**The Explosive Wonders of the Philippines**

A Capstone Proposal

Presented to the Department of Information Technology

School of Arts and Sciences

St. Scholastica’s College, Manila

In partial fulfillment for the requirements in

Capstone I (METRES)

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March 17, 2015

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**CHAPTER 1:**

**INTRODUCTION**

**a. Background of the Study**

The researcher chose this study because it is very relevant especially nowadays where majority of the population has access to the Internet. Furthermore, the website to be produced will be dynamic which aims for a better user experience.

People have been taught about a few lessons regarding volcanoes during early years in primary school, but are limited to only a number of topics. Therefore not everyone knows a lot about the various volcanoes found in the country, which ones are active, how eruption occurs, and many other facts and statistics.

According to Andaya (2012), the Philippines’ exposure to numerous deaths and destruction of properties caused by volcanic activities is to a great extent not only because of our geographical characteristics, but also due to the limited access to information and low awareness of the conditions of the different types of volcanoes in the country. As a result, when disasters strike, their already poor condition will become worse, and this will also make them more exposed to infections and epidemics.

In emergency situations, Smith (2013), mentioned that the World Wide Web have proved valuable. It does not just provide channels for communication in times of need; they are also stepping forward in displaying essential information about the calamities happening across the globe.

The study will show that the Internet is a gateway to informing people become more familiar regarding the necessary data and knowledge about volcanoes, especially in times of an upcoming eruption.

**c. Statement of the Problem and Objectives**

The main problem of the study is how can the website “The Explosive Wonders of the Philippines” inform Filipino children about Philippine volcanoes?

When the Super Typhoon Haiyan made a landfall in the Philippines in 2013, Santos (2013), said that the problem was not because of improper information, but how the information was explained and distributed to the public. Therefore, there is a need to build or create a platform that would help people come to know these types of information better, and accessible to everyone as well.

The study will help further describe and illustrate how volcanic activities occur. This will aid the lack of sufficient knowledge and understanding of what a volcanic eruption implies. Specifically, it aims to answer the following questions:

1. How can the website educate people about volcanoes?
2. Can the website increase the knowledge of the users about the various types of volcanoes in the Philippines?
3. Can the information graphics and animation videos help in making the topic more understandable by children?

The main purpose of the study is to provide information regarding the volcanoes and volcanic activities in the country. Specifically, it attempts to answer the following research objectives:

1. To find out if the website can educate people about volcanoes.
2. To know if the website increase the knowledge of the users about the various types of volcanoes in the Philippines.
3. To determine if the information graphics and animation videos help in making the topic more understandable by children.

**c. Significance of the Study**

The study will benefit the locals from the places near the volcanoes within the country. They will become more aware of the different kinds of volcanoes around the Philippines, and how volcanic activities work. The study will also be helpful in bringing out information about the effects of volcanic eruptions.

According to Cabredo (2010), volcanic eruptions cause the death of thousands of people and leave several thousands more homeless. Economic losses also double due to these volcanic activities.

During global environmental issues, Castro (2013), said that these events make people look for assurances and solutions online. People search for relevant sources that would help them during these dire times. The availability of online sources helps heighten the level of awareness of people.

This product of this study, which is a web based platform aimed for an audience of all ages, as an interactive and informative material to further broaden the knowledge of people in relation to the volcanoes in the country. Not only will the website be educational, but also enlightening to the users to help them become more prepared in case of a calamity.

**Chapter II: Review of Related Literature**

According to Ohiagu (2011), “the use of a website is an effective mode of carrying information.” In our world today, the Internet has revolutionized how people transmit and receive data. It has a potential to reach anyone within its service or network. The capacity of the internet to reach an even larger audience than some conventional mass media including print newspapers and magazines has made it the only true global medium, providing information and other opportunities accessible anywhere.

Ernest (2000) stated that “the Internet offers a wide range of information and access to data.” Through the Internet, information could be quickly passed across to any part of the world. It is rapidly changing the way people communicate. It is now possible for us to obtain information in nearly all subjects and areas of human endeavor.

According to Baldwa (2008), “one of the most important uses of the Internet in the new millennium is its use in learning.” The Internet has grown so popular in the last decade that people have started using it to support the traditional style of teaching from books. Research done on the Internet allows us access to the newest information and up-to-date developments in any field possible. Powerful search engines like Google and Yahoo enable us to look for a single word or phrase in its relevant context from millions of web pages. The Internet has become the primary source of information for anyone everywhere.

**Importance of the Internet to Natural Disasters**

The Internet has completely changed our way of communication and the way people consume information. However, another aspect of it that doesn’t come straight to our minds is its role when a natural disaster happens. According to Johnson (2010), “today’s audience demands immediate and full coverage of information, and the Internet is here to give it to them. A recent study shows that people are more likely to turn to the Internet like than traditional sources in learning or educating themselves.” Natural disasters are sometimes unpredictable, and it pays to know a lot about them. When global disasters occur, there is now a huge entry of updates on anywhere across the Internet. Therefore, it plays a big role in communicating important information regarding the natural calamities that could occur.

Raja (2013) stated that in January 2013, “marketing charts had reported that on an average a user spends a minimum of 3 hours every day on the Internet. While another report released this October by IAMAI and IMRB International stated that the number of Internet users reached 78 million by June 2013.” For some reasons people use the Internet, two things that don’t change are that people are very active, and it generates enormous amounts of data. Justifying the big data by processing and analyzing them has been one of the biggest revolutions of the century.

One such achievement is the role social networking sites plays in society during a calamity. During such times the Internet provide an instant view of conditions on the ground. Examples of such cases happened not so long ago. In December 2012, when typhoon Pablo struck the Philippines, a task force was assigned to analyze Twitter activity and map relevant information. They had analyzed 20,000 tweets in about 10 hours; the data collected had later become the basis for the official UN crisis map. When Typhoon Haiyan struck Philippines, a surgeon from Iloilo posted a simple but urgent message on the Internet asking people to donate so that a medical team could be sent to Tacloban; within 24 hours she received more than 30,000 pounds. The Internet and the largest technology companies have given so much service to the people giving them the opportunity to communicate and report on the facts and information. This shows how the Internet has changed its significance from being a means of connecting friends and family to being a lifesaver.

**The Role of Information Technology to Natural Disasters**

According to Ewelle (2012), Information Technology (IT) is “the study, design, development, implementation, support or management of computer-based information systems, particularly software applications, computer hardware and mobile devices.” It deals with the use of electronic computers and computer software to convert, store, protect, process, transmit, and securely retrieve information. Information Technology has become a part of our everyday lives, which is a great impact in our society. There have been great changes in the ways people live, work and play over the past few years. Changes occur at a much faster pace. Technological innovation has been the key players in improving these changes. The rapid pace at which IT is changing means five to ten years from now lifestyles will be a lot different from what they are today.

Ewelle (2012) stated that “Information Technology consists of computers, networks, mobile and wireless devices, satellite communications, robotics, videotext, cable television, electronic mail, electronic games, and automated office equipment.” Technology is constantly playing an essential part in any aspect of life for that matter. It is helping us push our boundaries and create endless possibilities. Information Technology is seen all around us, from multi-national corporations who maintain systems and databases to a person who owns a single computer. IT plays a role in almost everything nowadays. Before computers, fewer people gave out their ideas and opinions and had a chance to participate in the progress of society. Now when computers do the analysis, people can all bring their ideas to the table and seeing the problem from differing angles is helping each other too. Which is why I think that Information Technology will bring so much help and aid in relaying facts and data to the people so they can become more aware of what natural disasters may bring, particularly, volcanic eruptions. It will benefit so many people, especially those who have not received proper education. This way they could learn more about the various effects of volcanic eruptions, and at the same time locate where these volcanoes are found in the Philippines. Information Technology can help provide the user an informative and dynamicbsite wherein they can gain a lot of knowledge from the data found in it, and simultaneously, enjoy the process of learning through its interactive aspects.

**Website as Medium of Raising Awareness**

Building a website is an efficient and cost-effective way of relaying information. According to Bynes (2011), “some of society’s goals are to inspire people to educate one other.“ This may seem like an intimidating and stressful task, but technology has provided some very helpful tools that can be instrumental in raising awareness about anything. The Internet is a great resource that enables millions from all over the globe to connect and share with one another. There is a completely new dimension of raising awareness about our environment, supported entirely by new media technology, particularly with sharing/collaborative concepts through the Internet.

Pajdas (2014) stated that “there is an emotional impact that makes content about environmental issues to be taken seriously.” For example, the audience of my study will be children of ages 7-12, the website to be created is going to be made the way to be understandable and engaging to children, because their parents, and other adults surrounding them, were never educated to think that way at all, as children and young people are mostly the ones who are up to date with the Internet trends.

A growing population of youth, Bynes (2011) stated, is “creating developments in the country with their intense engagement with Internet platforms.” As one of the nation’s major assets or resource, the energy, time, interest and passion in using Internet tools should

be developed to create a positive impact for our environment in general, and in achieving sustainable development. With the growing need for information, the Internet has now become basic and important in our society. Most of the major aspects of the Internet are run by or created by the youth, exploiting it for one purpose or the other. This could be a way for natural disasters to affect lesser people with their new knowledge about the calamities on the website. Web-based platforms are the main channels for the future. And with the rise in environmental crisis and issues today, the Internet platforms seem to be one of the main active forces that can help facilitate more immediate action to address these natural disasters. The interests of people today, and also preference in promoting web-based platforms are at an advantage when it comes to spreading information on natural disasters, awareness and education. If used properly, web-based platforms can be a way for people to develop a very powerful medium to generate more data, and the opportunity for even more people to learn about these information.

**The Edge of Having a Dynamic Website**

According to John (2009), “a website with a dynamic design attracts more visitors than any static website. It draws visitors, holds their interest and encourages them to take some action.” If you use this type of design, your website can benefit in several ways. A website that is dynamic provides a platform to the visitor to interact freely, share views, give opinion, and many more. This way, your customers get the opportunity to interact with the site owner as well as others who visit it and they feel encouraged to return to the website again. You can also conduct a research or a survey on your website. It could be a suggestion page where in you can ask your audience about what they liked about your website and what were the shortcomings? These forms of design or usage help you in figuring out where you are within the user's expectations and what steps you should take to overcome those drawbacks.

Arrison (2011) stated that “for most websites, people visit the website once or twice then leave. A dynamic website enables you to build relationships with your visitors.” Instead of only visiting your website once then leaving, you interact with your visitors several times. For example, in the business world, business people know they need to contact a person several times before they purchase their products or services. It’s easier to sell products to people who have already bought something than finding a new customer. It enables you to start a conversation with your customer that develops into a relationship. Also, if you offer great content and answer peoples’ questions they’ll refer your website to their friends. Instead of the more difficult process of building relationships with the users, you build them naturally by engaging your customers.

One of the most important factors, according to Arrison (2011), that determine rankings is the number and quality of links you have pointing to your website. A dynamic website encourages others to link their website to yours thus increasing your link popularity. It is different from the traditional way that involves one-way communication, the new Internet allows people to establish a two-way interaction with their target audience. According to Montgomery (2013), “web designers have often wondered about what makes a website appealing. The combination of design and functionality is something every designer hopes to implement in a site.” Many successful websites have one main factor, not every designer is aware about, and that element is website interactivity.

**Philippine Volcanoes**

The Philippines is an archipelago of 7107 islands. Most of these islands are of volcanic origin. According to Schoolmeester (2009), “the Philippines sits on the Pacific Ring of Fire and there are hundreds volcanoes in the Philippines, of which only a few are still active. It means that an eruption occurred in the last decade and that a new eruption can be expected in the future. All the other volcanoes are inactive or dormant.” The most known volcanoes in the Philippines are Mount Pinatubo, Mount Mayon and the Taal volcano. They are all located on the Northern Island Luzon. Said that The volcanoes of the Philippines rank as the most deadly and costly in the world: about 13% of its historic eruptions have caused fatalities, most notably at Taal and Mayon, and 22% of its eruptions caused significant damage.

Gallemore (2009) stated that the Philippines have 18 active volcanoes. Some of the 5 most active volcanoes are the Mount Mayon, Mount Pinatubo, Taal Volcano, Babuyan Claro, and Mount Bulusan. Among all of these, the most active volcano is Mount Mayon. It dominates the skyline near the town of Legaspi, south of Manila in the Bicol region. This volcano is known to have erupted 48 times, and is particularly famous for the fact that is it an almost perfectly symmetrical shape. Its crater is permanently smoldering. Mount Mayon is a good example of a strato volcano. Mount Mayon rises up 2462 meters above sea level. This type of volcano is typically steep-sided and composed of alternating layers of lava and other volcanic material, especially ash layers. Mount Pinatubo on the other hand, is situated in the southern part of Luzon. It is one of the biggest volcanoes in the Philippines. In 1991, the Pinatubo became in a few months one of the most known volcanoes in the world. In that year the Pinatubo erupted violently. In the course of that eruption, the summit of the volcano collapsed into the under laying magma chamber. The result was an enormous depression. The new summit of the volcano was 145 meters lower than before the explosion. At first there were earthquakes, small explosions and emissions of steam and minor ash. The earthquakes and emissions continued and increased. After more than 2 months of increasing activity, strong explosions culminated in one of the largest eruptions of this century. While in Tagaytay, we will find the Taal volcano. It is known as the largest island within a lake on an island. It is mistakenly described as one of the smallest volcanoes in the world, whereas it is actually one of the largest. One of Taal's greatest eruptions in recent years was in January 1911. Many local farmers were killed by the blast, and a tidal wave across the lake drowned those in boats too. Over 1300 people died in just one day. Located in the Babuyan Islands, not far from Luzon Island in the Philippines, is Babuyan Claro. Since its discovery, the volcano has erupted only 4 times – in 1831, 1860, 1913, and 1917. While there have been earthquakes and reports of steam clouds in the area as recent as 2004, scientists do not believe that this particular volcano poses any immediate threat. And last among the list of the most active volcanoes in the Philippines is Mount Bulusan. It is also referred to as Bulusan Volcano, which is found on Luzon Island and is considered an active strato volcano just like Mount Mayon. The mountain is surrounded by craters and has four active hot springs around it as well. Mount Bulusan has erupted approximately 15 times since it was discovered and documented in 1886 and is known for its unique steam-powered explosions.

**Volcanic Activities in the Philippines**

The Philippines has encountered a lot of volcanic activity in the past century. Tsunamis

accompany eruptions in the Philippines more often than in any other volcanic region. Meanwhile, since the establishment of the Philippines Institute of Volcanology and Seismology, the impact and damage of the eruptions has been significantly reduced. Throughout history, 2 of the various volcanoes in the country have created the most violent and deadly eruptions.

According to Michaels (2005), “the second-largest volcanic eruption of this century, and by far the largest eruption to affect a densely populated area, occurred at Mount Pinatubo in the Philippines on June 15, 1991.” The eruption produced high-speed avalanches of hot ash and gas, giant mudflows, and a cloud of volcanic ash hundreds of miles across. The impacts of the eruption continue to this day. On July 16, 1990, a magnitude of 7.8 earthquake struck about 60 miles northeast of Mount Pinatubo on the island of Luzon in the Philippines, shaking and squeezing the Earth's crust beneath the volcano. At Mount Pinatubo, this major earthquake caused a landslide, some local earthquakes, and a short-lived increase in steam emissions from a preexisting geothermal area, but otherwise the volcano seemed to be continuing its 500-year-old slumber undisturbed. In March and April 1991, however, molten rock rising toward the surface from more than 20 miles beneath Pinatubo triggered small earthquakes and caused powerful steam explosions that blasted three craters on the north flank of the volcano.

Wagner (2006) on the other hand, tells of the Mount Mayon Volcano Eruption in 1814. He stated that it was on the 1st of February in 1814, where the deadliest recorded eruption of Mt Mayon happened, in which more than 1,200 people were killed. After a number of seismic shocks, a thick column of stones, sand and ash shot high into the air. Veils of ash, smoke and vapor hid the sides of the mountain. A stream of lava dashed down the side of the mountain and the sky darkened. Then stones began falling to earth killing many people. Even houses offered no protection, as the stones were red hot and set buildings on fire. After the eruption ceased, large numbers of dead and injured people lay everywhere. The whole town of Cagsawa was buried. Just the tops of buildings and coconut trees protruded from the debris. The formerly beautiful cultivated slopes of Mt Mayon were now just covered with sand and ash.

**Wix**

Wix is a free or open source website builder that can help in the production of this project. The Wix website creator has become incredibly well known over the last few years. Today, Wix is one of the biggest players in the website builder landscape and hosts 60 million websites. The layouts are designed for businesses, restaurants, online stores and artists such as musicians and photographers. They are optimized for mobile devices too. Wix’s selection of highly modern layouts and impressive animations made a particularly good impression which is why this is the platform I chose to produce the website for this project. The App Market that is one of their components, is a very useful tool which makes the implementation of additional features such as photo and slider galleries into your website. There is no doubt that the templates look very attractive but they also come with some very basic flaws. If you want a good looking website on your mobile device, you need to arrange your elements manually. Wix also offers lots of page types—Blank, several About page choices, services and pricelists, contact, blog, four gallery styles, FAQ, news, and online store. New pages maintain your theme and get a navigation link atop all other site pages. It offers much more creative freedom than the rest of the available website builders, but in turn, requires you to pay more attention to detail. Wix is particularly good for impressive presentation scenarios. I was impressed with the style that their templates have which I think will appeal to the younger audience that I am aiming for this project.

**Chapter III: Framework of the Study**

The researcher used the Contextual Design Approach, which was established by a developer named Hugh R. Beyer and a psychologist named Karen Holtzblatt. This theory, Holtzblatt and Beyer (2014) said, “is a structured, well-defined, user-centered design process that provides methods to collect data about users in the field, interpret and consolidate that data in a structured way, use the data to create and prototype product and service concepts, and iteratively test and refine those concepts with users.”

Contextual Design is focused on observing and understanding the environment of the users is order to apply the information gathered into the system to be produced. The main purpose of the theory is to get to know the needs and desires of the user for the project to be fully efficient.

To have a large number of users is one of the goals of a developer in creating a website. The main audience of the study is children, and since they tend to have a short attention span, the researcher aims to construct a website that will be interesting and engaging at the same time. The Contextual Design Approach is a process that will help the researcher make a profound analysis on the users and their setting to provide a solution that will create a significant impact in their lives, and will deliver satisfaction to the users.

One of the features that the website will have is an interactive map of the Philippines, particularly showing the various volcanoes the country has and where they are located. To generate this type of design, the storyboarding and paper prototyping methods of the Contextual Design Approach are a big help to the process.

According to Holtzblatt and Beyer (2014), “each storyboard describes how users will accomplish a task in the new system. They show the steps the user will take and the system function that supports each step.” The detailed presentation of a storyboard captures the overall task of each of the functions within the website. This makes certain that the system has a smooth workflow. Paper mockups on the other hand are defined by Holtzblatt and Beyer (2014) as “rough mockups of the system using notes and hand drawn paper to represent windows, dialog boxes, buttons, and menus.” The researcher thinks that it is best to use this method in order to test and iterate the design early before designing and writing the code in the computer. Through this approach, there will be more time available for multiple revisions to work out the detailed output together with the users.

Another theory that the researcher used for the project is the Information Theory. According to Markowsky (2013), it is “a mathematical representation of the conditions and parameters affecting the transmission and processing of information.” The process of this theory shows a basic representation of how the message encoded in the website is to be transmitted or received by the users. This model of communication focuses on sending data accurately and efficiently which supports the intention of the capstone project, and that is to produce an informative website.

One component of the website is to provide a descriptive background of the volcanoes found in the country. This aspect is detailed and educative because it includes narratives of the volcanic activities that have happened in the past. All these data will be discussed and transmitted effectively to the audience through the Information Theory.

*Theoretical Framework*

Source

-Inquiry

-Interpretation

-Affinity

-Visioning

Encoder

-Storyboarding

-Paper Mock-Up

Noise

Channel

Decoder

Receiver

*Figure 1. Theoretical Framework*

As shown in figure 1, the theoretical framework of the study consists of the Contextual Design Approach and the Information Theory. These theories are alike in a manner that their main objective is to deliver the data competently to its users. The researcher chose to combine the two theories because the Contextual Design Approach gives more elaborate techniques to create a well-structured and user-centered interface for the website. This allows the users to integrate their needs and ideas into the system. This is a very important element for the website to be useful.

The procedure begins with the source, which is simply the origin of the message or the information. Under this component is the process of inquiry, interpretation, affinity, and visioning. Inquiry is the step of understanding who the audience is and how they function on a day-to-day basis. Interpretation on the other hand, is organizing the data to determine the key points. Affinity is distinguishing the similar key points from the information collected. And to produce a solution to the users’ needs is the visioning step. After all the data is gathered and analyzed, the encoder creates a comprehensive presentation of the different functions and features to be included in the system through storyboarding and paper mockups. The information then goes through the channel, which may or may not have noise or an interference with the transmission. Afterwards, the decoder converts the data into an understandable form in which the receiver will obtain.

*Conceptual Framework*

User

Browser

Website

Software

-Storyboarding

-Paper Mock-Up

Developer

-Inquiry

-Interpretation

-Affinity

-Visioning

Internet Connection

*Figure 2. Conceptual Framework*

The conceptual framework of the study defines how each phase of the process is integrated into the capstone project. The source is the developer, and within this element is still the process of inquiry, interpretation, affinity and visioning. The encoder is the software to be used to form the website, which is the channel of the data. It may or may not be affected by the users’ Internet connection. The website is converted to be presented in a browser and is to be picked up or received by the user.

*Operational Framework*

Slow Internet Connection

Children

Mozilla Firefox & Google Chrome

“The Explosive Wonders of the Philippines” website

Developer

-Hold interview

-Determine key points

-Make an affinity diagram

-Provide solution

Adobe Photoshop & Adobe Dreamweaver

-Define functions through sequence of

sketches

-Draw mockup of the interface

Figure 3. Operational Framework

Figure 3 shows the operational framework of the study. It describes the implementation plan for the research, and shows the sequence of work to accomplish the capstone project. In this procedure, listed below the developer are the ways in which the data will be collected. An interview is to be held with the audience in order to develop a shared understanding of the users’ environment. The researcher determines the key points, and identifies the similarities among them. An affinity diagram showing all the common issues and insights across the users to reveal the scope of the problem will then present the information. The researcher will then use the data to derive with solutions to the needs of the users. The next step of the process includes the software to be used, which are Adobe Photoshop & Adobe Dreamweaver. The different functions of the website will be illustrated by a sequence of sketches. Mockups of the interface will also be presented in order to display the elements and flow of the system. The website is titled “The Explosive Wonders of the Philippines” and may or may not be interfered by the slow Internet connection of the user. It will be transmitted and shown through the browsers Mozilla Firefox and Google Chrome. The website will be accessed and all the information in it will then be received by its main audience, which is children.

**Chapter IV: Methodology**

A. *Research Design and Methods*

The capstone project will be a descriptive and informative website which is to be produced using a multi-method research. The researcher will conduct both a quantitative and qualitative approach in order to fully incorporate the needs of the users into the website. According to Willis (2012), quantitative research is “about asking people for their opinions in a structured way so that you can produce hard facts and statistics to guide you.” In this manner, it will be a lot easier for the researcher to build the website based on the findings from the survey. Qualitative research on the other hand, “is designed to reveal a target audience’s range of behavior and the perceptions that drive it with reference to specific topics or issues” (Neil, 2011). To be able to have a clear and thorough understanding of the user’s nature and behavior, interviews and group discussions will be conducted. The researcher will use the multi-method approach to ensure that the website will contain all the necessary information for the users.

*Variables and Measures*

The main focus of the study will be on children, in order to increase their awareness regarding the various volcanoes in the Philippines at an early age. Particularly, the research to be conducted will analyze and study the nature and behavior of children ages 7-12. The users also need to have access to Internet connection in order to view the website.

*Concepts and Indicators*

The website to be created will be informative in terms of the content regarding the volcanoes in the country. It will also be attractive and engaging as it includes graphic representations and animations. Furthermore, it aims to provide consistent ease within the navigation throughout the entire website.

*Research Instruments*

An online and personal survey will be conducted by the researcher so that the respondents may gain access to the questionnaire regardless of their location. The contents of the survey will include questions about their knowledge on the volcanoes in the country, if they rely on websites for information, and if yes, what would be the specific features that they would like to see on the website.

The researcher will also hold interviews and group discussions. This method will allow the researcher to create a close relationship with the users in the interest of knowing more about what they need and their opinions on the substance of the website.

*Units of Analysis and Sampling*

The main entity to be used are the individuals who will be interested to know more about the different volcanoes all over the country. The study will focus on them considering their needs as an essential factor in creating the website. Moreover, the researcher will use random sampling to identify the respondents and informants of the study.

*Data gathering*

The researcher will provide an online and personal survey, which consists of questions that will answer their needs as the users of the study. After the survey has been conducted, the researcher will analyze and figure out the main points of the results. The interview on the other hand, will be held through a one on one with the users. While the group discussions are to be performed among 4-6 individuals per discussion to bring up ideas or give comments regarding the website.

*Data Analysis*

Descriptive statistics will be used to summarize and describe the collected data. As stated in the previous paragraphs, the researcher opted for the multi-method approach as its research method. The information gathered will be obtained through the survey as the quantitative method, and from the interviews and group discussions as the qualitative method.

*Scope and Limitations*

The capstone project will focus mainly on the development of the website titled “The Explosive Wonders of the Philippines.” It will comprise of various content with reference to the volcanoes in the country such as its background or history, location, and its previous volcanic activities. Also included in the website is an interactive map of the Philippines that shows where exactly the volcanoes are. Furthermore, it will have a video animation of how a volcanic eruption occurs. The website will not provide information regarding volcanoes in the other parts of the world aside from the Philippines. Neither will it show data about the other types of land formations such as valleys, hills, etc. It will only display information about the volcanic activities that have occurred, but will not discuss the causes and effects of the eruptions.

B. *Project Development Methodology*

For the website to be efficient in relaying information, the researcher should plan project goals and design needs that will help in its development. The researcher will first obtain all the necessary data regarding the volcanoes in the Philippines. A visit to the Philippine Institute of Volcanology and Seismology or PHIVOLCS will be scheduled in order to hold an interview with one of their experts. This will be done so that the information placed on the website will be legitimate and reliable. Other materials for the collection of data will include books and journals about volcanoes and the volcanic activities that took place in the country.

After all the needed information is obtained, the researcher must then acquire all the hardware and software to be used in building the website. Some of the programs include Xampp, which will act as the main server, Adobe Dreamweaver as the compiler of the codes, Adobe Photoshop as the primary software for editing images and producing graphic representations, and Adobe Flash as the program for creating animation videos. The hardware requirements on the other hand, include a laptop or a personal computer for the development of the website, and a flash drive or an external hard drive for the storage and back-up of files needed for the project.

The overall design of the website will be colorful and stimulating at the same time, since the main users of the project are children. It will have bright and vivid colors that will easily capture and hold a child’s attention for a long period of time. It will also include elements of nature, particularly about volcanoes. The website will also have an easy navigation bar and easy-to-read descriptions. Moreover, a volcanic eruption is explained through a video animation for the concept to be easily understood by children.

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