

By clicking Sign Up, you agree to our [Terms](#), [Privacy Policy](#) and [Cookies Policy](#). You may receive SMS notifications from us and can opt out at any time.

Sign Up

Already have an account?

Top Rank of Article for Read (Top 5 stars to Read)

dspsregister.dart,  
Class name = DspsRegister

No.	Label	Variables	Description
1	First name	isp_firstname_en	
2	Surname	isp_lastname_en	
3	Date of Birth?	isp_dob	
4	Gender?	isp_sex	
5	Email Address	isp_email_1, isu_name	From ist_tbl_people, ist_tbl_users
6	New Password	isu_password	
7	Sign Up	cmdSignup	
8	Already have an account?	Link with log in form	

### 3.3. Login:

W <= 250 PX

W <= 1024 PX

W <= 250 PX

Top  
Rank of  
Sources for  
Download  
(Top 5 stars  
to Down)

**Log in into**  
Data sharing platform

Email Address

Password

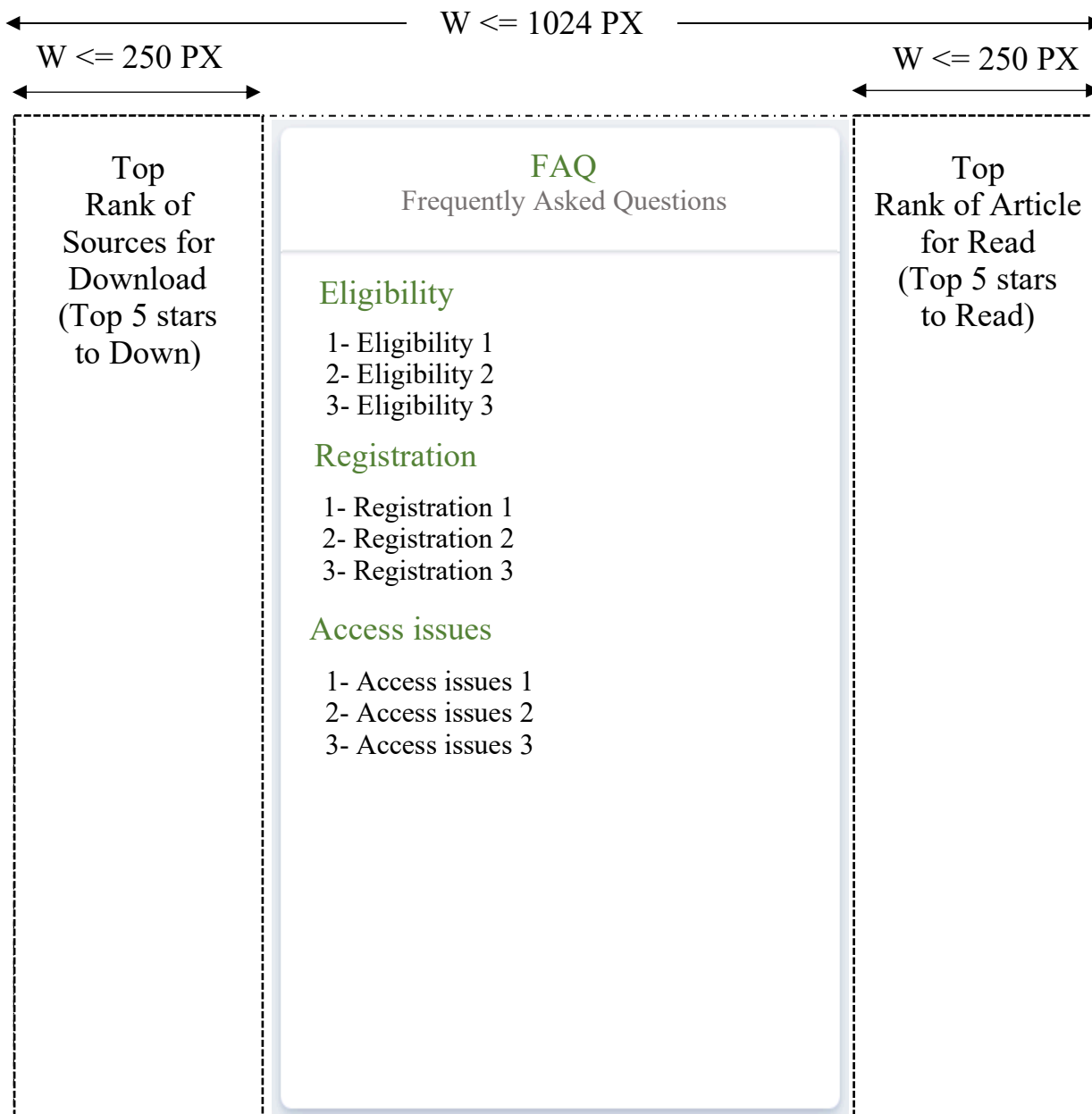
Log in

Or Forgotten account?

Top  
Rank of Article  
for Read  
(Top 5 stars  
to Read)

No.	Label	Variables	Description
1	Email Address	isp_email_1, isu_name	From ist_tbl_people, ist_tbl_users
2	New Password	isu_password	
3	Log in	cmdLogin	
4	Or Forgotten account?	Link with Forgotten account form	

### 3.4. FAQ:



dspsfaq.dart,  
Class name = DspsFaq

No.	Label	Variables	Description
1	Eligibility	dspsfaq_title_en	From dsps_tbl_dsp sfaq
2	1- Eligibility 1 2- Eligibility 2 3- Eligibility 3	dspsfaq_description	

The diagram illustrates a three-column layout with specific width constraints:

- Left Column:** Labeled "Top Rank of Sources for Download (Top 5 stars to Down)". It has a width constraint of  $W \leq 250\text{ PX}$ .
- Middle Column:** Labeled "Vision Data sharing platform". It contains a grid of 18 "vision" items arranged in 6 rows and 3 columns. The total width for this column is constrained by  $W \leq 1024\text{ PX}$ .
- Right Column:** Labeled "Top Rank of Article for Read (Top 5 stars to Read)". It also has a width constraint of  $W \leq 250\text{ PX}$ .

No.	Label	Variables	Description
1	Vision	dspsabout_title_en	From
2	Vision vision vision ...	dspsabout_description	dsps_tbl_dsp about

### 3.6. Contact US:

W <= 250 PX

W <= 1024 PX

W <= 250 PX

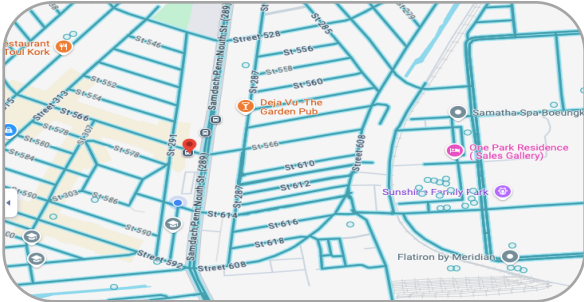
Top  
Rank of  
Sources for  
Download  
(Top 5 stars  
to Down)

Contact US

Data sharing platform

National Institute of Public Health

Address : Lot#: 80, 289 Samdach Penn  
Nouth St. (289), Phnom Penh, Cambodia  
Email : [dsps\\_info@niph.org.kh](mailto:dsps_info@niph.org.kh)  
Tel : 023 999 999



Feedback

Send your message

Top  
Rank of Article  
for Read  
(Top 5 stars  
to Read)

dspscontact.dart,  
Class name = DspsContact

No.	Label	Variables	Description
1	Name *	dspsfb_name	From dsps_tbl_dsp sfeedback
2	Email *	dspsfb_email	
3	Question /Message *	dspsfb_body_text	
4	Send your message	cmdfbSend	Send to dsps_tbl_dsp sfeedback