SaniDigs Platform Inception Report

Sanitation Digital Platform Ver. 1.0.0

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By Tactical Infinity Data Co. LTD

C/O Amref Health Uganda

Sanitation Digital Project Pilot

SaniDigs

80 Days

Inception Report

August 2020
Water Sanitation and Hygiene
Program Manager WASH Hajra Mukasa

Prepared by
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1. Introduction

1. This Inception Report is for the project of SaniDigs Platform (Sanitation Digital Platform) in Kawempe Division. This is a pilot project that will cover the period from 31st July 2020 to 18th November 2020.

    The objectives of the project are;

    General Objective

    To improve access to real-time sanitation data for improved decision-making and efficient delivery of sanitation services in Kawempe Division.

    Objectives of the Assessment

    a) To develop a one stop digital sanitation (SaniDigS) platform.

    b) To test the applicability of using the SaniDigS platform in Kawempe Division.

    c) To document and disseminate outcomes of the SaniDigs pilot project.

2. The purpose of this Inception Report is:

    o   To provide the main operational plan for the project.

    o   To provide information on the scope of the project,

    o   To provide the subject of the project to its stakeholders,

    o   To provide the approach and methodology that will be used for the project,

    o   To show how the project will be organized.

    o   To define the business case for SaniDigs Project:

        ●   Why is it worth doing

        ●   What are success criteria for the SaniDigs Project

        ●   What are the main risks of the SaniDigs Project

        ●   And what are the resources required to pull the project off.

    o   To define how information on the project will be disseminated and used by the expected users; Amref Health Africa, KCCA, African Academy of Health Sciences

2. Context

Amref Health Africa in Uganda is partnering with the African Academy of Sciences to pilot a digital sanitation project in Kawempe Division of Kampala district. The project aims at developing a one stop sanitation digital (SaniDigs) platform that is not limited by distance or time. SaniDigs will be used to improve multi-sectorial decision making, planning and provision of safely managed sanitation services to peri-urban settlements of Kampala city in Uganda. The platform will bring together government, sanitation service providers, entrepreneurs and consumers on a single platform for continuous engagements.

Kawempe Division of Kampala Capital City Authority (KCCA), the capital of Uganda has a population of 400,000 people and is home to the largest number of informal settlements in Kampala district. Most of the settlements are located within low-lying poorly drained land that is prone to flooding during the rainy season, which coupled with overcrowded neighbourhoods and poor sanitary conditions expose inhabitants to preventable diseases such as malaria, diarrhoea and typhoid.

In 2007, Amref introduced the Personal Hygiene and Sanitation Education (PHASE) Model in the Division to change poor personal hygiene and sanitation behaviour among pupils and their families. The programme targeted school age children as agents of behaviour change. Among the key behaviour targeted for change included proper latrine use, hand washing with soap, safe water handling and environmental hygiene. However, residential premises where most of the children stay were not served by the programme.

With funding from The Coca Cola Foundation, Amref worked with KCCA authorities of Kawempe Division to scale-up sanitation interventions to cover residential premises in all the wards of Kawempe Division by working with landlords to eliminate open defecation using the customer centred sanitation marketing approach.

3. The Sanitation Digital (SaniDigs) Platform

The SaniDigs Platform is a real-time data collection and management platform that automates processes focused around sanitation information.

This platform shall digitalize the processes of information gathering through retraining the users to use the smartphone and the computer to handle data.

The SaniDigs platform is customer-driven strategic business transformation tool that requires cross-cutting organizational change as well as the implementation of digital technologies.

Clients and users shall trade-in physical bulky paper forms for an app on a smartphone there digitalizing the data entry process. The data entered shall be digitized for easy management and manipulation for presentation on an online platform.

Scope

The SaniDigs platform is to be piloted in Kawempe division of Kampala Capital City Authority (KCCA), the capital of Uganda has a population of 400,000 people and is home to the largest number of informal settlements in Kampala district. Most of the settlements are located within low-lying poorly drained land that are prone to flooding during the rainy season, which coupled with overcrowded neighbourhoods and poor sanitary conditions expose inhabitants to preventable diseases such as malaria, diarrhoea and typhoid.

Timing

Works shall begin on the approved date of **31st of July 2020** and end on the **18th of November 2020** a duration of 80 working days

Objectives and Activities

The objective of the SaniDigs Platform is to improve access to real-time sanitation data for improved decision-making and efficient delivery of sanitation services in Kawempe Division.

On assessment, we aim at realizing the objectives below;

- To develop a one stop digital sanitation (SaniDigs) platform.
- To test the applicability of using the SaniDigs platform in Kawempe Division.
- To document and disseminate outcomes of the SaniDigs pilot project.

The project is intended to contribute to the achievement of the sanitation MDG 7 (now SDG 6) but also respond to MDG 4, 5and 6 [now SDGs 6] by reducing the prevalence of water, sanitation and hygiene related diseases among disadvantaged communities in Kawempe Division of Kampala district.

Outputs and planned versus actual beneficiaries

The SaniDigs platform once deployed shall exhibit the following benefits to Amref Health Africa and other stakeholders;

1. A unique view of the customer/client/stakeholder. The SaniDigs platform shall be designed to collect data from a wide variety of sources, unify them in a complete view of the client in all devices and channels and then make them available to other systems.

2. It'll allow organizations to be more competitive. According to the recent Forbes study "Insights / Treasure Data", the vast majority of marketing executives (93%) believe that the use and analysis of customer data for decision making and the creation of campaigns will provide them with a substantial advantage when facing disruptive and competitive challenges. In addition, 53% believe that the transparency provided by these platforms will make it possible for their teams to react more quickly to changes in markets or customer preferences.

3. It shall be agile. The SaniDigs platform is a tool to create and connect a flexible technology stack that adapts to the behaviour of users and changing technological trends. By focusing on the database, the SaniDigs gives businesses the tools they need to collect data from everywhere and use it anywhere to create better customer experiences.

4. The SaniDigs platform democratizes data. The benefits of client data are not exclusive to the marketing team, but encompass all departments of the organizations. Business intelligence and customer service, for example, depending on the availability of data to get ahead. The SaniDigs platform democratizes access to all this data in the different departments and points of contact with the client.

5. Enrich relationships with partners and suppliers. The extended ecosystems of the companies, including suppliers and partners, are among the first beneficiaries of the implementation of the SaniDigs platform.

6. The SaniDigs platform shall provide a more effective customer and marketing experience. Nowadays, users use more channels and devices than ever before, and expect to have a unified customer experience in all of them. For example, they negatively perceive seeing an online advertisement for a product that they have already purchased in a physical store. Thanks to the unified customer vision provided by the SaniDigs platform, the company has a complete view of customer behaviour that can be used to create a complete customer experience without blind spots. And in turn, improved customer experiences lead to greater loyalty.

7. Improve operational efficiency. Previously, integrating different solutions and specific tools to view customer data used to consume many resources. In contrast, the SaniDigs platform centralizes customer data with ready-to-use integrations, which saves many working hours. In addition, audience and business rules can be configured centrally and applied uniformly in the different tools.

Outcomes

As a result of the implementation of the SaniDigs platform we shall have 3 major outcomes;

1. **A Data Dashboard**
   Realtime data collecting reporting, representing, and analytics dashboard platform for
   Government and stakeholders accessing realtime concise data on WASH indicators for planning and decisions making. In addition, the government will have access to real time sanitation challenges per location both for quick actions and better client service provision. Furthermore the government will use the platform to share policies, standards and guidelines with all service providers and consumers.

2. **An online Marketplace;**
   The SaniDigs platform shall create an online Kawempe business Ecosystem that will connect all sanitation service providers in the city, providing them with a platform to advertise their products and services to potential customers. The service providers will be able to see the customers in need of their services, technologies and connect to them for real time service provision.

3. **A Data resource**
   Being a DataLake, the SaniDigs platform shall connect academia that will collect data on current gaps and analyse for future scientific research programs and as well share the generated evidence at different information sharing & learning fora for better decision making.

Below are visual mockups for the user interface and user experience after wire framing the application for both mobile and desktop applications;

SaniDigs Desktop Application dashboard
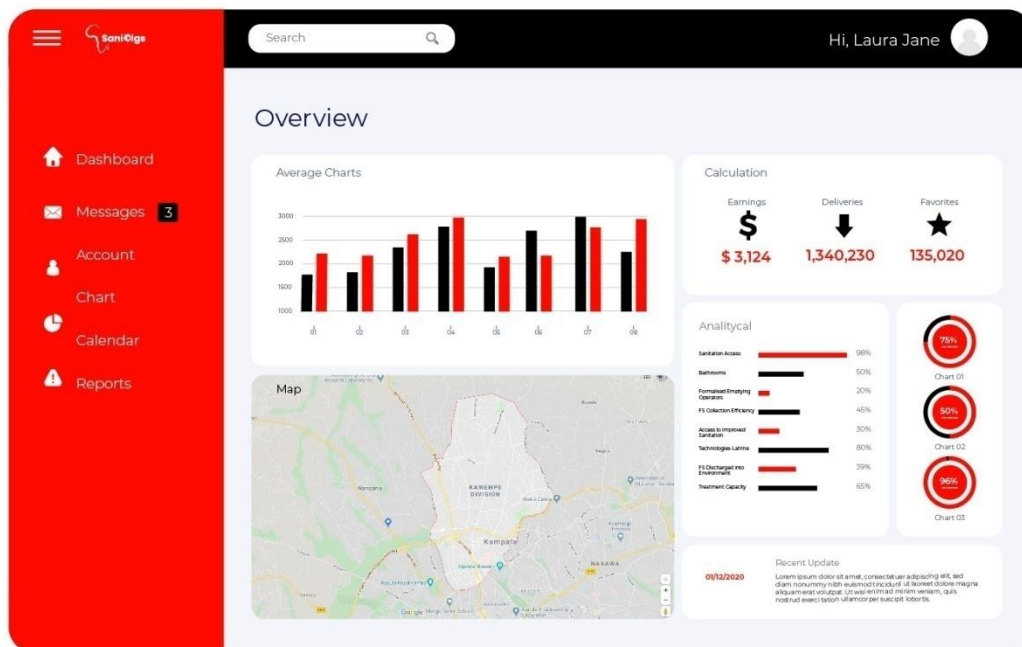
SaniDigs Mobile Application Dashboard
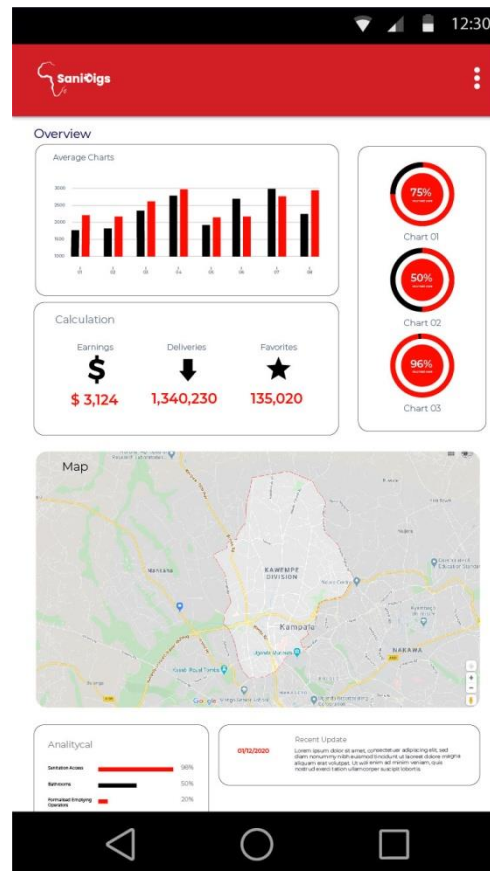
Logical Framework or Logic Model

The SaniDigs Logical framework below succinctly presents what the SaniDigs Platform is trying to accomplish with sanitation digital intervention. It defines;

- How success will be measured;
- What assumptions must hold true for each level of the results chain.
- And also establishes the expected results chain for a SaniDigs Platform intervention, indicating: Outputs > leading to Outcome effects > which contribute to SaniDigs Platform Strategic Objectives and > which, over time, contribute to long-term effects or Impact of sanitation within Kawempe division.

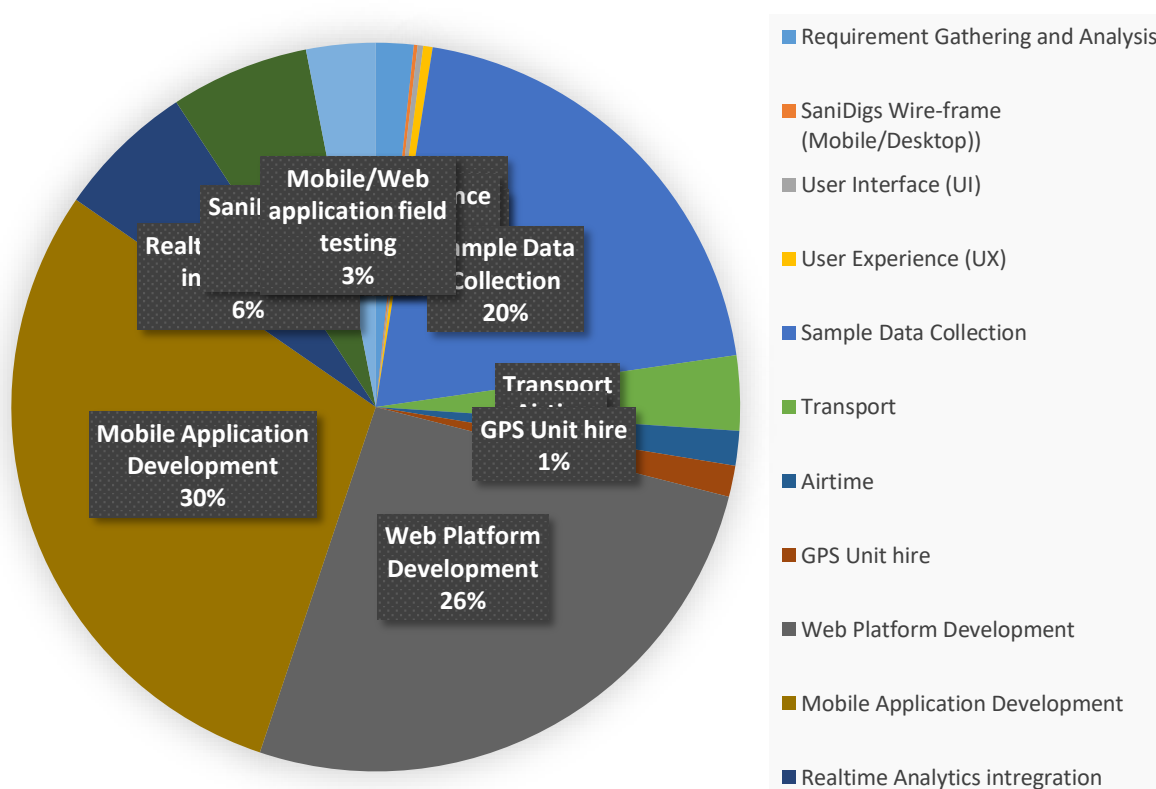| Phases	Roles and responsibilities	Processes	Products
Submission of Inception Report	Inform and put into perspective the SaniDigs project at hand	Engaging stakeholders, planning, and project documentation	Report and planning document
Map of Sanitation ECO-System for Kawempe	Capture GIS data on Kawempe division	Using mapping software services and boots on the ground investigation.	GIS information map and data store of Kawempe division
Development of SaniDigs prototype	UI/UX design of the SaniDigs platform. Web/Mobile	Wireframing, Logo designs, Architectural designing	SaniDigs logo, SaniDigs system Architecture, SaniDigs UI/UX design
Pretesting prototype	A/B testing for the different user groups and use cases	Focus group hands on application use for Web/Mobile	Approved SaniDigs platform prototype
Incorporating feedback	Tweaking and Troubleshooting	Re coding and adjusting code for prototype to suit user desired outcome	User accepted SaniDigs platform
Development and submission of Manual on use and application of platform	Documentation and review of platform uses and procedures	Platform manual development	SaniDigs platform use manual
Launch of App	Presentation of the SaniDigs platform before all partners and stakeholders	Live demonstration before the Kawempe community, partners and stakeholders	Ready for use SaniDigs Platform
Preparation and submission of final report.	Documentation and review of SaniDigs performance	Documentation and compilation of final report	Completion report and receipt of completion certificate

Partners

For the successful development of the SaniDigs Platforms the following partners shall take part;

- Amref Health Uganda
- Government through Kampala City Council Authority (KCCA)
- School of Public Health
- African Academy of Sciences

- Ministry of Health

- Ministry of Education and Sports

- National Water and Sewerage Corporation

Resource requirements and funding situation

The budget is USD 18,793 has been allocated to the project development from Amref Health Uganda. This is broken down in the pie chart below;

USD 18,793.00

Legend:
- Requirement Gathering and Analysis
- SaniDigs Wire-frame (Mobile/Desktop))
- User Interface (UI)
- User Experience (UX)
- Sample Data Collection
- Transport
- Airtime
- GPS Unit hire
- Web Platform Development
- Mobile Application Development
- Realtime Analytics intregration

Pie chart labels:
- Mobile/Web application field testing 3%
- Sample Data Collection 20%
- Realt in 6%
- Transport GPS Unit hire 1%
- Mobile Application Development 30%
- Web Platform Development 26%

Gender dimensions of the intervention

In the African setting, most if not all households are maintained and managed by women, where mostly men leave house sanitation and hygiene duties to women.

The SaniDigs platform in play shall improve directly if not indirectly on the dissemination of sanitation information and services to the ladies of the house at the click of a button and the swipe of a phone.

We expect to see an incredible participation of the women in Kawempe throughout the SaniDigs project as they'll be reporting on sanitation challenges within the community and are the primary consumer of sanitation services.

4. Stakeholder analysis

The SaniDigs platform for success execution requires a couple of stakeholders. In this section we define the stakeholders required.

Table 1: Stakeholder analysis and mapping

Stakeholder	Interest in the SaniDigs Platform Project	Involvement in Project and likely use	Who (specifically for the Project)
Internal (Amref Health Uganda) stakeholders			
WASH Manager	Platform development, applicability, and implementation	Project management and steering	Ms. Hajra Mukasa
Project Manager Urban and Central Region	Data Collection tool development and performance	Sanitation indicator development, implementation, reporting, and specification development	Eng. Mtwalib Walude
IT Management and Administration	Technical support for SaniDigs hosting, management and administration	SaniDigs platform technical specification support and sizing	Abert Aheebwa
Communications, Fundraising and Advocacy Manager	Branding and communications	SaniDigs project image development	Lilian Kamanzi
			Maureen Nankaja
E/M Health Program Manager			Charles Maina
External stakeholders			
KCCA	Approved indicators for access and containment

SaniDigs project orientation
Selection of test sites
Review of coordination guidelines | Indicator measurement

SaniDigs project procedure | Dr. Najib Lukooya Allan Nkuruziza

Moses Sempa Emmanuel Serunjoji |
| Ministry of Health | Mechanisms for measuring sanitation indicators
SaniDigs plugin into the Health Management Information System (HMIS) | SaniiDigs indicator quality
SaniDigs indicator reporting | Stephen Kayanja Moses Kabanji |
| Kawempe Division Leadership | SaniDigs pilot area and implementation (Kyebando Parish) | High level oversight of the SaniDigs project development and implementation | Ag. Town Clerk Mayor Division Medical Officer Grace Ajello (Kawempe Division Health Inspector) Henry Walakira (Councillor Kyebando West) |
| Ministry of Water and Environment | Mechanisms for measuring sanitation indicators
SaniDigs plugin into the Health | SaniDigs indicator reporting | Martha Naigaga (Commissioner Urban Water and |

	Management Information System (HMIS)		Sanitation) Trinah Kyomugisha
Ministry of Education and Sports	Mechanisms for measuring sanitation indicators SaniDigs plugin into the Health Management Information System (HMIS)	SaniDigs indicator reporting	Santa Okoth (Commissioner Primary Education)
ResilientAfrica Network (RANLAB)			Dr. Julius Ssentongo
			Yunia

5. SaniDigs Platform Development approach and methodology

5.1. Proposed approach and methodology

Using the parish model, data within the platform shall be assembled and collected in 7 key modules;

- Asset module with features including;
    - Land
    - Housing
    - Roads
    - Water sources
    - Vegetation
    - Terrain
    - Cultural assets

- Health Module, this describing two main characteristics; morbidity and mortality
- Demographic module, aspects including;
    - Name
    - Age
    - Education/literacy level
    - Household type
    - Place of residence
    - Size of residence
    - Number of persons in the residence

- Social module, entailing the standing in society;
    - Tribe
    - Religion
    - Number of children
    - Citizenship
    - Occupation
    - Marital status
    - Membership to unit
- ICT module to check how tech savvy the household is;
    - Phone ownership
    - Phone use
    - Service provider
    - Phone type
    - Media access (print, radio and television)

- Energy module, energy sources (Renewable/non-renewable)
    - Fuel (kerosene, firewood, biogas)
    - Electricity
    - solar
- Economic module, the source of livelihood including;
    - Activity type
    - Purpose
    - Household size
    - Household income
    - Number of livestock if any
    - Mode of transport

5.2. Site mapping

The SaniDigs platform is to be piloted in Kawempe division of Kampala Capital City Authority (KCCA), the capital of Uganda has a population of 400,000 people and is home to the largest number of informal settlements in Kampala district. Most of the settlements are located within low-lying poorly drained land that are prone to flooding during the rainy season, which coupled with overcrowded neighbourhoods and poor sanitary conditions expose inhabitants to preventable diseases such as malaria, diarrhoea and typhoid.

Using the Parish Model to demystify the sanitation story within the Kawempe division, we'd begin with dividing up the area into a GIS grid as shown below.
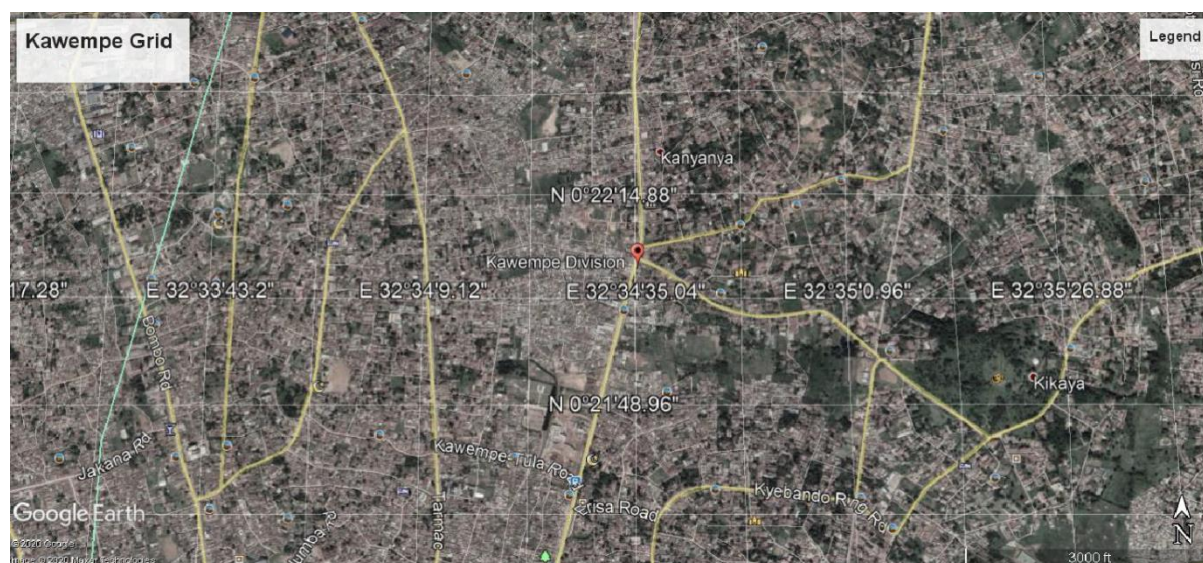

It is from this grid that the SaniDigs Platform shall validate the data collection centers as data shall be done in cells assigned to the various data collection teams.

The cells on investigation depict the baseline for the collection of exercise in terms of what to expect in terrain, vegetation, housing, income, levels and activities. The data collected should backup this birds' eye view data as measure data integrity and validation.

5.3.   Data Collection Methods, Tools, and Sanitation Service Chain Indicators

Participants and actors shall interact with the data for the SaniDigs Platform as shown below;
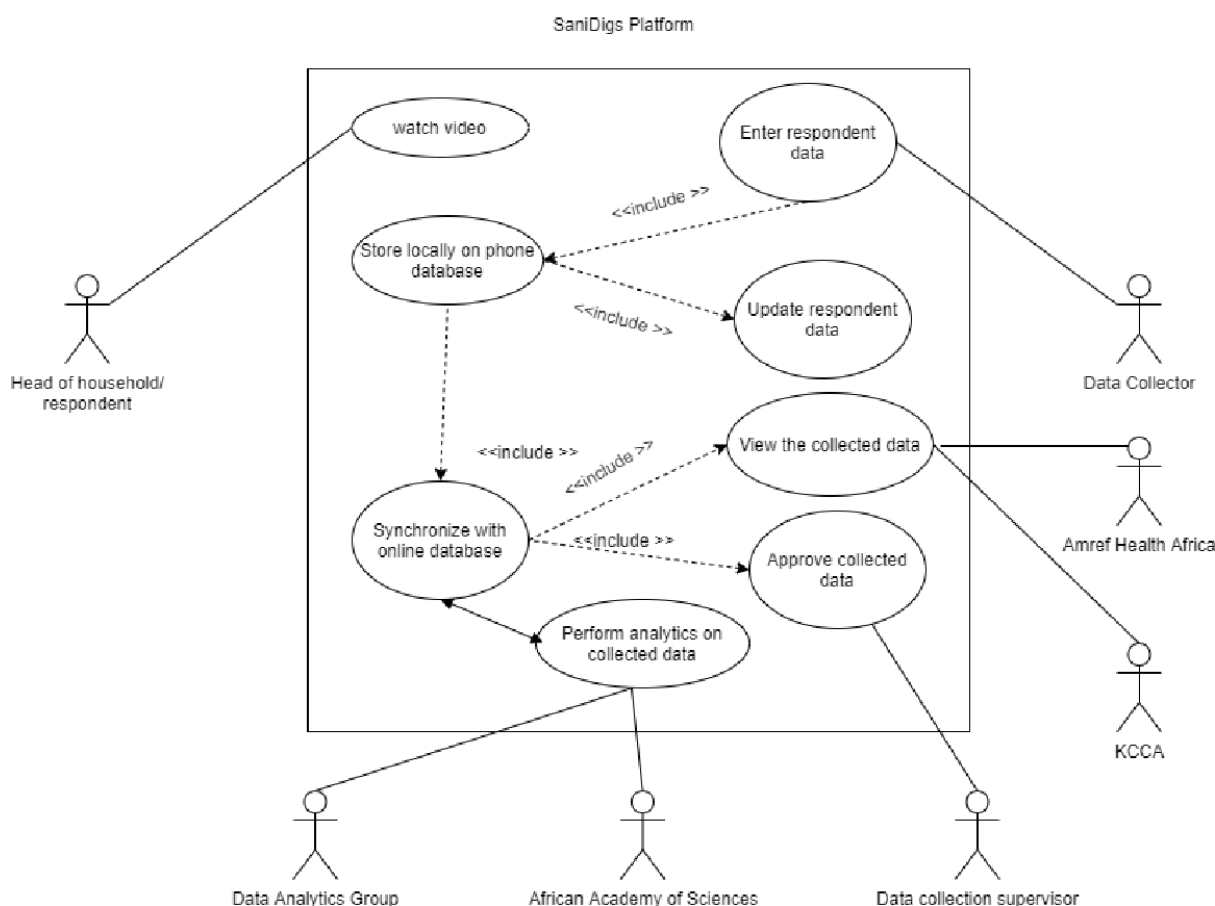
For The Data collection process to precise and concise, the main actors are defined as below;

1. The Head of household/Respondent

The only action that this actor has is watching the video from the data collector's phone in order to understand what the exercise is all about and the benefits of participation. After that the respondent hands the phone back to the data collector who then begins asking the survey questions on receiving consent from the respondent.

2. The Data collector

This actor is the hands-on user of the SaniDigs Mobile app that enters the data received from the respondent in input fields provided in the app.

3. The Data collection supervisor

This is an experienced data collector of higher knowledge and understanding of the data collection exercise and has valid insights in the data collected by the data entrant with the ability to intervene in the collection process and urge the data collector to repeat a collection or terminate false data.

4. The Data analytics group

This is a select group of accredited individuals with the grand task of performing analytics on the data collected.

Tools

The data shall be collected using research tools including the Handwashing formative research tool which is comprised of categories;

a) General household information. Collecting mostly demographic data.
b) Social economic characteristic. Data around individual standing in society.
c) Access to an improved wáter source.
d) Water use fee. Economic data around water access
e) Safe wáter handling practices. Health related data.
f) Treatment of unsafe water. Energy data around water purification.
g) Access to an improved toilet facility. Health social economic data.
h) Utilization of a toilet facility.
i) Access to handwashing place.
j) Handwashing with soap.
k) Food preparation, handling and storage practices.
l) Waste management.
m) Diarrhea management among children under 5 years.
n) Diarrhea mortality.
o) Knowledge and attitude towards appropriate hygiene practices.
p) Sources of higiene and sanitation information.

Sanitation Service Chain Indicators

These are observed values of variables that highlight performance of sanitation in a given geographical area or region. These values shall enable us see the level of sanitation throughout Kawemple Division in Realtime on the SaniDigs platform with use of charts and analytical investigations of Data science. These indicators shall visually be presented on the SaniDigs dashboard to enable Realtime assessment of the division.

The indicators are divided into 3 main categories;

I. Access and Containment
These include (but not limited to);
- Percentage of population covered by sewered network
- Percentage of population practicing open defecation
- Percentage of population relying on onsite sanitation

II. Desludging and Transportation
These include (but not limited to);
- Percentage of onsite sanitation systems that have been desludged in the last 5 years
- Average desludging frequency
- Percentage of toilets whose desludging services are completed mechanically

III. Treatment and Reuse
- Effectiveness of feacal sludge treatment plant in meeting prescribed discharge standards for water and bio solids
- Treatment capacity as a percentage of total FS generation (excludes FS that is disposed onsite)
- Percentage of treated feacal sludge reused

5.4.   Limitations and risks

For the success of the SaniDigs Platform, data is the lifeblood that should be respected and handled with utmost importance otherwise we risk collecting useless facts and extracting useless information. In light of this limitation, we have designed a system that reduces this risk to a minimum and we breakdown these measures below;

Quality of data starts at the questionnaire level, if there're poor questions asked during the investigation data collection, ones that are ambiguous and not precise and concise, the answers provided shall in turn be shallow and less accurate non reflective of the respondents current state. It is for this reason the questions compiled should be tightened and focused on the objective of the sanitation excursion.

The team to collect that data what we call the data collection team is critical to data collection exercise. It is not advisable to use local residents that live within the community to collect data on there fellow residents even if they've have signed non-disclosure agreements as private data may spread by word of mouth and also the fact that the community residents as a whole are less inclined to sharing their personal and household challenges with neighbours who may scoff at them and may also use the same information against them. With this in mind, our data collection team shall come from outside Kawempe division working in conjunction with a local team we term as Local Guides and Champions to perform introductions at household level and thereafter give room for privacy for questioning to begin.

Data is readily available for the asking among the residents of Kawempe division but the challenge is obtaining truthful data, data that can be relied upon. It is for this reason we investigate data with the 7 modules outlined above. For instance, education level in most cases is reflected in how hygienic a household in the affirmative is characterised but a proper sanitary facilities and refuse disposal.

The data collected, consisting of image data, GIS data, and textual data shall spell a clear story for each household the data is collected from.

When it comes to data, the long arm of the law is never far away. Before data is collected, we require respondents to sign a consent form that gives us the permission and agreement to acquire data from the households within Kawempe division. Within the questionnaires as well, we are asking the respondents for permission to take their pictures of household, sanitary facilities, and head of household. This practice also allows us to prove the data collected is also true and increases the confidence we've in the data.

On completion of the exercise, 10% of the data shall be reinvestigated by the data collection supervisors and if it passes, the data analytics team shall come into play to pull analytical information from the data to proof it as well.
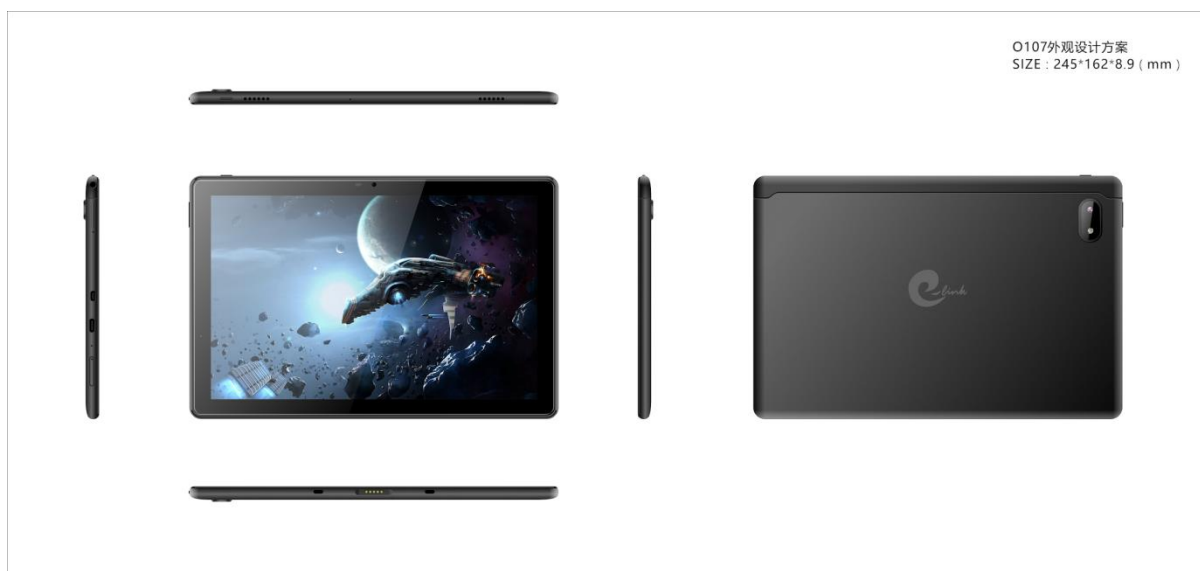
5.5.   Ensuring quality

During the use of the SaniDigs Mobile for data collection, ethical conduct is paramount to ensure SaniDigs Mobile goes through the Institutional Review Board (IRB) – Ministry of ICT to ensure it is approved as an authentic data collection tool that may be adopted by under the Parish model for that reason we have hired a robust legal team acquainted with the data protection laws of Uganda.

For data validation, GIS location data is paramount. With the use of satellite GPS tools that have accuracy up to 1.5 meters, all the parishes shall be mapped and data collected pegged against these values to ensure data validation and quality. We shall be acquiring and using the Trimble TDC 100 (also recommended for Data collection) to capture these locations. Device is shown below;

For the Android data collection tablets we shall be acquiring for the exercise, below are the specification we received from the manufacturer with long and battery life and 10 inch screen for better performance.

条目/item	规格描述/Description
平台/platform	MT8788WA 2.0GHz
GPU	MALI G72 MP3 700MHz

SIM		支持
ROM		32GB
RAM		3GB
LCDParameters	Type	IPS
	size+E32	10.1"
	Color	16.7M
	Resolution	1200*1920
	Luminous	300
	interface	MIPI
Front Camera	IC	AR0543/GC8034
	Pixel	5M
Back Camera	IC	GC8034/R214
	Pixel	13M
	Auto focus	YES
LED flash		YES
WIFI		802.11 a/b/g/n/ac
GPS		GPS +Glonass + Beidou/Galileo
OS		Android 9
Connectivity		4G(TD-LTE）:B38/B39/B40/B41 联通4G（FDD-LTE):B1/B5 4G(FDD-LTE)；B1/B3/B8 3G（WCDMA）:B1 3G TDS-WCDMA:B34/B39 移动2G:B3/B8 联通2G（GSM）:B3/B8
Proximity sensor		YES
light sensor		YES
Hall IC		YES
Gyroscope		YES（6轴）
Vibrator		YES
Speaker		2PCS（内置8Ω/0.8W BOX）
I/O connector		Type C/USB 2.0
耳机/earphone connector		3.5mm
HDMI		支持 MICRO HDMI
OTG		YES
电池/Battery		3.8V/7400mAh(MAX)
Supporting Flip cover		YES

The SaniDigs Platform evaluations must conform to governing laws in Uganda accordingly as the consultant we are responsible for safeguarding and ensuring ethics at all stages of the SaniDigs cycle. This includes, but is not limited to, ensuring informed consent, protecting privacy, confidentiality and anonymity of participants, ensuring cultural sensitivity, respecting the autonomy of participants, ensuring fair recruitment of participants (including women and socially excluded groups) and ensuring that the evaluation results in no harm to participants or their communities.

During the inception phase the following ethical issues have been considered for the preparation/design, data collection, data analysis, reporting and dissemination: consent, protecting privacy, confidentiality and anonymity of participants, ensuring cultural sensitivity, respecting the autonomy of participants, ensuring fair recruitment of participants (including women and socially excluded groups). These issues will be monitored and managed during the implementation of the SaniDigs Platform. If any additional

ethical issues arise during the implementation of SaniDigs, they will be recorded and managed in consultation with our legal team.

6. Organization of the SaniDigs Platform development

The SaniDigs Platform development is organized is 3 components, namely;

- Team Composition and work plan
- Timeline
- And the Data Collection Schedule

6.1 Team composition and work plan

Team composition and work plan

| Team Members	Primary Role	Specific tasks within the Evaluation	Deliverables	Dates
Maurice Muzini	Project Lead/ Lead Data Scientist	Project Management, technical and operational development	- Working development plan - Data collection plan - Device specification - Device acquisition - Team payment plan - Documentation - SaniDigs Application development plan	31-07-20 – 18-11-20
Prof. Tonny J Oyana	Principal investigation/ Lead Analytics Group	Oversee quality of data Measure and check performance indicators	- Data quality score - Protocol guide	10-08-20 – 18-11-20
Violla Nabawanda	Operation and Welfare manager	Bookkeeping Activity scheduling Minute taking	- Book of records - Activity record of the SaniDigs platform	31—07-20 – 18-11-20
Leila Nalubega	Legal Consultant	Ensuring all activities are carried out within the law.	- Consent form	31-07-20 – 18-11-20
Sidney Wasibani	Senior Application Developer	Lead development team in desktop and mobile application development.	- SaniDigs Mobile App - SaniDigs Desktop App	31-07-20 – 18-11-20
Simon Peter Odoi	Data Collection Supervisor	Lead the data collection efforts in	- Quality and quantity data	15-09-20 18/11/20

		the field.	collection	

6.2 Timeline

As advised in the TOR, below is the Gantt Chart for activities entails in the SaniDigs Platform development.
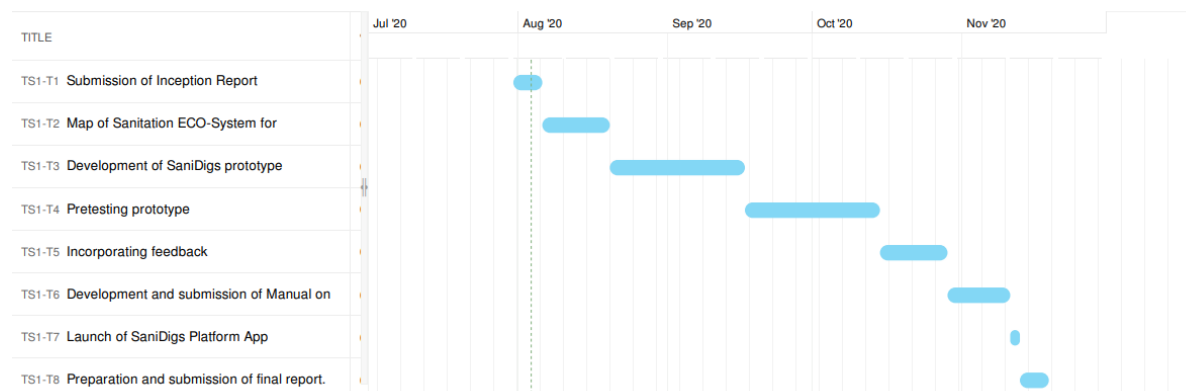
The SaniDigs platform development Project progress shall be tracked using Project Management software available both on the desktop and mobile, this software is called Zoho projects. It features a dashboard showing a snapshot of the completed, pending, in progress tasks, and so much more as shown in the snapshot below;
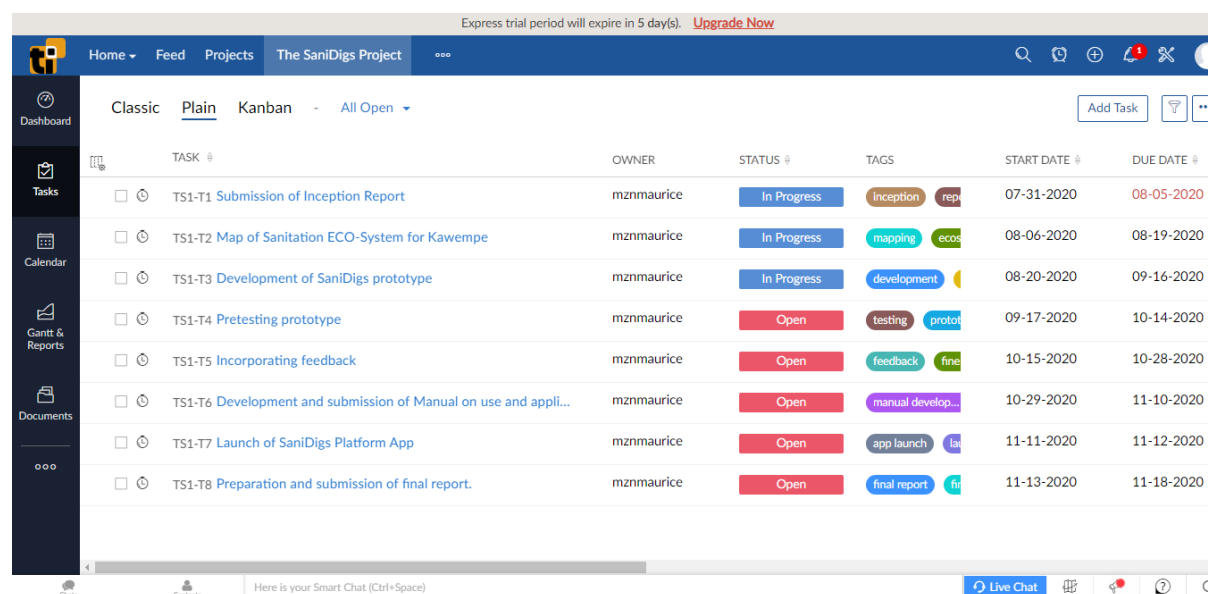

Key actors including the SaniDigs Project management team at Amref Health Uganda and other external stakeholders shall be given access to the portal to submit issues on the different tasks as needed and also monitor Project progress of the development team as well review project documents.

6.3 Data collection schedule

The SaniDigs Data collection schedule follows the parish model while collecting data from the 10 villages/zones of our pilot parish Kyebando. The villages include; Erisa zone, Katale zone, Kyebando central, Nsooba zone, Ring road, Kiberenge Erisa zone, Kitabuliki, Kisalosalo, and Kanyanya quarters.

The chart below defines the activities toward this endeavour;
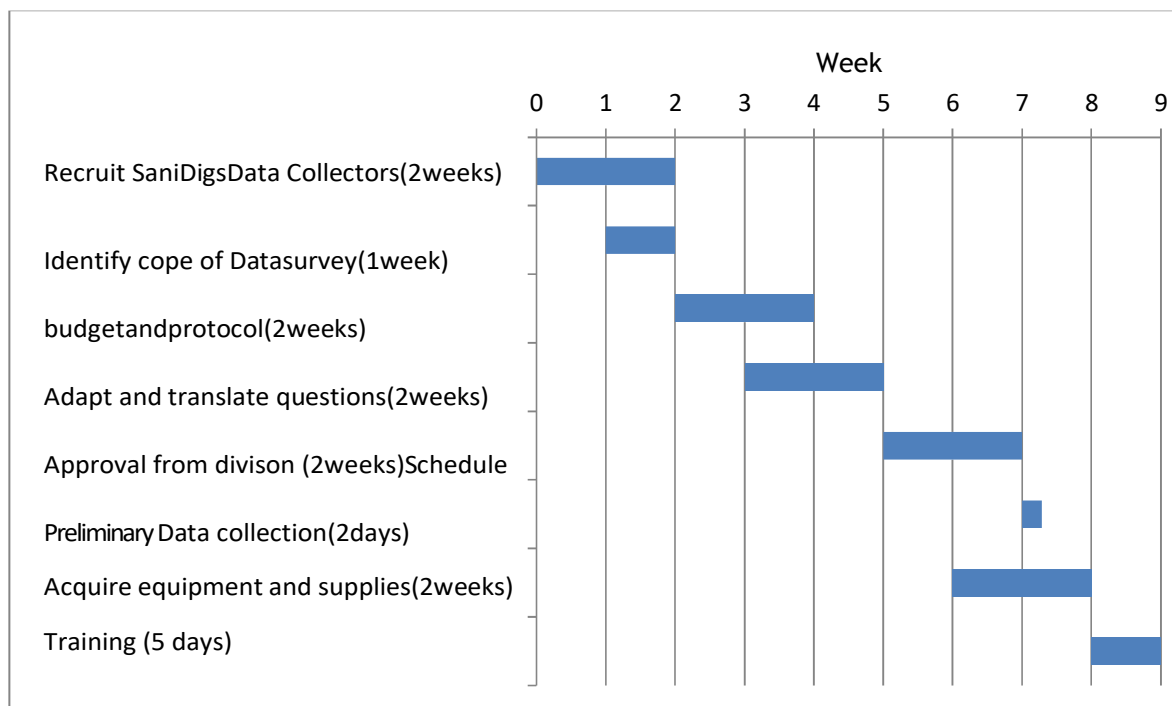
Our working calendar for SaniDigs household sample data collection in September 2020 is as below;

Village 1,2	Village 3,4	Village 4,5	Village 5,6	Village 7,8	Buffer Days (Village 9)	Training

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
31 reporting.date	1	2	3	4	5	6
7 prof Visit	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2		

6.4 Support/Information required

Operationally, to execute the required tasks in the Kawempe division there's need for support from Amref Health Uganda through the following ways;

- Introducing the SaniDigs platform development team to the local leadership in Kawempe division including but not limited to;
    o The political leadership
    o The technical leadership of the division especially the staff handling sanitation operations
    o The youth leadership including the team that participated in previous Amref Health Uganda exercises within the division, these are earmarked to be our SaniDigs Champions
    o And the local leadership including the local council chairpersons and their leadership teams.

7. SaniDigs Platform Technologies

For the SaniDigs Platform to be actualized, there are a couple of technological facets that need to be implemented. These pillars are fundamental building blocks that stand as the foundation for a sturdy application platform.

7.1 SaniDigs Domains

The SaniDigs domain name is the address where Internet users can access our online SaniDigs platform. The SaniDigs domain name shall be unique and be registered for use payable annually.

The following to domains shall be acquired for the platform;

a) www.sanidigs.org
   This domain name has the extension .org because the SaniDigs Platform is primarily a community based organizational platform.
b) kawempe.sanidigs.org and other subdomains
   This subdomain is a domain that is a part of the sanidigs.org domain. There shall be a series of other subdomain created as the SaniDigs platform expands beyond Kawempe division.
   marketplace.sanidigs.org shall be the subdomain where goods and services shall be exchanged by buyers and sellers
c) www.sanidigs.data
   The SaniDigs .data extension domain shall be the repository when data services shall be exchanged with approved users, businesses and organizations.

7. 2 The SaniDigs Platform Technology Architecture

The SaniDigs platform shall be built based on the architecture drawn below to ensure the smooth exchange of data and input output processes throughout the system.
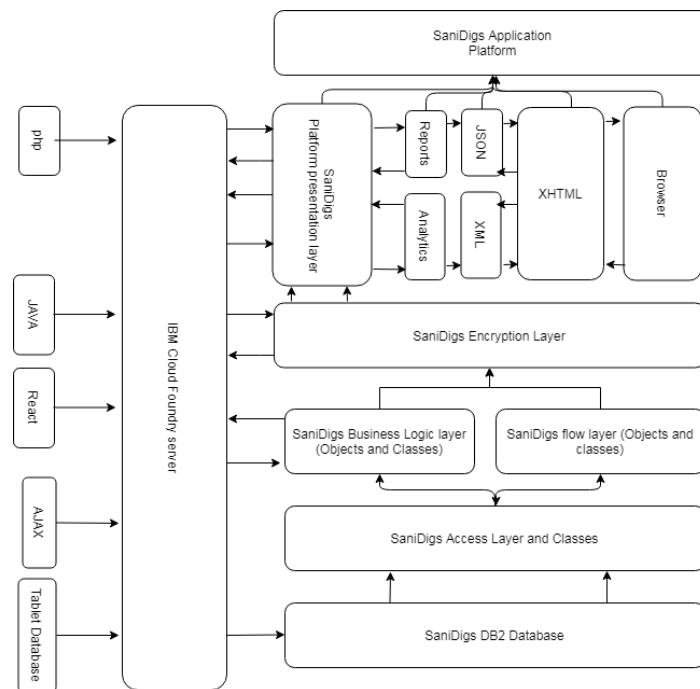

Data for representation using charts and tabulations shall be exchanged using data structures of JSON and XML.

7.3 Cloud hosting

The SaniDigs platform shall be hosted on a cloud platform to support fast data manipulation, analytics, machine learning and artificial intelligence. The cloud platform shall allow us to enrich our data with patterns and insights to facilitate opportunity exploitation and problem identification and solving.
Below is the structure of the cloud hosting arrangement.
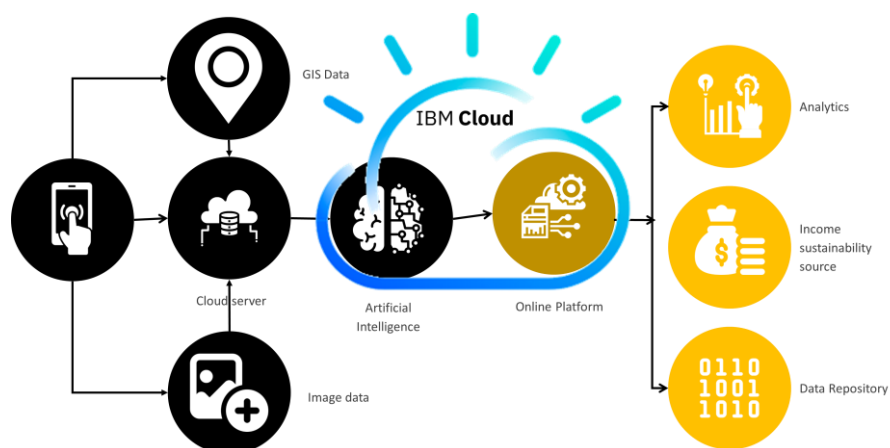
This hosting arrangement allows us to have our 3 major outputs stated in section 3 above which are;
1. A Data dashboard
2. An Online Marketplace
3. And a Data resource

Annexes

Annex 1   Kawempe Division Map