UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

FEASIBILITY STUDY – APPLICATION DEVELOPMENT (Digital Sailing Guide to
the Windward Islands)

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DEDICATION

I dedicate this project to my family and friends who are my pillars, my source of inspiration, wisdom and compassion. I thank them for their patience and encouragement. I thank God for being my source of strength throughout this program. I also dedicate this work to my best friend Kerry who encouraged me all the way and whose understanding and dedication has made sure that I give it all it takes to finish that which I have started. To all of my professors and my tutor Carlos Herrera I appreciate your endless support.

Thank you.

ACKNOWLEDGMENTS

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ABBREVIATIONS AND ACRONYMS

- App – Application
- WI – Windward Islands

EXECUTIVE SUMMARY (ABSTRACT)

The Windward Islands are at the southern end of the chain of islands that make up the Caribbean. The four main islands include Dominica, Grenada, St. Vincent and the Grenadines and St. Lucia. Sailing in the Windward Islands is an experience like no other. The four islands are far enough apart to allow for open sea sailing with easterly trade winds allowing for an amazing sailing experience. To many within the yachting industry, boating and islands just go together. Many believe that to really see a place and know a place you must see it from the sea. This viewpoint gives perspective to size, landscape and shrubbery. Visiting the land afterward gives persons the opportunity to explore what makes an island unique. The best parts of any island are its hidden features: beaches, protected coves, tiny villages and little beach bars often unreachable by boat.

Cruisers travelling to the islands are often without important information about the ins and outs and the overall sailing environment before the start of their trip. The purpose of performing this feasibility study was to determine the practicality of the development of an app to display all these islands and their features. The study's aim was to realistically ascertain the strengths and weaknesses of developing the app, the opportunities and threats present in the environment; the resources required to it carry through; and ultimately its prospects for success. The benefits derived from the feasibility study will be beneficial to the overall project, as it aims to determine if the project should move forward. The feasibility study will answer questions of market demand for the app and its marketability in the industry. It will further ascertain the competitiveness of the app in the market when compared with other services/products being offered. The general objective was to perform a feasibility study for an app development to determine the viability and success of its operation. The specific objectives of the study were to create a time management plan to ensure that the project was completed on time; to develop a cost management plan to make sure the project is within budget; to design a quality management plan to make certain that all resources needed to complete the project successfully are available. A communications management plan will

also be created to ensure that the system of communications and the project performance are documented properly; a stakeholder management plan will be constructed to document the interaction between stakeholders and processes used to manage issues identified on the project. A scope management plan will be produced to guarantee that the purpose and objectives of the project are maintained throughout the project duration and to execute a market analysis, resource analysis and competitor analysis to determine viability of the app with recommendations, possible alternatives and overall conclusion of the study. The research methodologies used in performing the study include primary and secondary sources of information that support the research methods used. The primary sources used were survey research such as interviews, surveys etc., newspaper articles, observation and MPM course notes. The secondary sources used were websites, journal articles, books and blogs. The research methods used in the study included observational methods, content analysis, questionnaire survey analysis and interview method. The tools employed to carry out the study were based on the tools specified in the PMBOK Guide and were specific to each objective required. These included analytical tools, meetings, critical path method, communication requirements analysis, stakeholder analysis, interviews and surveys.

The conclusion generated from the feasibility analysis is that the development of the app is a viable idea. As mentioned before, cruisers to the region are often without the necessary information about the ins and outs of the islands, which can be confusing and time consuming while on their trip. The promotion of the app as a viable alternative will provide sailors with a more open perspective of what to expect from each island. The project management processes employed in this project enables us effectively cater to the development needs of the app. The ensuing recommendation following survey analysis further reinforces that effective project management is crucial to ensure that the results meet stakeholder expectation and is in keeping with the constraints of scope, time and cost.

1. INTRODUCTION

1.1. Background

The Windward Islands are located on the eastern edge of the Caribbean Sea and form the southeastern boundary between the Caribbean and the Atlantic Ocean. The Windward group includes the islands of Martinique, St. Lucia, St. Vincent and the Grenadines and Grenada. The geology of the Windwards is volcanic, with craters, hot springs, and sulfuric vents found in the mountainous central ribs of the islands (geology.com).

The volcanic nature and untouched beauty of the islands make them ideal for cruisers housing some of the Caribbean's most breath-taking destinations in the world. Each Windward isle is unique and beautiful with lush rainforest, clear crystal waters for diving and dazzling white sand beaches. The yachting sector in the region has grown substantially over the past few years with over 12 marinas, the creation of over 5000 jobs and contributions to the overall GDP in the region.

With the growth of the industry, there has been a great deal of development to facilitate cruisers such as marine parks, marine anchorages, marinas, boat yards and haul-out services, chandleries, water taxis and many more.

The proposed feasibility study will seek to determine the practicality of the development of an app to display all these islands and their features for use by persons in the yachting sector. The study will further aim to objectively and realistically discover the strengths and weaknesses of developing the app; the opportunities and threats present in the environment; the resources required to it carry through; and ultimately its prospects for success.

1.2. Statement of the problem

Cruisers navigating to the region often travel blind, not knowing updated details about the ins and outs of the islands. The proposed digital app will provide current information on each island with specific details on the facilities available and what each one offers.

The feasibility study through various types of analysis will investigate the viability of the proposed app. It will thus attempt to answer the following questions:

- What is the need that the app will fulfill?
- What are the strengths, weaknesses, opportunities and threats?
- What will be its competitive advantage in the market?
- Will its intended audience receive the app?
- Will it obtain a return on investment?
- Will competition in the market allow for success?

1.3. Purpose

The entire goal of the study is to determine how viable the establishment of a yachting platform of this nature is and to determine if it will be received by its intended audience uncovering their needs and how best to meet them.

Performing the feasibility study will be beneficial to the overall project as it will determine if the project should move forward. The feasibility study will answer questions of market demand for the product/service and its marketability in the industry. It will further ascertain the competitiveness of the app in the market when compared with other services/products being offered.

Performing a market analysis as part of the feasibility study will determine how the app will impact businesses and the facilities within the yachting sector. Another benefit of performing the feasibility study is to focus on the proposed plan of action

and provide a detailed estimate of its costs and benefits. The study will also propose solutions and alternatives to the app if required.

1.4.   General objective

To perform a feasibility study for an app development to determine the viability and success of its operation.

1.5.   Specific objectives

- To produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration.
- To create a time management plan to ensure that the project is completed on time.
- To develop a cost management plan to make sure the project is within budget.
- To design a quality management plan to make certain that all resources needed to complete the project successfully are available.
- To create a communications management plan to ensure that the system of communications and the project performance are documented properly.
- To construct a stakeholder management plan that documents the interaction between stakeholders and processes used to manage issues identified on the project .
- To execute a market analysis to determine viability of the app with recommendations, possible alternatives and conclusions of the study.

2. THEORETICAL FRAMEWORK

According to countrystudies.us, "the Windward Islands consist of Dominica, St. Lucia, St. Vincent and the Grenadines, and Grenada. The name Windward dates back to the 1700s, to the time when English ships bound for Jamaica followed the trade-wind passage, stopping at islands along the way" (countrystudies.us/). Built on this great historical mark, the Windward Islands have transformed into a major tourism anchor with a vivid yachting sector. Susan Fogwell in her blog "How to Plan a Caribbean Sailing Trip" further highlights that "the Windward Islands are at the southern end of the Caribbean island chain. For experienced sailors, it is thrilling to sail among the four main islands: Dominica, St. Lucia, St. Vincent and Grenada. They are far enough apart to allow for open ocean sailing and they lie across the easterly trade winds, making passages north or south easy. With constant 10- to 25-knot winds, the sailing is among the best in the world. Anchoring nightly in peaceful and protected anchorages gives sailors freedom to explore and soak up British and French island culture" (Fogwell, 2012).

The luxury charter group who offers, "Select fleet of professionally presented and crewed charter yachts - power and sail - in the Windward Islands" (www.luxurychartergroup.com/,) state, "The Windward Islands consist of more than 600 islands, and at the heart is St Vincent and the Grenadines, an island country that offers 32 absolutely fascinating and tempting destinations. Many of the Windward Islands carry a canopy of lush tropical rainforest, while on the shorelines you will discover that secluded and sheltered anchorages, and captivating, palm-fringed beaches, are in abundance. In addition, picturesque small villages, where carefree islanders from another culture make you feel most welcome, are scattered across the islands and around the bays. As the name suggests, balmy trade winds blow consistently across this region, so not surprisingly, the majority of charterers choose the experience of being under sail when cruising the Windward Islands" (www.luxurychartergroup.com/).
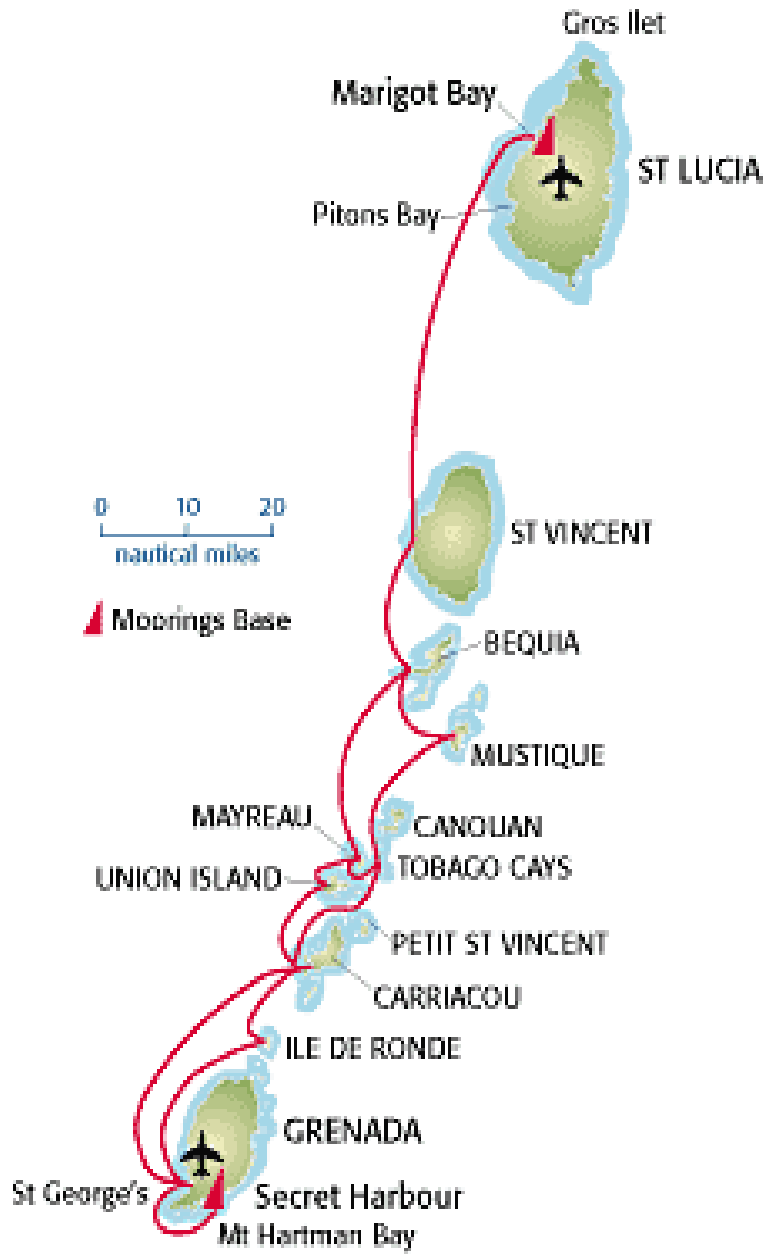
Figure 1 Map of the Windward Islands (www.paradies-islands.org)

A mobile app is a software application designed to run on mobile devices such as smartphones and tablet computers. The term "app" is a shortening of the term "application software" which generally offers general productivity, retrieval of information such as email, calendar, contacts, stock market and weather information (Wikipedia.com).

The mobile market has grown substantially over the years with mobile usage surpassing desktops in 2014. Development of mobile application requires specialized integrated development environments and requires consideration of the constraints and features of the devices it is required to run on. The design of the user interface for the app is also an important consideration ensuring that it accommodates all screen sizes, is understandable and user friendly (Charuza, 2016).

Undoubtedly, the two biggest stores are Google Play for Android and App Store for iOS. The platform the app is designed on greatly influences its earning potential. An estimated global revenue of $25 billion was achieved in 2014 and a total global revenue of $46 billion by 2016. The leader in app development is Apple's iOS platform with 25% of developers earning over $5,000 per month (Charuza, 2016).

Melanie Haselmayr believes that "more and more small and midsize businesses are following the mobile trend, understanding that an effective mobile strategy involves more than just a mobile-friendly website. In fact, these days it can be noted that many small businesses persons interact with in everyday life have their own dedicated mobile app — be it the corner coffee shop or the beauty spa downtown. These companies are ahead of the game when it comes to taking their marketing to the next level. (Haselmayr, 2014).

The paramount objective of all businesses is growth, brand positioning and building customer awareness of their products and services. The development of a mobile

app to serve the sailing market of the Windward Islands bears unforeseen opportunities for growth.

Chart 1 Economic Impact Assessment of Yachting in Grenada, 2013 (grenadaaidc.com)

Segment	Average Spend	Number of Units	Gross Impact
Charters	11,337	500	5,668,500
Short Term Owners	25,256	2,034	51,370,704
Long Term Visitors	54,207	857	46,455,399
Superyachts	264,600	50	13,230,000
Gross Direct Economic Impact			116,724,603
Purchases by Establishments			16,501,687
Multiplied Impact			16,501,687
Total Gross Impact			149,727,977
Total Leakage from Imports			(19,345,878)
Net Impact on GDP			130,382,053
Direct Employment Impact			750
Multiplied Employment Impact			162

In an economic impact assessment of the yachting sector in Grenada performed by Andre Vincent Henry, he found that in 2013, the yachting community provided a net impact on GDP of EC $130,382,053.00. This seeks to further highlight the benefits of the yachting sector to the country and region as a whole (grenadaaidc.com).

The Dominica News Online in a 2015 news release started that "OECS Member States have embarked on a joint approach to marketing the region as a single yachting destination. This is part of a coordinated and sustained approach to further develop the sector, and comes as the result of a series of targeted activities, as outlined in the OECS Tourism Policy and mandated by the OECS Council of Ministers of Tourism" (dominicanewsonline.com/). This is a reflection of the commitment of persons within the yachting sector to its growth and development. The added presence of the app for the Windward Islands, who are also members of the OECS, will assist in strengthening the presence of the Caribbean as a yachting destination.

2.1 Company/Enterprise framework

The feasibility study will be carried out with the backing of Prickly Bay Marina located in Lance Aux Epines Grenada. Ian Morris, the Marina Manager who also assist in the feasibility research process, will sponsor the study initiated by the Project Manager.

2.1.1 Company/Enterprise background

Formally known as "The Boat Yard", the Prickly Bay Marina has been in operation for over 10 years offering a wide range of services to sailors. Located in the south of Grenada, the calm waters of the picturesque bay is ideal for anchoring.

2.1.2 Mission and vision statements

The marina serves with the theme "Big enough to deliver....small enough to care" (pricklybaymarina.com/) this indicates that the company is customer focused and its objective or core value is serving its customers.

Mission: "At Prickly Bay Marina is it our aim to develop, maintain, manage and promote the marine industry in Grenada by attracting sailors from around the globe while promoting environmentally safe practices".

Vision: "To provide an all-inclusive customer experience at our marina with full service comfort, friendly staff, and a relaxing atmosphere"

Having a customer-focused goal, is most often a key contributor to business success as it ensures that customer satisfaction is first.

Performing a feasibility study for the development of an app to serve cruisers is another way of showing that the needs of customers are a priority. The app will not only serve as a marketing tool but also as an information portal for persons sailing the region.

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2.1.3 Organizational structure
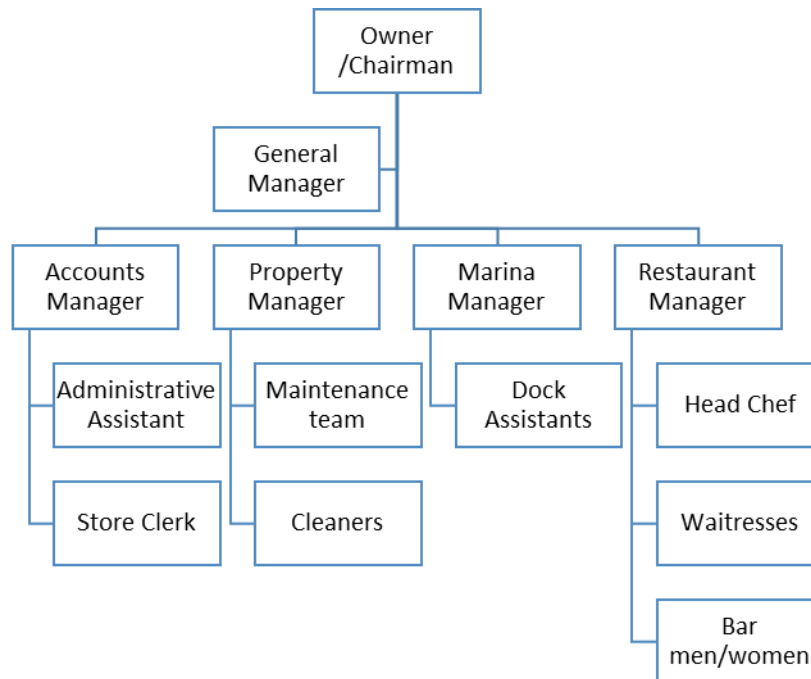
Figure 2 Organizational Chart

The company does not have a documented organizational chart. The chart above, figure 2 to be precise is created on advice I received from the Marina Manager. The Owner/Chairman stands at the top of the chart having controlling interest of the operations. The General Manager is responsible for the day-to-day operations of each department and reports to the Owner/Chairman. The senior managers (Accounts Manager, Property Manager, Marina Manager and Restaurant Manager) all report to the General Manager and are responsible for teams within their respective departments. The Marina is most likely to be influenced by the app directly as it is the main area through which cruisers interact. The marina is responsible for dockage, yacht management and collection of fees for moorings.

2.1.4 Products offered

The services offered at this facility are specific to the needs of cruisers; these include fuel station, Customs and Immigration, dockage and moorings, boat cleaning and polishing, Yacht Management Services, day sail and tours and

chandlery (pricklybaymarina.com). The ideal location of this marina makes it easier for cruisers to sail in and out of the bay with ease. Additionally, the marina is supported by a restaurant and bar, laundry service, mini market, taxi service, butcher shop, property rental and entertainment center. The products offered by this marina and all other marinas in the Windward Island region will be included in the app attempting to create a holistic browsing experience for each sailor.

2.2 Project Management concepts

2.2.1 Project

A project according to the PMBOK guide Fifth Edition is "a temporary endeavor undertaken to create a unique product, service or result" (PMBOK guide Fifth Edition, 2013). Projects are often shaped by the strategic goals and objectives of an organization. Therefore, the tenure of a project may be short or long with definite beginning and end during which time specific objectives are achieved. The PMBOK guide Fifth Edition further states that "a project can create a product that can be either a component of another item, an enhancement of an item or an end item itself, a service, an enhance to an existing product or service and a result" (PMBOK guide Fifth Edition, 2013).

Carrying out a feasibility study to ascertain the relevance of the app is a short-term endeavor geared towards making a decision as to whether the product can be developed or not base on a positive investment scenario. The achievements from this study can have great benefits for all involved. Sailors to the region will now benefit from having information readily available. This cost effective app not only provides useful information but also allows cruisers to plan properly for their trip saving them time, money and permits them a full experience of the islands of the region on their trip.

2.2.2 Project management

The PMBOK guide Fifth Edition defines project management as "the application of knowledge, skills, tools and techniques to project activities to meet the project requirements" (PMBOK guide Fifth Edition, 2013). Project management is an element involved in the management of portfolios and programs geared toward achieving organizational goals and strategies. The PMBOK guide Fifth Edition further documents the activities involved in project management as "identifying requirements, addressing the needs, expectations and concerns of stakeholders, setting up, maintaining and carrying out communication among stakeholders. Managing stakeholders also involves meeting project and creating project deliverables while balancing the competing project constraints of scope, time, resources, quality, cost and risks" (PMBOK guide Fifth Edition, 2013).

The project management activities involved in the feasibility study are aimed at ensuring the project is completed achieving all its objectives while overcoming the constraints of time, cost, scope and quality.

2.2.3 Project life cycle
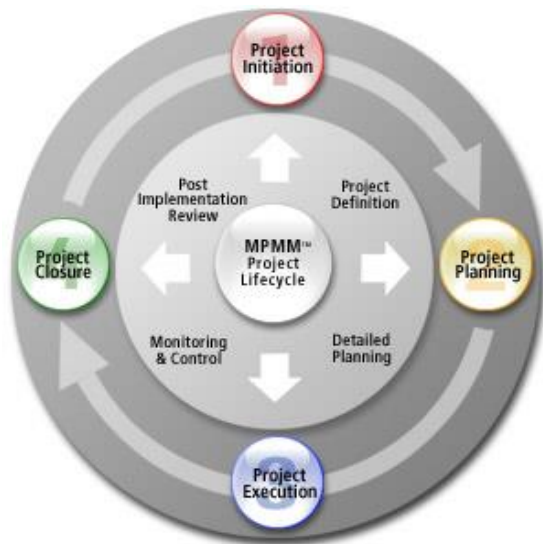
Figure 3 Project Management Life Cycle (PMBOK Guide Fifth Edition, 2013)

The PMBOK guide Fifth Edition describes the project management life cycle as "phases that a project goes through from its initiation to closure" (PMBOK guide Fifth Edition, 2013). A standard project usually follows four major phases: initiation, planning, execution and project closure. The relationship between each phase is unique with each one contributing to the development of the other. A feasibility study can usually be carried out during the project initiation phase where questions such as can we do the project? Or should be do the project? Are answered. Once a solution or each question is answered, the project manager is appointed and the planning stage begins. During the planning stage, the recommendation derived from the feasibility study is developed in detail and the steps needed to meet the required objectives are laid out. The project execution phase is responsible for putting the plan into action. This is where the objectives are set out to be achieved. The closing phase is the completion stage where the focus is on handing over the final deliverables to the customer.

2.2.4 Project management processes
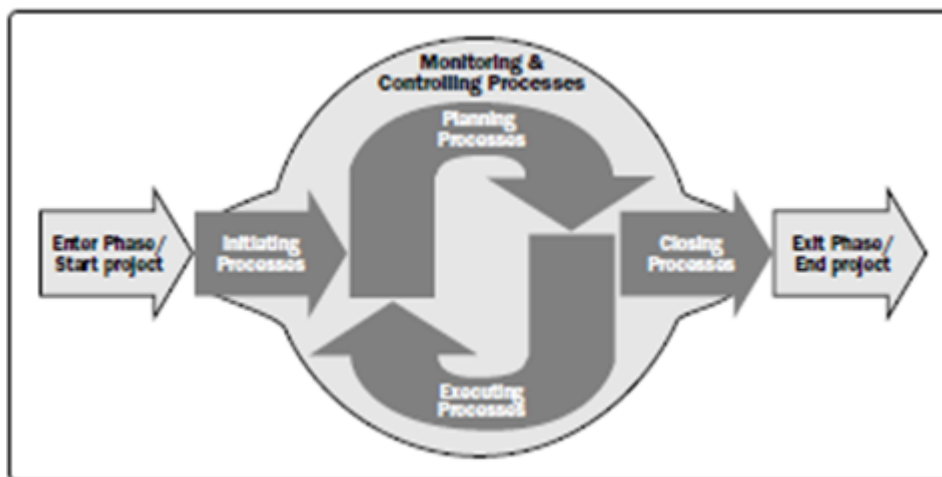
Figure 4 Project Management Processes, (PMBOK Guide Fifth Edition, 2013)

The PMBOK guide Fifth Edition refers to a process as "a set off interrelated actions and activities performed to create a pre-specified product, service or result" (PMBOK guide Fifth Edition, 2013). Each process group is based on industry best

practices and are designed to the specific requirements of each project. In the execution of each process, the PMBOK guide Fifth Edition notes that the process groups are iterative with many of the processes repeated during the project (PMBOK guide Fifth Edition, 2013). A feasibility study is conducted in the initiating process group to determine whether the project is feasible before expending resources to it. This process group is thus a very important step in the development of the app. The purpose of performing a feasibility study of the app at this stage is to determine whether the app will be received by its intended audience or not and overall to decide if it makes sense.

2.2.5   Project management knowledge areas

Figure 5 Project Management Knowledge Areas (PMBOK Guide Fifth Edition, 2013)

The PMBOK guide Fifth Edition highlights ten knowledge areas used on projects. The guide asserts that each knowledge area represents a complete set of concepts, terms and activities that make up a professional field, project management field or area of specialization (PMBOK guide Fifth Edition, 2013). The knowledge areas related to the project management aspect of the feasibility study are time management, cost management, quality management, communications management, risk management, stakeholder management and scope

management. The study will attempt to create a time management plan to ensure that the project is completed on time; to develop a cost management plan to make sure the project is within budget; to design a quality management plan to make certain that all resources needed to complete the project successfully are available; to create a communications management plan ensure that the system of communications and the project performance are documented properly; to develop a risk management plan that details the process to be employed on the project in order to manage risk; to construct a stakeholder management plan that documents the interaction between stakeholders and processes used to manage issues identified on the project and to produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration.

2.3 Other applicable theory/concepts related to the project topic and context

2.3.1 Feasibility Study

Mukund in his article Feasibility Study – An Important aspect of Project Management highlights some important benefits of performing a feasibility study. He believes that "a feasibility study is used to determine the viability of an idea. The objective of such a study is to ensure a project is legally and technically feasible and economically justifiable. It tells us whether a project is worth the investment" (Mukund, 2012, p.1). He further lists five areas of project feasibility that is critical to projects. These include technical feasibility, economic feasibility, legal feasibility, operational feasibility and scheduling feasibility. He also believes that "Conducting a feasibility study is always beneficial to the project as it gives you and other stakeholders a clear picture of your idea. These benefits include: gives project teams more focus and provides an alternative outline; narrows the business alternatives; identifies a valid reason to undertake the project; enhances the success rate by evaluating multiple parameters and aids decision-making on the project" (Mukund, 2012, p1).

A feasibility study is unique to every project and is tailored to suit the specific needs of an idea. The goal of a feasibility study is to investigate and outline methods of achieving business success. It is a crucial part of the project process and should be utilized by stakeholders before implementing proposed plans.

3. METHODOLOGICAL FRAMEWORK

3.1 Information sources

Information is processed data that is acquired from a source. An information source is thus the various means by which information is recorded for use by an individual or an organization. It is the means by which a person is informed about something or knowledge is availed to someone, a group of people or an organization (karibouconnections.net/).

3.1.1 Primary sources

A Primary source of information is an original document containing first-hand information about a topic without secondary analysis or interpretation (www.lib.vt.edu).

Types of primary information sources are (karibouconnections.net/):

- o Letters
- o Speeches
- o Photographs
- o Survey Research
- o Video recordings
- o Audio recordings
- o Observation

The primary information sources to be used in the feasibility study are survey research such as in person unstructured interviews and questionnaires; newspaper articles; PMBOK guide and MPM course notes.

3.1.2 Secondary sources

Secondary sources of information analyze, review, interpret or summarize information gathered in primary resources or other secondary sources (www.lib.vt.edu).

Types of secondary information sources include (web.calstatela.edu/):

- o Books
- o Articles (research/journal)
- o Criticism of works
- o Websites

The secondary information sources used in the feasibility study are websites, journal articles, books and blogs.

Chart 2 Information Sources

Objectives	Information sources	
	Primary	**Secondary**
To produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration	MPM course notes and PMBOK guide	Books, websites, journal articles
To create a time management plan to ensure that the project is completed on time	MPM course notes and PMBOK guide	Books, websites, journal articles
To develop a cost management plan to make sure the project is within budget	MPM course notes and PMBOK guide	Books, websites, journal articles
To design a quality management plan to make	MPM course notes and PMBOK guide	Books, websites, journal articles

certain that all resources needed to complete the project successfully are available		
To create a communications management plan to ensure that the system of communications and the project performance are documented properly.	MPM course notes and PMBOK guide	Books, websites, journal articles
To construct a stakeholder management plan that documents the interaction between stakeholders and processes used to manage issues identified on the project	MPM course notes and PMBOK guide	Books, websites, journal articles
To execute a market analysis to determine viability of the app with recommendations, possible alternatives and conclusions of the study	Interview, questionnaires, newspaper articles, MPM courses, video recordings	Books, websites, journal articles

3.2 Research methods

Research methods are the various procedures, schemes and algorithms used in research. They are essentially planned, scientific and value-neutral. They include theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help us collect samples, data and find a solution to a problem (Rajasekar, Philominathan & Chinnathambi, 2013, p. 5).

3.2.1 Observational research method

Observational research (or field research) is a type of correlational (i.e., non-experimental) research in which a researcher observes ongoing behavior (atlasti.com/).

For this project, observational methods will be employed to understand the behavior of cruisers who are new to the region.

3.2.2 Content analysis research method

Content analysis is a technique for systematically describing written, spoken or visual communication which provides a quantitative (numerical) and qualitative (descriptive) of the subject. Many content analyses involve media - print (newspapers, magazines), television, video, movies, the Internet. It is also used to analyze new material recorded by the researchers, and to classify open-ended responses to interview or survey questions (psc.dss.ucdavis.edu/).

This feasibility study will employ content analysis as it involves a descriptive process of data collection and analysis as well as a detailed interpretation of the results.

3.2.3 Questionnaire survey analysis

A questionnaire is simply a 'tool' for collecting and recording information about a particular issue of interest. It consists of a list of questions, with clear instructions and space for answers or administrative details. Questionnaires should always

have a definite purpose that relates to the objectives of the research, and it needs to be clear from the outset how the findings will be used (http://www.kirklees.gov.uk/).

Questionnaires will be used in this project to engage participants and solicit feedback related to the potential of the app.

3.2.4 Interview method

This method is a widely used method in research as it allows for the collection of data by asking people questions and following up or probing their answers to explore their perspectives on a particular idea, program or situation (www.qualres.org/).

Interviews as part of this project will be particularly useful for getting the story behind a participant's experiences, which is critical to the formation of the app.

Chart 3 Research Methods (www.qualres.org)

Objectives	Research methods			
	Observational method	Content analysis	Questionnaire method	Interview method
To produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration		Analysis of content needed to create a scope management plan will be produced to ensure that the project stays on course throughout its duration.		
To create a time management plan to ensure that the project is completed on time		Content analysis will be used to review material on the aspects of time management as it relates to projects.		

To develop a cost management plan to make sure the project is within budget		Content analysis will be used to review and summarize findings on the aspects of cost management as it relates to projects.		
To design a quality management plan to make certain that all resources needed to complete the project successfully are available		Content relating to the resources required to complete the project successfully will be analyzed to ensure that all resources are available and adheres to the project scope.		
To create a communications management plan to ensure that the system of communications and the project performance are documented properly.		Content analysis will be used to review, evaluate and summarize material on the aspects of communications required to prepare the communications management plan.		
To construct a stakeholder management plan that documents the interaction between stakeholders and processes used to manage issues identified on the project		Content analysis will be used to review the appropriate tools needed to construct a stakeholder management plan.		
To execute a market analysis to determine viability of the app with recommendations, possible alternatives	Observational techniques will be used to understand how participants	Content analysis will be used to understand industry trends, analyze competitors and the overall viability of	Questionnaires will be helpful in answering questions about the potential of the	Interviews will assist in understanding the views of participants as it relates to

and conclusions of the study	operate in their environment before the proposed app is introduced.	the app.	app in the market.	cruising in the region and how the app will alleviate some of the issues they have,

3.3 Tools

Tools are activities that take place within each task identified in the project life cycle to assist with accomplishing the tasks and executing the responsibilities to achieve the project objectives (Maserang, 2012). The tools listed will assist in achieving each task and the overall feasibility study.

Chart 4 Tools (PMBOK Guide Fifth Edition, 2013)

Objectives	Tools
To produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration	Meetings, interviews, observations, questionnaires and surveys to cruisers to ascertain their views on the app, Variance analysis
To create a time management plan to ensure that the project is completed on time	Meetings, analytical tools, precedence diagramming method, critical path method, leads and lags
To develop a cost management plan to make sure the project is within budget	Meetings, analytical techniques, reserve analysis, performance reviews, three point estimating
To design a quality management plan to make certain that all resources needed to complete the project successfully are	Meetings, cost of quality, seven basic quality tools, brainstorming

available	
To create a communications management plan to ensure that the system of communications and the project performance are documented properly.	Communication requirements analysis, communication technology, communication methods, information management systems, performance reporting
To construct a stakeholder management plan that documents the interaction between stakeholders and processes used to manage issues identified on the project	Stakeholder analysis, meetings, analytical techniques, information management systems
To execute a market analysis to determine viability of the app with recommendations, possible alternatives and conclusions of the study	Meetings, research, interviews, surveys

3.4 Assumptions and constraints

Assumptions and constraints form the basis for project planning, filling in the gaps between known proven facts and unknown information. Throughout a project's life cycle, assumptions and constraints are further identified and documented in an effort to maintain the scope of the project. Assumptions are circumstances and events that need to occur for the project to be successful, but are outside the total control of the project team. Assumptions are accepted as true and are often without proof or demonstration (ocio.wa.gov).

A constraint is a limiting condition, circumstance or event, setting boundaries for the project process and expected results (www.luc.edu).

Assumptions for Final Graduation Project:

- Dedicated staff will remain in their current roles.
- Dedicated staff will cross train one another.
- There will be staff available from contractors to define the vision/scope, requirements, design, develop, test, and deploy the application.
- Sufficient support will be received from the supporting organization.
- Project scope will not be modified.

Constraints for Final Graduation Project:

- Time- Balancing work and my daily activities with the demand of the project
- Scope- The information on websites and books related to yachting in the region may be out of date therefore altering the scope of the project.
- Cost- Potential increase in the cost of developing the application if the scope changes.
- Resources- The type, amount, and availability of resources to perform your project work.

Chart 5 Assumptions and Constraints (PMBOK Guide Fifth Edition, 2013)

Objectives	Assumptions	Constraints
To produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration	-All the information required for the study will be readily available. -Persons within the industry will be willing participants in the study. -Sufficient support will be received from the supporting organization. -Project scope will not be modified.	Time Scope Resources Cost

Objectives	Assumptions	Constraints
To create a time management plan to ensure that the project is completed on time	-All the information required for the study will be readily available. - Sufficient support will be received from the supporting organization. - Project scope will not be modified.	Time Scope Resources
To develop a cost management plan to make sure the project is within budget	-All the information required for the study will be readily available. - Sufficient support will be received from the supporting organization. - Project scope will not be modified.	Time Scope Resources Cost
To design a quality management plan to make certain that all resources needed to complete the project successfully are available	-All the information required for the study will be readily available. - Sufficient support will be received from the supporting organization. - Project scope will not be modified.	Time Scope Resources
To create a communications management plan to ensure that the system of communications and the project performance are documented properly.	-All the information required for the study will be readily available. -Persons within the industry will be willing participants in the study. -Sufficient support will be received from the supporting organization. -Project scope will not be modified.	Time Scope Resources Cost
To construct a stakeholder management plan that documents the interaction between stakeholders and	-All the information required for the study will be readily available. -Persons within the industry will be willing participants in the study.	Time Scope Cost

Objectives	Assumptions	Constraints
processes used to manage issues identified on the project	-Sufficient support will be received from the supporting organization. -Project scope will not be modified.	
To execute a market analysis to determine viability of the app with recommendations, possible alternatives and conclusions of the study	-All the information required for the study will be readily available. -Persons within the industry will be willing participants in the study. -The information may be too much to fit into an application so a website may be an option. -Sufficient support will be received from the supporting organization. -Project scope will not be modified.	Time Scope Resources Cost

3.5 Deliverables

A deliverable is a tangible, verifiable outcome of work that achieves an objective. The existence of one or more deliverables proves that an objective has been reached. To be verifiable, the deliverable must meet predetermined standards for its completion, such as a design specification for a product or a checklist of steps that is completed as part of a service (ocio.wa.gov).

The main deliverables to be achieved through the feasibility study are in keeping the goals and objectives as well as the scope of the project. These include time management plan, scope management plan, cost management plan, communications management plan, quality management plan, stakeholder management plan and the overall feasibility study.

Chart 6 Deliverables (ocio.wa.gov)

Objectives	Deliverables
To produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration	Scope management plan; This plan details how the project scope will be defined, developed, and verified in keeping with the project objectives throughout the project lifecycle.
To create a time management plan to ensure that the project is completed on time	Time management plan; The plan will include activities that ensure the project is completed on time.
To develop a cost management plan to make sure the project is within budget	Cost management plan. This plan will make certain that the project stays within budget.
To design a quality management plan to make certain that all resources needed to complete the project successfully are available	Quality management plan; The resources needed to complete the project successfully will be highlighted along with the activities needed to achieve each.
To create a communications management plan to ensure that the system of communications and the project performance are documented properly.	Communications management plan; Communication in projects is critical. A communications management plan ensures that there is effective communication throughout the life cycle of the project.
To construct a stakeholder management plan that documents the interaction between stakeholders and processes used to manage issues identified on the project	Stakeholder management plan; Plan details the project's activities related to engaging stakeholders and making the most effective use of their participation as well as determining the level of interest in the project.

To execute a market analysis to determine viability of the app with recommendations, possible alternatives and conclusions of the study	The market analysis includes the survey results, the recommendations and conclusion of the overall FGP.

4. DELIVERABLE ANALYSIS

4.1 Project Scope Management

According to the PMBOK Guide, "project scope management includes the processes required to ensure that the project includes all the work required and only the work required, to complete the project successfully (PMBOK guide Fifth Edition, 2013). These processes include plan scope management, collect requirements, define scope, create WBS, validate scope and control scope. For the benefit of the feasibility study, the scope management plan will ensure that the information gathered is in keeping with the requirements needed to determine the viability of the app.

Project Scope Management follows a six-step process: plan scope management, collect requirements, define scope, create WBS, verify scope, and control scope (PMBOK guide Fifth Edition, 2013).

- Plan Scope – The project management plan defines how the project is executed, monitored and controlled and closed (PMBOK guide Fifth Edition, 2013). The main inputs into this process are the project management plan and project charter. The project management plan describes how the project is to be executed, monitored, controlled and closed while the project charter formalizes the existence of the project (PMBOK guide Fifth Edition, 2013).

Development of the project management plan takes effect after the feasibility study is complete and the proposed app is deemed a viable project.

- Collect Requirements – in this process, we define and document the requirements needed to meet all project objectives. The foundation of this process is the scope management plan, requirements management plan, stakeholder management plan, project charter and stakeholder register. From these, the project team can collectively identify requirements, discuss how each requirement is completed, conduct interviews and follow-up to clarify the requirements, and document the requirements in sufficient detail so they can be assessed once the project begins the execution phase.

- Define Scope – this step requires the development of a detailed project description that include deliverables, assumptions, and constraints and establishes the framework within which project work must be performed.

- Create WBS – the process of subdividing project deliverables and project work into smaller, more manageable components. This hierarchical nature of the WBS allows for more simplicity in scheduling, costing, monitoring, and controlling the project.

- Verify Scope – this process involves formalized acceptance of all project deliverables with the sponsor and/or customer.

- Control Scope – The PMBOK Guide describes the control scope process as monitoring the status of the project scope and managing changes to the scope baseline, the key benefit of which is that it allows the scope baseline to be maintained throughout the project (PMBOK guide Fifth Edition, 2013). Changes may be essential to the project scope but it is imperative that they are controlled and integrated in order to prevent scope creep.

The Scope Management Plan for this project provides the scope framework that will guide the development of the feasibility study. The aim of the feasibility study is to ascertain the need for an app for the Windward Island sailing area. This plan therefore documents the scope management approach; roles and responsibilities as they pertain to the scope of the project; scope definition; verification and control measures; scope change control; and the project's overall work breakdown structure.

For this project, the development and control of the scope management will be the sole responsibility of the Project Manager. The project's scope is defined by it's Scope Statement, Work Breakdown Structure (WBS) and WBS Dictionary. Documentation for measuring the project scope such as quality checklists, performance measurements and responsibility matrix will be established and approved by the project manager, sponsor and stakeholders.

The Project Manager, stakeholders and members of the project team, will initiate proposed scope changes. All requested changes will be submitted to the Project Manager who will then evaluate the request based on the scope. Once accepted, the Project Manager will then submit the scope change request to the Change Control Board and Project Sponsor for formal acceptance. Upon approval of the changes by the Board and Project Sponsor, the Project Manager will update all project documents and communicate the scope change to stakeholders.

For projects' scope to be successfully managed, it is important that all roles and responsibilities for scope management are clearly defined. The Project Manager, Sponsor and team will all play key roles in managing the scope of this project. Therefore, the project sponsor, manager, and team members must be aware of their responsibilities in order to ensure that work performed on the project is within the established scope throughout its duration.

Chart 7 Project Responsibility Matrix (PMBOK guide Fifth Edition, 2013)

Name	Role	Responsibility
Ian Morris	Sponsor	- Approve or deny scope change requests - Evaluate scope change requests - Accept final project deliverables
Candelle Thomas	Project Manager	- Evaluate and verify project scope - Enable scope change requests - Facilitate impact of scope change requests - Organize and facilitate change control meetings - Communicate outcomes of scope change requests - Update project documents upon approval of all scope changes
Justin Adams	Team Member	- Participate in defining change resolutions - Evaluate the need for scope changes and communicate them to the project manager as necessary
Collin Allard	Team Member/leader	- Measure and verify project scope - Validate scope change requests - Participate in impact evaluations of scope change requests - Communicate outcomes of scope change requests to team - Facilitate team level change review process

4.1.1 Scope definition and development

The scope for this project is defined through the requirements to complete the final graduation project (FGP). From this information, the project manager developed the project requirements for what the feasibility study must accomplish through the project management processes being employed. A comprehensive and well-defined requirements matrix is critical to a project's success at every step. The feasibility study cannot properly scope a project without using a substantial formal requirements plan and process. The project description and deliverables

developed in the scope statement are based on the requirements for the feasibility study and input from the requirements for the FGP. *See appendix 1 for project charter and appendix 4 for Scope Statement.*

The scope statement provides a detailed description of the project, its deliverables, constraints, assumptions, and objectives. The scope statement also includes work that should be performed in order to eliminate any avoidable work which falls outside the of the project's scope. This feasibility project includes the research that aims to ascertain the viability of the app for serve the sailing community of the Windward Islands. The deliverables for this project are strategies and information that will assist in the determination of the apps viability such as the scope management plan. Assumptions for this project are that the project sponsor and all project team members will provide support and that adequate resources are available for the successful completion of this project. *See Appendix 4 for Scope Statement.*

4.1.2 Scope verification

Scope verification process discusses how the deliverables will be verified against the original scope and how the deliverables from the project will be formally accepted. As the project progresses, the Project Manager will verify project deliverables against the original scope as defined in the project charter and WBS. Once the scope is verified against the requirements defined in the project plan, the Project Manager and Sponsor will formally accept the deliverable. The Project Sponsor will accept the deliverable by signing a project deliverable acceptance document, which will ensure that project work remains within the scope of the project on a consistent basis throughout the life of the project. *See Appendix 4 for Project Delivery Acceptance Form.*

4.1.3 Scope control

The scope control process involves monitoring the status of the project scope. Controlling scope is the responsibility of the Project Manager and the project team who will work together to monitor and control the direction of the project. The project team will ensure they perform only the work described in the WBS and generate the defined activities for each WBS element. The Project Manager will thus oversee the project team and the progression of the project to ensure that this scope control process is followed.

The project sponsor must approve changes to the project scope if needed. Project team member can request changes to the project scope but all change requests must be submitted to the Project Manager in the form of a change request document. Once approved by the project manager, the change request will then be formally submitted to the Project Sponsor will then formally accept the change by signing the document. If accepted by the Project Sponsor the Project Manager will update all project documents and communicate the scope change to all project team members and stakeholders. *See Appendix 5 for Project Change Control Request Form.*

4.2 Project Time Management

Project time management involves the processes required to manage the timely completion of the project. Schedules are a central part of any project as they provide the project team, sponsor, and stakeholders' insight into the project's status at any given time throughout the project lifecycle. The purpose of this plan is to define the approach the project team will employ in creating a project schedule that will endure through lifecycle of the project.

The processes involved include:

- Plan schedule management – involves establishing policies, procedures and documentation for planning, developing, managing and executing the project schedule (PMBOK guide Fifth Edition, 2013).

- Define activities – defining the specific activities that need to be performed in order to complete the project is critical to its success. The activities are defined based on the schedule developed in the WBS.

- Sequence activities – this process is used to determine the order that each of the activities needs to be completed in. At this stage, the relationships between activities are identified and documented.

- Estimate activity resources – in this process, the type and quantities of material, people, equipment, and/or supplies required to perform each activity are estimated.

- Estimate activity duration - process to estimate how long it will take to complete each activity.

- Develop schedule – following the estimation of activity duration, the schedule is developed listing start and finish dates for each activity.

- Control schedule – the process of monitoring the status of project activities to manage changes to the project baseline and update project progress.

4.2.1 Schedule management and development

The schedule for this project will be created using MS Project using the deliverables identified in the project's Work Breakdown Structure (WBS). The milestone list created in the project charter identifies the specific work packages, which must be performed to complete each deliverable and the allotted completion

time for each activity. The activity sequencing used, highlights the order of work packages and assigned relationships between project activities.

Precedence diagramming methods were used to develop this sequencing relationship. The PMBOK Guide documents four sequencing relationships: finish to start, finish to finish, start to start and start to finish. The relationship used for this project is finish to start where a successor relationship cannot start until a predecessor activity has finished. A successor activity is a dependent activity that comes after another in the Schedule while a predecessor activity is a logical activity that comes before a dependent activity in a project (PMBOK Guide Fifth Edition, 2013).

The Project Manager and project team are responsible for completing the tasks defined in the schedule for the feasibility study.
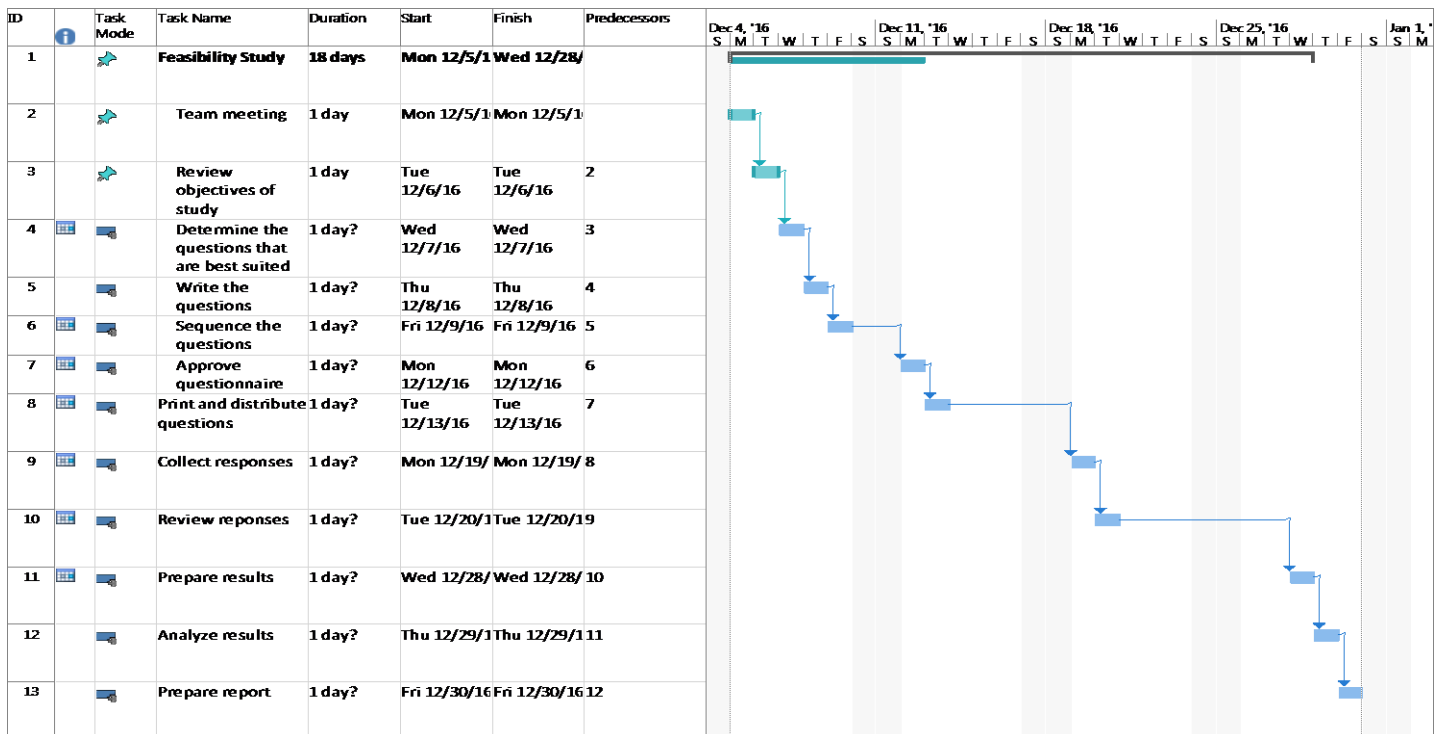
Figure 6 Gantt chart for Feasibility Research

4.2.2 Control schedule

The PMBOK guide notes the benefits of the control schedule process as means to recognize deviation from the plan and take recommended corrective or preventative measures (PMBOK guide Fifth Edition, 2013). It further ensures that the project remains on course and is completed in the allotted time.

The Project Manager is responsible for holding weekly meetings with project team members to review the schedule to determine if there are any variances to the schedule and its impact. Any variances or changes to the schedule must go through formal change control procedures and be approved by the project sponsor before it can be re-baselined

4.3 Project Cost Management

Cost management is concerned with estimating, allocating, and controlling the costs in a project. Planned cost is calculated during the planning phase of a project and is approved before the scheduled tasks commence. Once the project is completed, planned costs vs. actual costs are compared to determine if the project was within budget and to provide a benchmark for future cost management plans and project budgets. This process includes activities such as planning cost, estimating, determining a budget, and controlling costs so that the project can be completed within the approved budget.

- Plan cost management – the process that establishes the policies, procedures and documentation for managing and controlling project costs (PMBOK guide Fifth Edition, 2013).
- Estimate costs – process used to determine the amount of monetary resources needed to complete project activities.
- Determine budget - the budget provides an overview of the total costs of the project. The cost estimates defined here is based on the cost of each work package or activity. The budget allocates the costs for the project over the time period when the cost will be incurred which assist in the creation of a

cost baseline; an approved time-phased budget used to measure actual performance progress against planned.
- Control costs - cost control is concerned with monitoring variances from the cost baseline and taking effective corrective action to achieve minimum risks.

The cost for this project is based on completing the deliverables, which assist in determining the viability of the proposed project, and gives the go ahead to continue its development.

The PMBOK Guide details plan cost management as being concerned with the cost of resources needed to complete the project activities (PMBOK guide Fifth Edition, 2013). Therefore, this project will incorporate earned value calculations which will be included in cost accounts to measure financial performance throughout the project. Earned value management combines scope, schedule and resource measurements to assess project performance and progress thus, the three earned value dimensions that will be used are planned value, earned value and actual cost. The project will also consider variances and efficiency indicators – cost variance, schedule variance, cost performance index and schedule performance index (PMBOK guide Fifth Edition, 2013).

Chart 8 Cost performance indicators

Performance measure	Grade	
Cost performance index	Less than 1.0	Project cost is over budget
	Greater than 1.0	Project cost is under budget
Schedule performance index	Less than 1.0	Project is behind schedule
	Greater than 1.0	Project is ahead of schedule

If variations exist in the project cost performance, the Project Manager must report the exception and provide a detailed corrective action plan to bring the project performance back to acceptable levels within one week of the report with assistance from the project sponsor who approves the corrective action.

Chart 9 Project Cost Breakdown

Activities	Costs involved	Estimated Cost EC$
Team Meeting	Transport to meeting location	$100.00
Review project objectives		$250.00
Determine the questions that are best suited	Refreshments	$500.00
Write the questions		
Sequence the questions		
Approve questionnaire	Refreshments	$500.00
Print and distribute questionnaire	Print questionnaires + transportation	$1200.00
Collect responses	Transportation to site	$100.00
Review responses	Admin cost, transport, refreshments	$1000.00
Prepare results	Admin cost, transport, refreshments	$1000.00
Total cost		**$4650.00**

4.4 Project Quality Management

The PMBOK Guide asserts that, "project quality management includes the processes and activities of the performing organization that determine quality policies (PMBOK guide Fifth Edition, 2013).

The processes include:

- Plan quality management - Quality management planning is the process of relating quality requirements or standards for the project to its deliverables and documenting how the project will comply with the quality requirements or standards outlined. (PMBOK guide Fifth Edition, 2013).

- Perform quality assurance - The PMBOK guide Fifth Edition describes quality assurance as the process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used (PMBOK guide Fifth Edition, 2013).

- Control quality – involves the monitoring and controlling quality activities to assess performance and recommend changes (PMBOK guide Fifth Edition, 2013).

The Quality Management Plan is an essential part of this project as it describes how quality will be managed throughout the lifecycle of the project. Quality management is an important aspect of the feasibility study as the processes involved ensures that the objectives and goals of the study are achieved in a manner that satisfies the requirements needed to determine the viability of the app.

4.4.1 Quality development and requirements

Chart 10 Quality Checklist

<table>
<tr><td colspan="6" align="center">Quality Checklist</td></tr>
<tr><td>Project:</td><td></td><td></td><td></td><td>Date:</td><td></td></tr>
<tr><td></td><td colspan="5" align="center">Verification</td></tr>
<tr><td>Quality Item</td><td>Yes</td><td>No</td><td>N/A</td><td>Date</td><td>Comments</td></tr>
<tr><td>Does the project have an approved quality management plan?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Do all stakeholders have access to the quality management plan?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Does the quality management plan meet the objectives of the project?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Have all quality metrics been established, reviewed, and agreed upon?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Is the project team familiar with the project's quality review process?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Is the project sponsor aware of his/her responsibilities relating to quality acceptance?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Is the customer aware of his/her responsibilities relating to quality acceptance?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Is the customer aware of his/her responsibilities relating to quality acceptance?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Is the customer aware of his/her responsibilities relating to quality acceptance?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Are there appropriate quality control measures in place?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Is there sufficient resources assigned to quality assurance and control?</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

The quality checklist above will assist the project team in documenting quality standards and compliance requirements.

4.4.2 Quality Assurance and control

The aim of the feasibility study is to determine the viability of the proposed project, therefore in order to ensure quality, an iterative process of document reviews will be used throughout the life cycle of the study.

The Project Manager will schedule regular document review meetings in which the project team will review the project processes and discuss process improvement initiatives. All process improvement efforts will be documented, implemented, and communicated to all stakeholders as they are updated.

4.5 Project Communication Management

The PMBOK Guide Fifth Edition describes Project Communication Management as "the processes required to ensure timely and appropriate planning, creation, distribution, storage, retrieval, management, control, monitoring and the ultimate disposition of project information" (PMBOK guide Fifth Edition, 2013).

The Communication plan for this project serves as a guide for information sharing and exchange throughout the life of the project and will be updated as communication needs change. The plan identifies and defines the roles of persons involved in this project and the communications matrix maps the communication requirements. The Matrix will be used as the guide for what information to communicate, who is to do the communicating, when to communicate it and to whom to communicate.

The project manager will document each stakeholder's preferred frequency, method of communication and communication channels, which will be maintained

in the project's Stakeholder Register. The project manager must ensure that the stakeholders have access to these channels in order to receive project communications.

Chart 11 Project Communication Matrix

Communication Type	Objective of Communication	Medium	Frequency	Attendees	Deliverable	Format
Introductory Meeting	Introduce the project team and the project. Review project objectives and management approach.	Face to Face	Once	- Project Sponsor - Project Team - Stakeholders	- Agenda - Meeting Minutes	Soft copy archived and emailed to each person
Project Team Meetings	Review status of the project with the team.	Face to Face Skype video call	Weekly	- Project Team	- Agenda - Meeting Minutes - Project Schedule	Soft copy archived and emailed to each person
Monthly Project Status Meetings	Report on the status of the project to management.	Face to Face Skype video call	Monthly	- Project Team	- Slide Updates - Project Schedule	Soft copy archived and emailed to each person
Project Status Reports	Report the status of the project including activities, progress, costs and issues.	- Email	Monthly	- Project Sponsor - Project Team - Stakeholders	- Project Status Report - Project Schedule	Soft copy archived and emailed to each person

4.6 Project Stakeholder Management

According to the PMBOK Guide, Project Stakeholder Management includes "the processes required to identify the people, groups or organizations that could impact or be impacted by the project, to analyze their expectations, impact on the project and to develop the appropriate management strategies for effectively engaging them in decisions and execution of project tasks" (PMBOK guide Fifth Edition, 2013).

The stakeholder management processes include:
- Identify stakeholders
- Plan stakeholder management
- Manage stakeholder engagement
- Control stakeholder engagement

The Stakeholder Management approach for the feasibility study will seek to identify and classify project stakeholders, determine their power, interest, and influence, and analyze the most appropriate communication methodology for all stakeholders. This will allow the project team to identify key influential stakeholders to solicit input for project planning and gain support as the project progresses. The benefit of this is reducing the likelihood of encountering competing objectives and maximizing the resources required to complete the project.

To identify a stakeholder, the project team will brainstorm to determine the following:
- Will the person be directly or indirectly affected by this study?
- Will a person or their organization positively or negatively influence the project?
- Does the person or their organization have special skills or competences the project will need?
- Can the person potentially benefit from the project or are they in a position to resist this change?
- How involved can this person be in the project?

Each stakeholder identified will be analyzed and classified based on their power and interest. The project team will further identify key stakeholders who are considered to have the most influence on the project or who may be affected the most by it and are those who will require the most communication and management. Once identified, the Project Manager will document the level of

participation they desire, frequency and type of communication, and any concerns or conflicting interests they have. All information about these stakeholders will be stored in the stakeholder register.

Chart 12 Stakeholder Register

Stakeholder Name	Project role	Communication required	Email
Ian Morris	Project sponsor	Project Meetings	ian@pricklybaygrenada.com
Candelle Thomas	Project Manager	Project reporting, team meetings	cthomas@gmail.com
Justin Adams	Team Member	Team meetings	jadams@spiceisle.com
Collin Allard	Team member/leader	Team meetings/reporting	Collin.allard@yahoo.com
Marina customers		Face to face contact	
Marina staff		Face to face contact	
Customs and Immigration		Project meetings	
Software developer		Project meetings	
President - Marine and yachting Association Grenada		Project meetings	

In project communication, it is also important to determine the number of communication channels required. $N(N-1)/2$ is the formula used to calculate the number of communication channels on a project where N equals the number of team members/stakeholders on a project. A small project team as this one is also influenced by the number of customers located in the marina and staff working at the marina. With that in mind, having nine project team members, the possible

channels of communication can be calculated as 9(9-1)/2 = 9(8)/2 = 72/2 = 36. So for the PM must ensure that the nine people on their team are communicating effectively and there are no gaps in everyone's understanding that they need to manage 36 communication channels among the team.

4.7 Market analysis

Yachting in the Caribbean has been around for many years, However, while the niche market within which this sector is growing, facts are difficult to obtain or non-existent.

Ajagunna and Pinnock in an article in the Official Journal of the Caribbean Shipping Association suggests that about 10 million yachting holidays are taken each year. This number is believed to include 2.5 million trips taken by residents of the United States and one million by residents of the United Kingdom (two of the largest source markets for yachting and sailing). The yachting industry has been exhibiting significant growth over the past 15 years and this growth is fueled by an increasing desire for more active leisure holidays by the affluent (Ajagunna and Pinnock, 2013).

The Caribbean is one of the finest and most popular yacht charter destinations in the world, bound by the northern coast of South America, the east coast of Central America, the islands of Cuba, Haiti, the Dominican Republic and Puerto Rico, and the chain of islands to the east known as the Windward and Leeward islands. Vincenzo Zappino, in his analysis of the tourism industry in the Caribbean, he pointed out that yachting in the Caribbean has served as a small but important specialty market for decades. Growth in yachting has been substantial in the past 20 years, for both charter cruises and bare boating. Popular cruising grounds are centered on the northern Caribbean and the Grenadines, where a variety of ports of call are within easy cruising distance of each other (Ajagunna and Pinnock, 2013).

4.7.1 Environmental plan

As part of the market analysis, an environmental scan of the industry will be prepared. This scan will take into account the following:

- Analysis of external environment - PEST
  - o Political
    - ▪ Political instability
    - ▪ Tax policies
    - ▪ Environmental laws
    - ▪ Trade restrictions and regulations
  - o Economic
    - ▪ Exchange rates
    - ▪ Economic conditions
    - ▪ Inflation
    - ▪ Social
    - ▪ Cultural changes
    - ▪ Growing concern for environmental impact and sustainability
  - o Technological
    - ▪ Rate of technological change
    - ▪ Innovation potential
    - ▪ Greater interest in mobile marketing
    - ▪ Global communication
    - ▪ Access to technology

Environmental scanning is necessary because there are rapid changes taking place in the yachting environment that will have a great impact on the development and sustainability of the app. Further analysis of yachting environment helps to identify strengths, weakness, opportunities and threats. Therefore, a SWOT analysis is necessary for the survival and growth of the sector and the survival of the app.

While data on the industry is almost non-existent, it is important to determine the driving forces of change or trends that are causing the industry to change and how these changes will influence and/or benefit the app. To achieve this we will employ Porter's five forces model.

Threat of New Entry
– Time and cost of entry
– Specialist knowledge
– Economies of scale
– Cost advantages
– Technology protection
– Barriers to entry

Competitive Rivalry
– Number of competitors
– Quality differences
– Other differences
– Switching costs
– Customer loyalty

Threat of New Entry

Supplier Power

Competitive Rivalry

Buyer Power

Supplier Power
– Number of suppliers
– Size of suppliers
– Uniqueness of service
– Your ability to substitute
– Cost of changing

Threat of Substitution
– Substitute performance
– Cost of change

Threat of Substitution

Buyer Power
– Number of customers
– Size of each order
– Differences between competitors
– Price sensitivity
– Ability to substitute
– Cost of changing

Figure 7 Porters five forces model (https://www.mindtools.com/pages/article/newTMC_08.htm)

Porter's Five Forces Analysis is an important tool for assessing the potential for profitability in the industry. By focusing on how each force affects the app and by identifying the strength and direction of each force, we can quickly assess the strength, position and the ability to make a sustained profit in the industry.

Performing an analysis of competitors in the industry is also crucial to determining the potential success of the app.

Chart 13 Competition analysis

(Note: The rating is done from a scale of 1 to 10. 1 being poor and 10 being excellent. The checks represent the factors that the company possesses.)

Factor	Windwards Island App	Strengths	Weaknesses	Doyle Guide	Free Cruising Guide.com	Importance to Customer
Service		✓		✓	✓	10
Price		✓			✓	10
Quality		✓		✓		10
Reliability		✓				9
Stability		✓		✓	✓	9
Expertise			✓		✓	10
Company Reputation			✓	✓		9
Location			✓		✓	9
Appearance			✓	✓		9
Advertising			✓	✓		7

4.7.2 Target Market

According to entrepreur.com, a target market is a specific group of consumers at which a company aims its products and services (www.entrepreneur.com). The target market for this project is the yachting sector within the Windward Islands. That includes sailors, service providers and government agencies associated with the industry (customs and immigration, etc.). Questionnaires will be distributed to persons within this target group to ascertain the need and viability of the app.

4.7.3 Sample Questionnaire

Dear cruisers, my name is Candelle Thomas. As part of my Final Graduation Project for my Master's program, I will be investigating the viability of an app for your industry. Your participation in this survey is necessary and I will therefore like to take this opportunity to thank you for your willingness to participate in our customer survey.

The Windward Islands are at the southern end of the chain of islands that make up the Caribbean. The four main islands include Dominica, Grenada, St. Vincent and the Grenadines and St. Lucia. As you may know, sailing in the Windward Islands is an experience like no other. The four islands are far enough apart to allow for open sea sailing with easterly trade winds allowing for an amazing sailing experience.

It is the aim of this feasibility study to determine the practicality of the development of an app to display all these islands and their features. The study's aim is to realistically ascertain the strengths and weaknesses of developing the app, the opportunities and threats present in the environment, the resources required to it carry through, and ultimately its prospects for success.
Your responses will enable me to analyze the demand for the app and its marketability in the industry.

Please take a moment to fill out this questionnaire with your responses.

1. Where are you from?
   a. USA/Canada   [ ]
   b. Europe   [ ]
   c. Asia   [ ]
   d. Other _____

2. How long have you been a cruiser?
   a. 0 – 5 years   [ ]
   b. 6 – 10 years   [ ]
   c. 11 – 15   [ ]
   d. Over 16 years   [ ]

3. How did you arrive in the Caribbean?
   a. Independent cruiser   [ ]
   b. Yacht Charter   [ ]
   c. ARC or organized group   [ ]
   d. Purchased a boat in the Caribbean [ ]
   e. Other_____   [ ]

4. What commodity do you spend most on whist cruising?
   a. Fuel   [ ]
   b. Food   [ ]
   c. Water   [ ]
   d. Spares and parts   [ ]
   e. Labour   [ ]
   f. Restaurants and entertainment   [ ]
   g. Other_____   [ ]

5. Are you cruising whilst?
   a. Retired   [ ]
   b. Vacation   [ ]
   c. On sabbatical   [ ]
   d. Resident of the Caribbean [ ]

6. How long have you been cruising the Windward Islands?
   a. 0 – 1 years   [ ]
   b. 1 – 2 years   [ ]
   c. 2 – 5   [ ]
   d. Over 5 years   [ ]

7. How did you find out about the sailing area before coming to the islands?
   a. The internet   [ ]
   b. Friends and family   [ ]
   c. Sailing books/magazines [ ]
   d. Other _____

8. Did the information you receive sufficiently prepare you for your trip?
   a. Yes   [ ]
   b. Somewhat   [ ]
   c. No   [ ]
   d. Other _____

9. Will an application (app) documenting the ins and outs of the Windward Islands help improve your sailing experience?
   a. Yes   [ ]

b. Somewhat   [ ]
c. No   [ ]
d. Other _____

10. Are you willing to pay for using this type of app?
a. Yes   [ ]
b. No   [ ]
c. Other _____

11. What information would you like the app to document?
a. Ports of entry and marinas   [ ]
b. Restaurants and night life   [ ]
c. Navigation details (wind direction and speed, sea level and depth)   [ ]
d. Sailing itinerary with photos   [ ]
e. Other _____

12. How relevant is the development of an app of this nature to the sailing industry?
a. Very relevant   [ ]
b. Somewhat relevant   [ ]
c. Not at all relevant   [ ]

13. What mobile operating software do you use?
a. iOS   [ ]
b. Android   [ ]
c. Blackberry OS   [ ]
d. Windows OS   [ ]
e. I don't use any   [ ]
f. Other_____

5. CONCLUSIONS

The active participation of cruisers residing in the Prickly Bay Marina allowed for direct interaction during the research process. With the assistance of the Marina Manager, questionnaires were distributed to 15 yachts men and women.

The analysis of the survey confirms that the development of an app to serve the cruising population of the windward island region is indeed feasible and relevant to the sailing industry in the Windward Islands. The survey further assisted in understanding the requirements the app needs to fulfill such as fuel, food, spare parts and entertainment as well as whether or not a cost should be associated with its use.

From the development of this FGP, I realized that the development of the app is more than providing sailors with information. It is the personal feeling and involvement they will achieve in being able to plan their trip by creating their itineraries and documenting each new, unique adventure. Further, the social presence of the app will also be a significant boost to the sector. Incorporating project management processes and tools was critical to the success of the study and the future development of the product.

Overall, it can be concluded that the app is a relevant and desirable tool that allows for modernization of the industry, satisfying the information needs of its users and fostering growth in the sector throughout the Windward Islands.

6. RECOMMENDATIONS

The Windward community enjoys success in its unique sailing features. The employment of project management practices and tools is critical in creating a social media and online personality that fosters human involvement and a personal touch to each person using the app.

The following recommendations are offered following the results of this feasibility study:

1. To bolster the ability of the study to contribute to the development of the WI sailing community, consideration should be given to include cooperation from the Marine and Yachting Association within the WI group. By doing this more resources and information will be available to solidify and successfully complete the study.

2. There is a need to investigate further whether the app can efficiently store the volume and degree of information it is required to provide. The study can further explore the alternative of using a mobile website.

3. The development strategy for the app must include multi platforms and the best potential for maximizing revenues and growth.

4. The yachting sector includes very diverse cultures; therefore, the study should discuss incorporating different languages in the design of the app.

5. Exploration of the yachting community and the further development of the app will require the creation of a detailed risk management plan.

6. By creating a discussion and buzz in the industry, a greater investment of resources and time is required to ensure the success of this new initiative. Performance measurement and benchmarking systems should be put in place to measure planned versus actual results particularly in the areas of cost management, quality management, time management and scope management.

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8. APPENDICES

Appendix 1: FGP Charter

PROJECT CHARTER	
Date	**Project Name:**
Sunday August 28, 2016	Feasibility Study; Application development - digital sailing guide to the Windward Islands
Knowledge Areas / Processes	**Applicacion Area (Sector / Activity)**
Knowledge areas: Time Management Cost Management Quality Management Communications Management Risk Management Stakeholder Management Scope Management **Process groups:** Initiation Planning Executing Monitoring/Control Closing	Marine Industry
Start date	**Finish date**
August 22, 2016	February 17, 2017
Project Objectives (general and specific)	
General objective: To perform a feasibility study for an (app) development to determine the viability and success of its operation.	

Specific objectives:

- To produce a scope management plan to guarantee that the purpose and objectives of the project are maintained throughout the project duration.

- To create a time management plan to ensure that the project is completed on time.

- To develop a cost management plan to make sure the project is within budget.

- To design a quality management plan to make certain that all resources needed to complete the project successfully are available.

- To create a communications management plan to ensure that the system of communications and the project performance are documented properly.

- To construct a stakeholder management plan that documents the interaction between stakeholders and processes used to manage issues identified on the project .

- To execute a market analysis, resource analysis and competitor analysis to determine viability of the app with recommendations, possible alternatives and conclusions of the study.

Project purpose or justification (merit and expected results)

Yachting has always been a predominant activity in the Caribbean for many years. The Windward Islands specifically are home to some of the Caribbean's most breath-taking destinations in the world. Each Windward isle is unique and beautiful with lush rainforest, clear crystal waters for diving and dazzling white sand beaches. The yachting sector in the region has grown substantially over the past few years with over 12 marinas, the creation of over 5000 jobs and contributions to the overall GDP in the region.

The aim of the feasibility study is determine whether or not the development of an app-digital sailing guide to the Windward Islands is achievable. The app will highlight ports of entry, marinas, yacht charter companies, beaches, marine protected areas, anchorages, sailing routes, chandleries, restaurants, current and upcoming events in each isle etc, that cruisers can navigate through before traveling to the islands.

The benefits to be derived from the creation of this study are extraordinary. The demand for trained professionals in this industry is increasing and will be further propelled by the level of reach to be derived from the development of the app. This will directly impact and enhance the professional skills of industry personnel and be a significant boost to delivery of knowledge and skills in the planning and management of development projects and programmes.

The entire goal of the study is thus to determine how viable the establishment of a yachting platform of this nature is and to determine if it will be received by its intended audience.

Description of Product or Service to be generated by the Project – Project final deliverables

The final deliverable of the project is the conclusion derived from the feasibility study being conducted. The conclusion will indicate whether or not the development of the app is a viable idea.

Assumptions

- It is assumed that dedicated staff will remain in their current roles.
- It is assumed that the staff will cross train one another.
- It is assumed that there will be staff available from contractors to define the vision/scope, requirements, design, develop, test, and deploy the application.
- It is assumed that sufficient support will be received from the supporting organization.
- It is assumed that the project scope will not be modified.

Constraints

- Time. Balancing work and my daily activities with the demand of the project
- Scope. The information on websites and books related to yachting in the region may be out of date therefore altering the scope of the project.

- Cost - potential increase in cost of developing the application if the scope changes.
- Resources. The type, amount, and availability of resources to perform your project work.

Preliminary risks

- Insufficient time to complete the study will impact the scope and quality of the project.
- Inadequate support an organization or company involved in yachting, it will impact the overall project scope.
- Cruisers may not be willing to participate in the study.

Budget

The initial budget for the project is US$ 100,000.00 for the development of the app.

Milestones and dates

Milestone	Start date	End date
Final Graduation Project	Aug. 22, 2016	Feb. 17, 2017
1. Graduation Seminar	Aug. 22, 2016	Sept. 23, 2016
1.1 FGP deliverables	Aug. 22, 2016	Sept. 16, 2016
1.1.1 Charter	Aug. 22, 2016	Sept. 26, 2016
1.1.2 WBS	Aug. 22, 2016	Sept. 26, 2016
1.1.3 Chapter I - Introduction	Aug. 29, 2016	Sept. 2, 2016
1.1.4 Chapter II – Theoretical Framework	Sept. 5, 2016	Sept. 9, 2016
1.1.5 Chapter III – Methodological Framework	Sept. 12, 2016	Sept. 16, 2016
1.1.6 Annexes	Aug. 29, 2016	Sept. 16, 2016
1.1.6.1 Bibliography	Sept. 12, 2016	Sept. 16, 2016
1.1.6.2 Schedule	Aug. 29, 2016	Sept. 2, 2016
1.2 Graduation seminar approval	Sept. 19, 2016	Sept. 23, 2016
2. Tutoring process	Sept. 26, 2016	Dec. 23, 2016
2.1 Tutor	Sept. 26, 2016	Sept. 28, 2016
2.1.1 Tutor assignment	Sept. 26, 2016	Sept. 26, 2016

2.1.2 Communication	Sept. 27, 2016	Sept. 28, 2016
2.2 Adjustments of previous chapters	Sept. 29, 2016	Oct. 5, 2016
2.2.1 Adjust charter	Sept. 29, 2016	Oct. 5, 2016
2.2.2 Adjust WBS	Sept. 29, 2016	Oct. 5, 2016
2.2.3 Adjust chapter I	Sept. 29, 2016	Oct. 5, 2016
2.2.4 Adjust chapter II	Sept. 29, 2016	Oct. 5, 2016
2.2.5 Adjust chapter III	Sept. 29, 2016	Oct. 5, 2016
2.3 Charter IV. Development (Results)	Oct. 6, 2016	Dec. 9, 2016
2.4 Chapter V Conclusions	Dec. 12, 2016	Dec. 16, 2016
2.5 Chapter VI Recommendations	Dec. 19, 2016	Dec. 23, 2016
Tutor approval	Dec. 23, 2016	Dec. 23, 2016
3. Reading by reviewers	Dec. 26, 2016	Jan. 13, 2016
3.1 Reviewers assignment request	Dec. 26, 2016	Dec.30, 2016
3.1.1 Assignment of two reviewers	Dec. 26, 2016	Dec. 27, 2016
3.1.2 Communication	Dec. 28, 2016	Dec. 29, 2016
3.1.3 FGP submission to reviewers	Dec. 30, 2016	Dec. 30, 2016
3.2 Reviewers work	Jan. 2, 2017	Jan. 13, 2017
3.2.1 Reviewer	Jan. 2, 2017	Jan. 13, 2017
3.2.1.1 FGP reading	Jan. 2, 2017	Jan. 13, 2017
3.2.1.2 Reader 1, report	Jan. 13, 2016	Jan. 13, 2017
3.2.2 Reviewer	Jan. 2, 2017	Jan. 13, 2017
3.2.2.1 FGP reading	Jan. 2, 2017	Jan. 13, 2017
3.2.2.2 Reader 2, report	Jan. 13, 2016	Jan. 13, 2017
4. Adjustments	Jan. 16, 2017	Feb. 10, 2017
4.1 Report for reviewers	Jan. 16, 2017	Jan. 26, 2017
4.2 FGP update	Jan. 27, 2917	Jan. 27, 2017
4.3 Second review by reviewers	Jan. 30, 2017	Feb. 10, 2017
5. Presentation to Board of Examiners	Feb. 13, 2017	Feb. 17, 2017
5.1 Final review by board	Feb. 13, 2017	Feb. 14, 2017
5.2 FGP grade report	Feb. 15, 2017	Feb. 17, 2017

FGP END	Feb. 17, 2017	Feb. 17, 2017

Relevant historical information

The app is a new venture. The other guides created are text based which are updated every 2 years or sites that are not thorough or digital in nature where persons can access maps etc.

The organization I intend to ask for assistance is Prickly Bay Marina. This marina has been in existence for over 30 years and provides a wide range of services that I intend to highlight in my project. I hold a part time job atthis marina which will make access to information very easy.

I also intend to solicit advice from the Marine and Yachting Association of Grenada (Mayag). The association is responsible for developing the sector in the areas of education, marketing and the environment.

Stakeholders

Direct stakeholders:

Course Facilitator

Academic Assistant

Project Review Board

Tutor

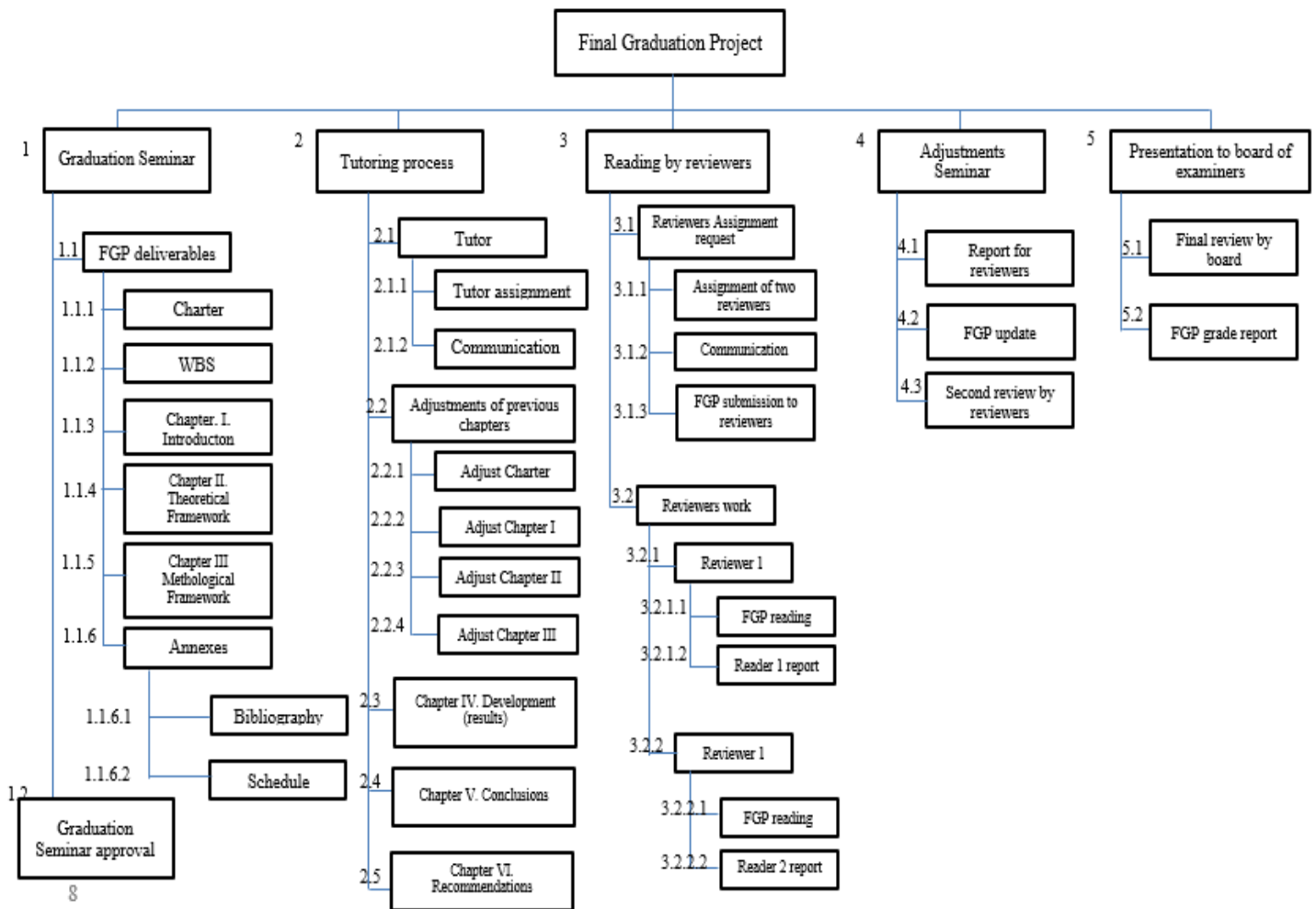Indirect stakeholders:

Classmates

Mayag

Project Manager:	Signature:
CANDELLE K. THOMAS	Thoms.

Authorized by:	Signature:

Appendix 2: FGP WBS

Appendix 3: FGP Schedule

ID	Task Mode	Task Name	Duration	Start	Finish
1		**Final Graduation Project**	130 days	Mon 8/22/1	Fri 2/17/17
2		FGP Start	0 days	Mon 8/22/1	Mon 8/22/1
3		**1,Graduation Seminar**	25 days	Mon 8/22/1	Fri 9/23/16
4		**1.1,FGP Deliverables**	20 days	Mon 8/22/1	Fri 9/16/16
5		1.1.1,Charter	5 days	Mon 8/22/1	Fri 8/26/16
6		1.1.2,WBS	5 days	Mon 8/22/1	Fri 8/26/16
7		1.1.3,Chapter I. Introducti	5 days	Mon 8/29/1	Fri 9/2/16
8		1.1.4,Chapter II. Theoretical framework	5 days	Mon 9/5/16	Fri 9/9/16
9		1.1.5,Chapter III. Methodological	5 days	Mon 9/12/16	Fri 9/16/16
10		**1.1.6,Annexes**	15 days	Mon 8/29/1	Fri 9/16/16
11		1.1.6.1,Bibliography	5 days	Mon 9/12/1	Fri 9/16/16
12		1.1.6.2,Schedule	5 days	Mon 8/29/1	Fri 9/2/16
13		1.2,Graduation Seminar appr	5 days	Mon 9/19/1	Fri 9/23/16
14		**2,Tutoring process**	65 days?	Mon 9/26/1	Fri 12/23/16
15		**2.1,Tutor**	3 days	Mon 9/26/1	Wed 9/28/1
16		2.1.1,Tutor assigment	1 day	Mon 9/26/1	Mon 9/26/1
17		2.1.2,Communication	2 days	Tue 9/27/16	Wed 9/28/1
18		2.2,Adjustments of previous chapters	5 days	Thu 9/29/16	Wed 10/5/16
19		2.2.1, Adjust Charter	5 days	Thu 9/29/16	Wed 10/5/1
20		2.2.2, Adjust WBS	5 days	Thu 9/29/16	Wed 10/5/1
21		2.2.3, Adjust chapter I	5 days	Thu 9/29/16	Wed 10/5/1
22		2.2.4, Adjust chapter II	5 days	Thu 9/29/16	Wed 10/5/1
23		2.2.5, Adjust chapter III	5 days?	Thu 9/29/16	Wed 10/5/1
24		2.3,Charter IV. Development (Results)	47 days	Thu 10/6/16	Fri 12/9/16
25		2.4,Chapter V. Conclusions	5 days	Mon 12/12/	Fri 12/16/16
26		2.5,Chapter VI. Recommend.	5 days	Mon 12/19/	Fri 12/23/16
27		Tutor approval	0 days	Fri 12/23/16	Fri 12/23/16
28		**3,Reading by reviewers**	15 days	Mon 12/26/	Fri 1/13/17
29		**3.1,Reviewers assigment rec**	5 days	Mon 12/26/	Fri 12/30/16
30		3.1.1,Assigment of two reviewers	2 days	Mon 12/26/16	Tue 12/27/16
31		3.1.2,Communication	2 days	Wed 12/28/	Thu 12/29/1
32		3.1.3,FGP submission to reviewers	1 day	Fri 12/30/16	Fri 12/30/16
33		**3.2,Reviewers work**	10 days	Mon 1/2/17	Fri 1/13/17
34		**3.2.1,Reviewer**	10 days	Mon 1/2/17	Fri 1/13/17
35		3.2.1.1,FGP reading	9 days	Mon 1/2/17	Thu 1/12/17
36		3.2.1.2,Reader 1 report	1 day	Fri 1/13/17	Fri 1/13/17
37		**3.2.2,Reviewer**	10 days	Mon 1/2/17	Fri 1/13/17
38		3.2.2.1,FGP reading	9 days	Mon 1/2/17	Thu 1/12/17
39		3.2.2.2,Reader 2 report	1 day	Fri 1/13/17	Fri 1/13/17
40		**4,Adjustments**	20 days	Mon 1/16/1	Fri 2/10/17
41		4.1,Report for reviewers	9 days	Mon 1/16/1	Thu 1/26/17
42		4.2,FGP update	1 day	Fri 1/27/17	Fri 1/27/17
43		4.3,Second review by review	10 days	Mon 1/30/1	Fri 2/10/17
44		**5,Presentation to Board of Exa**	5 days	Mon 2/13/1	Fri 2/17/17
45		5.1,Final review by board	2 days	Mon 2/13/1	Tue 2/14/17
46		5.2,FGP grade report	3 days	Wed 2/15/1	Fri 2/17/17
47		FGP End	0 days	Fri 2/17/17	Fri 2/17/17

Appendix 4: Feasibility Study Scope Statement

The feasibility study scope statement serves as a baseline document for defining the scope of App Development (Sailing Guide to the Windward Islands) Feasibility Project. This document list the project deliverables, acceptance criteria for those deliverables, project contraints and assumptions aimed at ensuring a common understanding of the project's scope among all stakeholders.

Project Scope description

The scope of this project is developed based on the requirements for the Feasibility Study for the development of an App to serve the sailing community of the Windward Islands.

Project deliverables

The deliverables for the feasibility study are:
- Project documentation
  o Scope management plan
  o Time management plan
  o Cost management plan
  o Quality management plan
  o Communication management plan
  o Stakeholder management plan
  o Market analysis

Project requirements
- Scope management plan must be developed in keeping with the goals and objectives of the feasibility study.
- The project activities must be carried out within the scheduled time outlined in the time management plan and in the required sequence.
- Project stay within budget.
- Project quality must be maintained throughout its duration.

- The medium and frequency of communication must be maintained throughout the project duration.
- Stakeholder needs must be considered in the development of project goals and objectives.
- The market must be investigated to determine its strengths, weaknesses, opportunities and threats, competitiors etc. so as to determine the likelyhood of the project succeeding.

Acceptance criteria

The acceptance criteria for the feasibility project will be based on a thorough, accurate crosscheck of actual vs planned project deliverables. All acceptance criteria must be met in order to achieve success of the project. Therefore, meeting all the deliverables and milestones within scheduled time, scope and cost as per the project requirements is also a critical acceptance criteria.

Project assumptions

- It is assumed that all the resources needed will be available.
- It is assumed that the project will remain within scope.
- It is assumed that the project will not exceed its budget and all preliminary cost.
- It is assumed that the project will be completed on time.
- It is assumed that the project will receive full backing from its sponsor throughout its duration.
- It is assumed that stakeholders will be willing participants in the project.
- It is assumed that the requirements for the project will not change.
- It is assumed that the project will be successful.

<u>Project constraints</u>

The most significant constraints that will influence this project are:

- Scope – the project scope can potentially change during the project life-cycle.
- Time – there is insufficient time allotted to complete the project deliverables.
- Cost - the estimation of the amount of money that will be required to complete the project was unrealistic.
- Quality – the quality of the project deliverables will be impacted with any changes to scope.
- Stakeholder satisfaction – the deliverables do not satisfy stakeholder needs.
- Resources – the people and assets required to deliver the project are not adequate.
- Risks – uncertainties and unknown threats may arrive.

Chart 13 Milestone list for Feasibility Study (source: Candelle K. Thomas)

Key milestones	Start date	End date
Begin tutorship phase	10.Oct.2016	12.Oct.2017
Submission of documents from Grad. Seminar	14.Oct.2016	14.Oct.2016
Revision of documents by tutor	14.Oct.2016	23.Nov.2016
Tutor feedback	24.Nov.2016	24.Nov.2016
Revision of documents as per tutor request	25.Nov.2016	27.Nov.2016
Prepare deliverables	28.Nov.2016	10.Dec.2016
Submission of deliverables for tutor review	11.Dec.2016	11.Dec.2016
Revision of deliverables based on tutor notes	12.Dec.2016	31.Dec.2016
Final submission of document for tutor approval	14.Feb.2017	14.Feb.2017
Revision of document and preparation of tutor report	15.Feb.2017	25.Feb.2017
FGP approval report to commence readership stage	26.Feb.2017	26.Feb.2017
Begin defense phase	27.Feb.2017	27.Feb.2017
Submission of FGP for Reviewer feedback	28.Feb.2017	28.Feb.2017

Reviewer report with revised document	13.Mar.2017	13.Mar.2017
Revision of document as per reviewer report	14.Mar.2017	20.Mar.2017
Submission of revised document	21.Mar.2017	21.Mar.2017
Second review by reader	27.Mar.2017	27.Mar.2017
Submission of second review	28.Mar.2017	04. April.2017
Final review and approval by Tutor	05.April.2017	07.April.2017

Appendix 5: Feasibility Study Acceptance Form

This document establishes formal acceptance of all the deliverables for the Feasibility Study for App Development (Sailing Guide to the Windward Islands) project. The project has met all the acceptance criteria as defined in the requirements document and project charter. A project audit has been performed to verify that all deliverables meet performance and product requirements. Additionally a product evaluation has been performed and determined that all features meet the quality and functional requirements defined within this project.

Project Deliverable	Approved by	Date approved
Scope Management Plan		
Time Management Plan		
Cost Management Plan		
Quality Management Plan		
Communications Management Plan		
Stakeholder Management Plan		
Market Analysis		

Approved by the Project Sponsor:

_____   _____
              Ian Morris   Date
           Marina Manager

Approved by the Project Manager:

_____   _____
           Candelle Thomas   Date

Appendix 6: Feasibility Study Change Control Request Form

Change Request Number: Date:

Requestor Name:	
Contact Email:	Contact phone:
Change Request Definition:	
Description of proposed change:	
Justification for change:	
Impact of not implementing change:	
Impact description:	

Area to be affected:

□ Project Schedule
□ Project Costs
□ Project Scope
□ Project Charter

Alternatives – if applicable:

Change control recommendation:

_____   _____
Ian Morris   Date
Project Sponsor

Appendix 7: Feasibility Study Survey Results

The overriding purpose of the Feasibility Study was to determine whether the development of an app to serve the sailing community within the Windward Islands is viable. The questions in the survey focused primarily on understanding the needs of cruisers as it relates to the use and functionality of the app. 15 questionnaires were distributed at the prickly bay marina to assist in this process. The responses are analyzed below.

Q1. Where are you from?
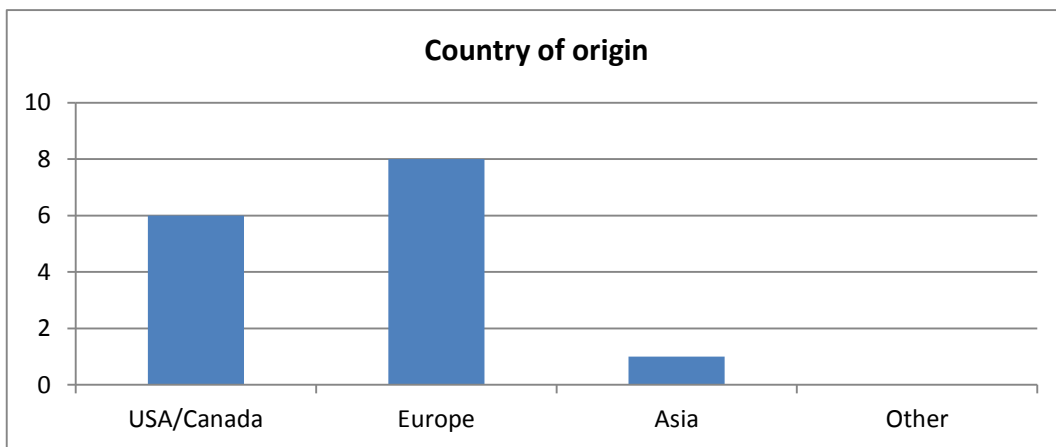
Figure 8 Graph showing where cruisers come from

Q2. How long have you been a cruiser?

Years as a cruiser

- 0-5 years
- 6-10 years
- 11-15 years
- Over 16 years
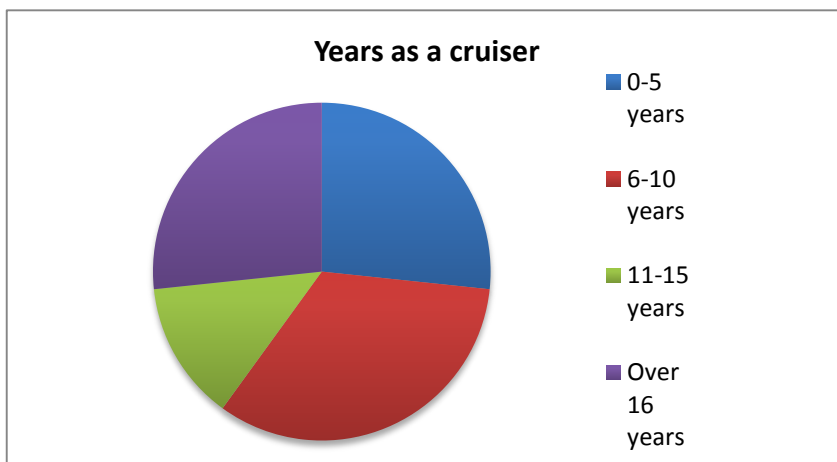
Figure 9 Pie Chart showing years as a cruiser

Q3. How did you arrive in the Caribbean?

How cruisers arrived in the Caribbean

20

10

0

- Independent cruiser
- Yacht charter
- ARC or organized group
- purchased a bpat in the...
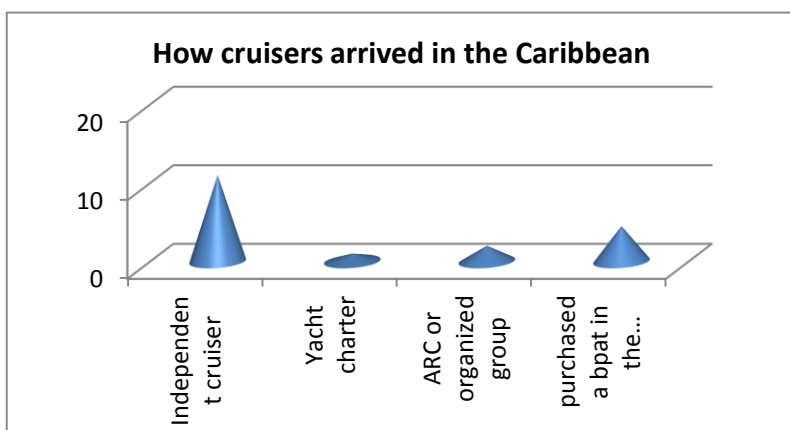
Figure 10 Graph showing how cruisers arrived in the Caribbean

Q4. What commodity do you spend most on whilst cruising?
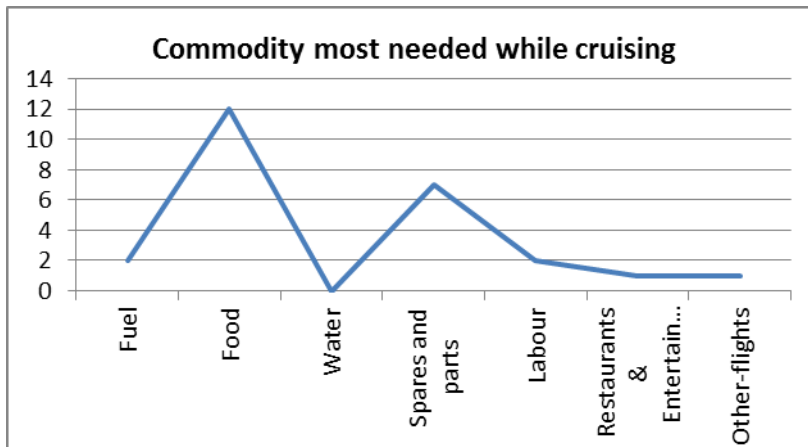
Figure 11 Graph showing commodities purchased while cruising

Q5. Are you cruising whilst?
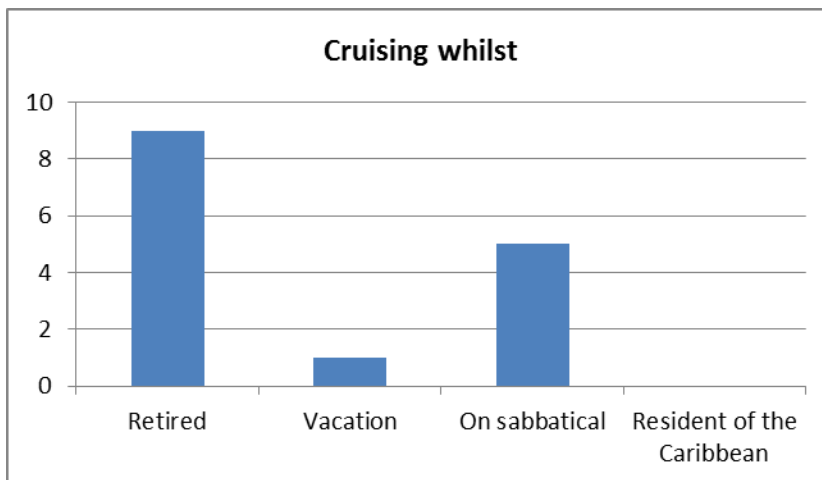
Figure 12 Graph showing cruising whilst

Q6. How long have you been cruising the Windward Islands?
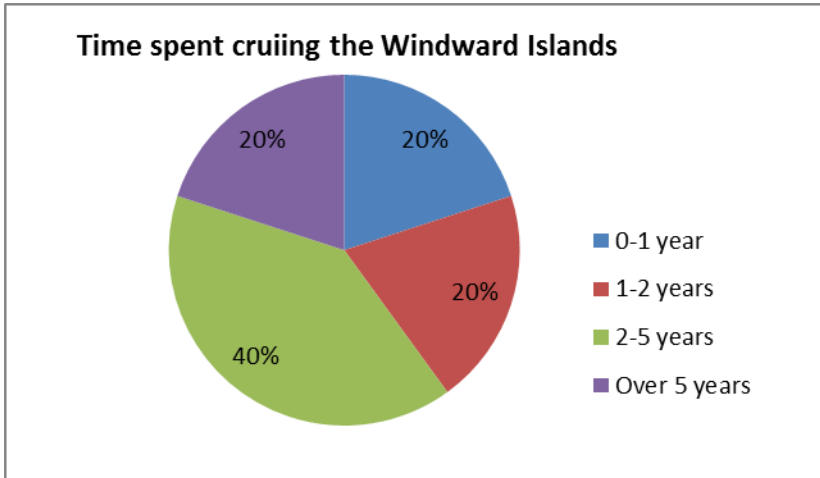
Figure 13 Pie chart showing how long cruising have been sailing the Windward Islands

Q7. How did you find out about the sailing area before coming to the islands?
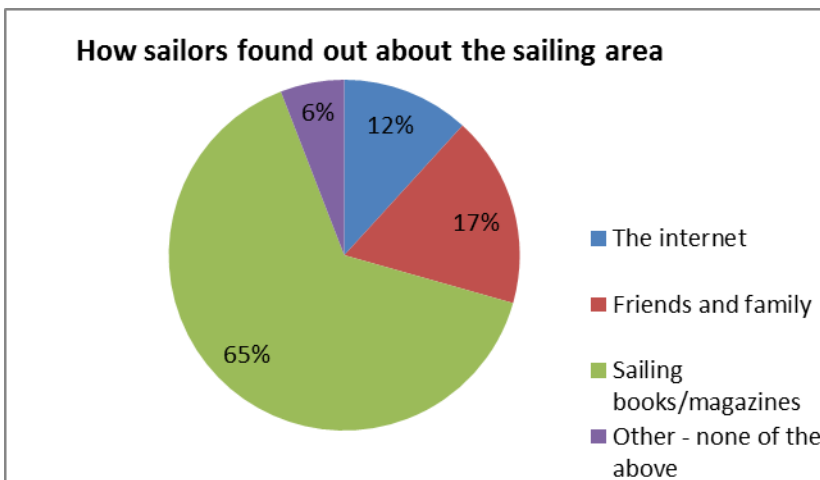
Figure 14 Pie chart showing how sailors found out about the sailing area

Q8. Did the information you receive sufficiently prepare you for your trip?
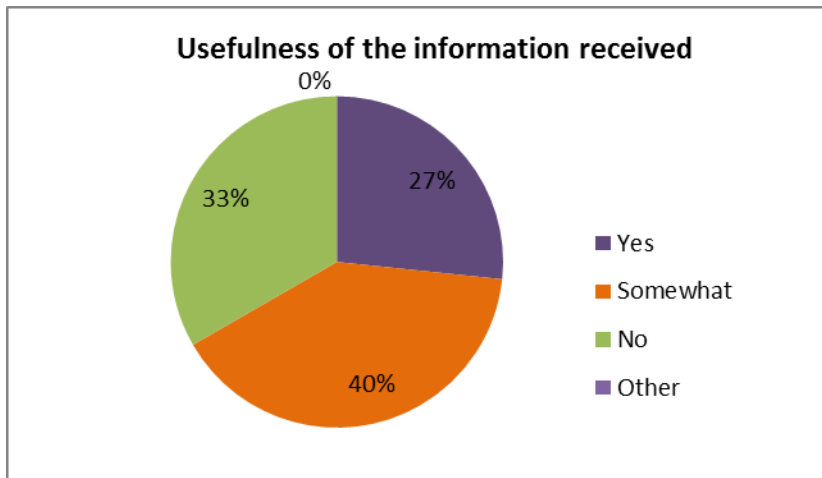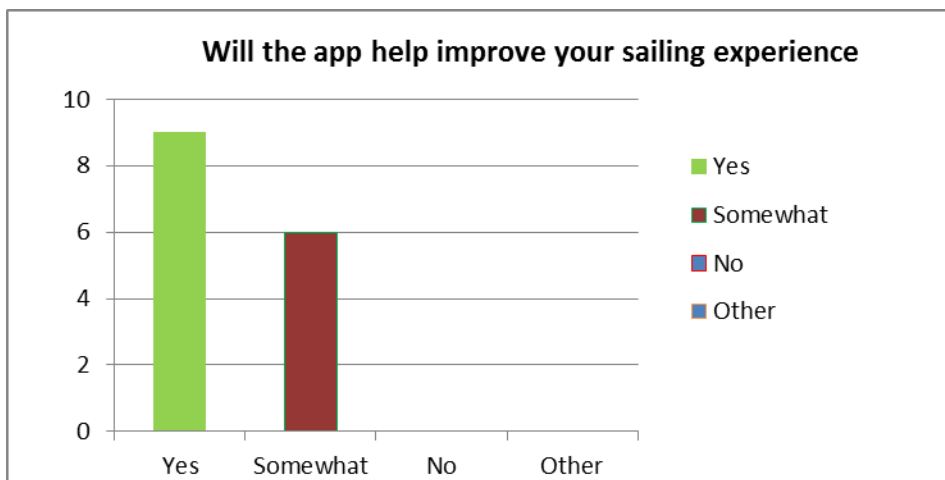
Q9. Will an Application (app) documenting the ins and outs of the Windward Islands help improve your sailing experience?

Q10. Are you willing to pay for using this type of app?
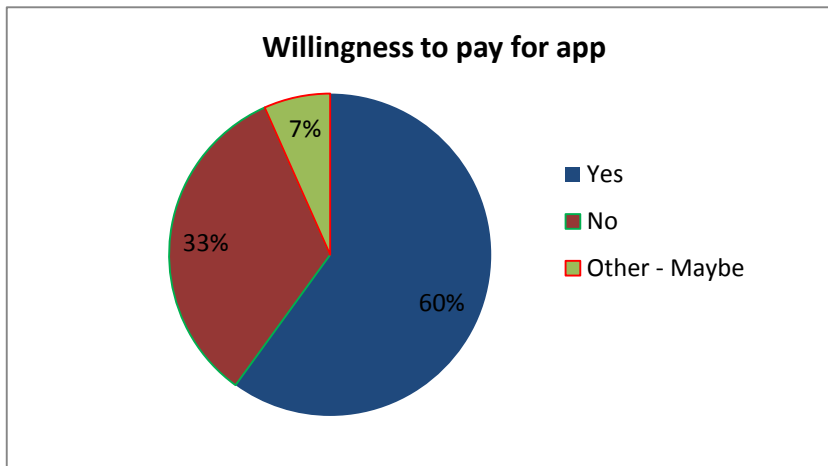

Willingness to pay for app

7%
33%
60%

- Yes
- No
- Other - Maybe

Figure 17 Pie chart showing willingness to pay for the app

Q11. What information would you like the app to document?

Information the app should document

0
7
14
12
3

- Ports of entry and marinas
- Restaurants and night life
- Navigation details
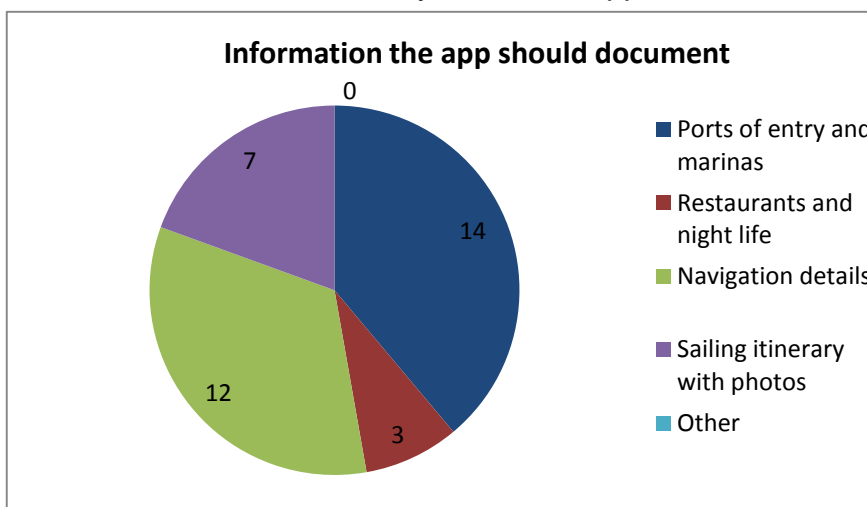- Sailing itinerary with photos
- Other

Figure 18 Pie chart showing information the app should document

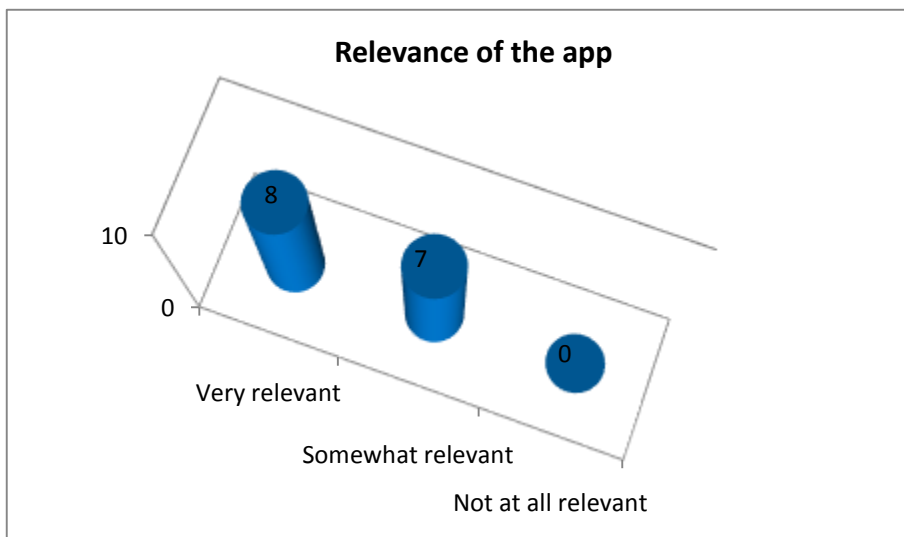Q12. How relevant is the development of an app of this nature to the sailing industry?

Figure 19 Graph showing relevance of the app to the sailing industry

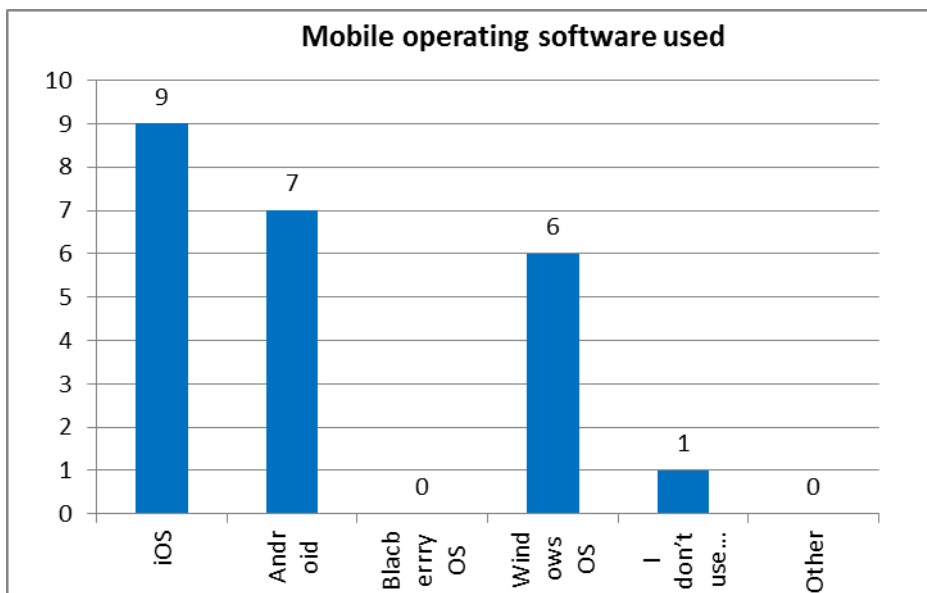Q13. What mobile operating software do you use?

Figure 20 Graph showing operating software used

Appendix 8: FGP Philology Letter

St. George's University

SCHOOL OF ARTS AND SCIENCES

To whom it may concern

I would like to reference the Final Graduation Project as partial fulfillment of the requirements of the Master in Project Management Degree for Universidad Para La Cooperacion Internacional, produced by Candelle K. Thomas. I have worked closely with Candelle K. Thomas, editing grammar and style throughout the document. Any required changes and improvements suggested by myself have been duly corrected by Ms. Thomas. I am assured that the document is now accurate in the use of English Language.

I am an Assistant Professor teaching English in Arts & Science at St. George's University Grenada. My qualifications are attached: BA Engish, Westminster University, UK; MA Literacy in Education, London University, UK; PhD Education, Nottingham & Trent University UK.
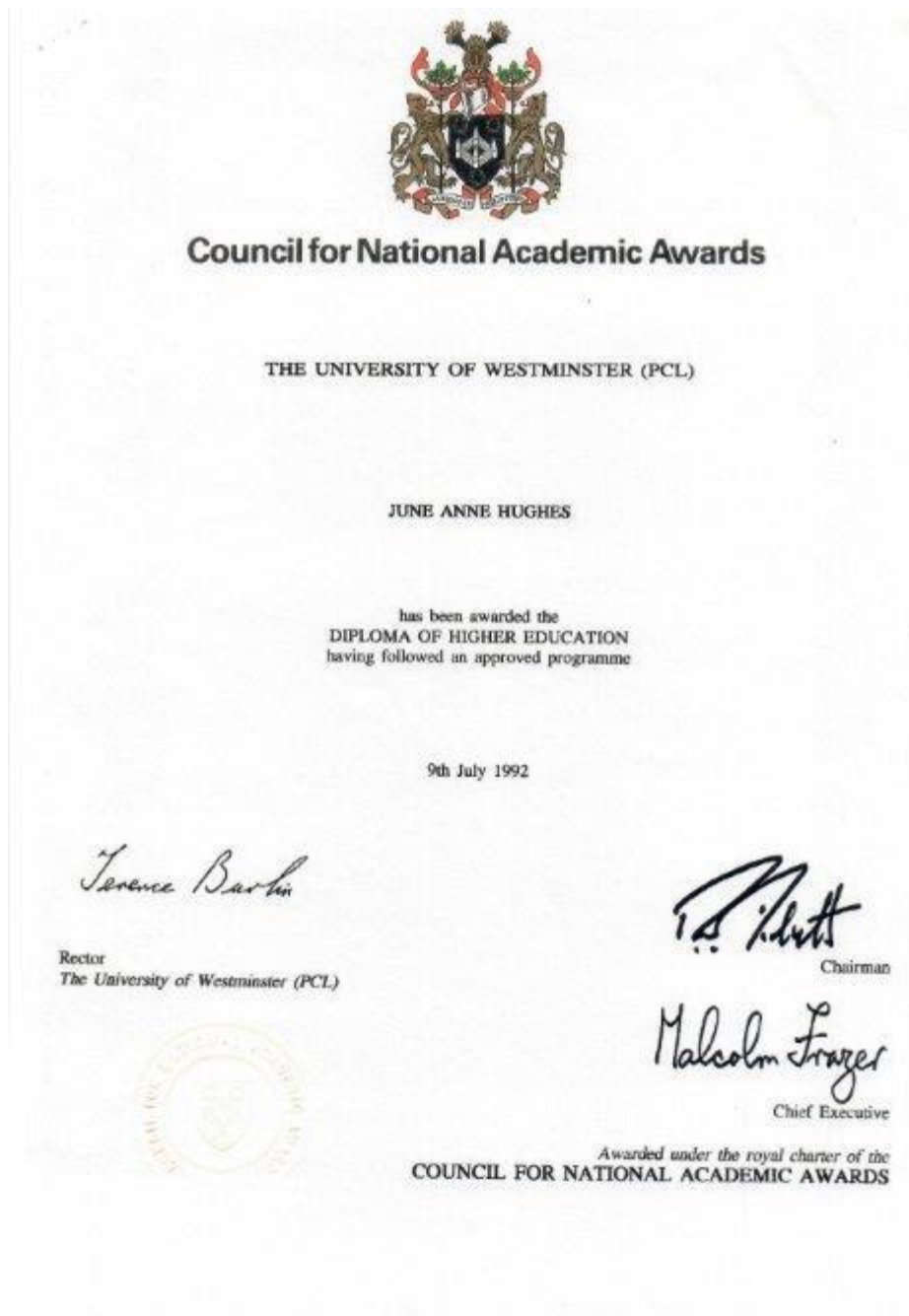
With regards

Dr. June Douglas

Appendix 9: Philologist qualification – Diploma of Higher Education

Council for National Academic Awards

THE UNIVERSITY OF WESTMINSTER (PCL)

JUNE ANNE HUGHES

has been awarded the
DIPLOMA OF HIGHER EDUCATION
having followed an approved programme

9th July 1992

Rector
The University of Westminster (PCL)

Chairman

Chief Executive

Awarded under the royal charter of the
COUNCIL FOR NATIONAL ACADEMIC AWARDS

Appendix 10: Philologist qualification – Bachelors Degree

UNIVERSITY OF WESTMINSTER

The University of Westminster

hereby certifies that the degree of

BACHELOR OF ARTS

has been awarded to

JUNE ANNE HUGHES

having followed an approved programme in

Combined Studies
English Studies with History

With Upper Second Class Honours

Rector

Chairman

Date   15 July 1993
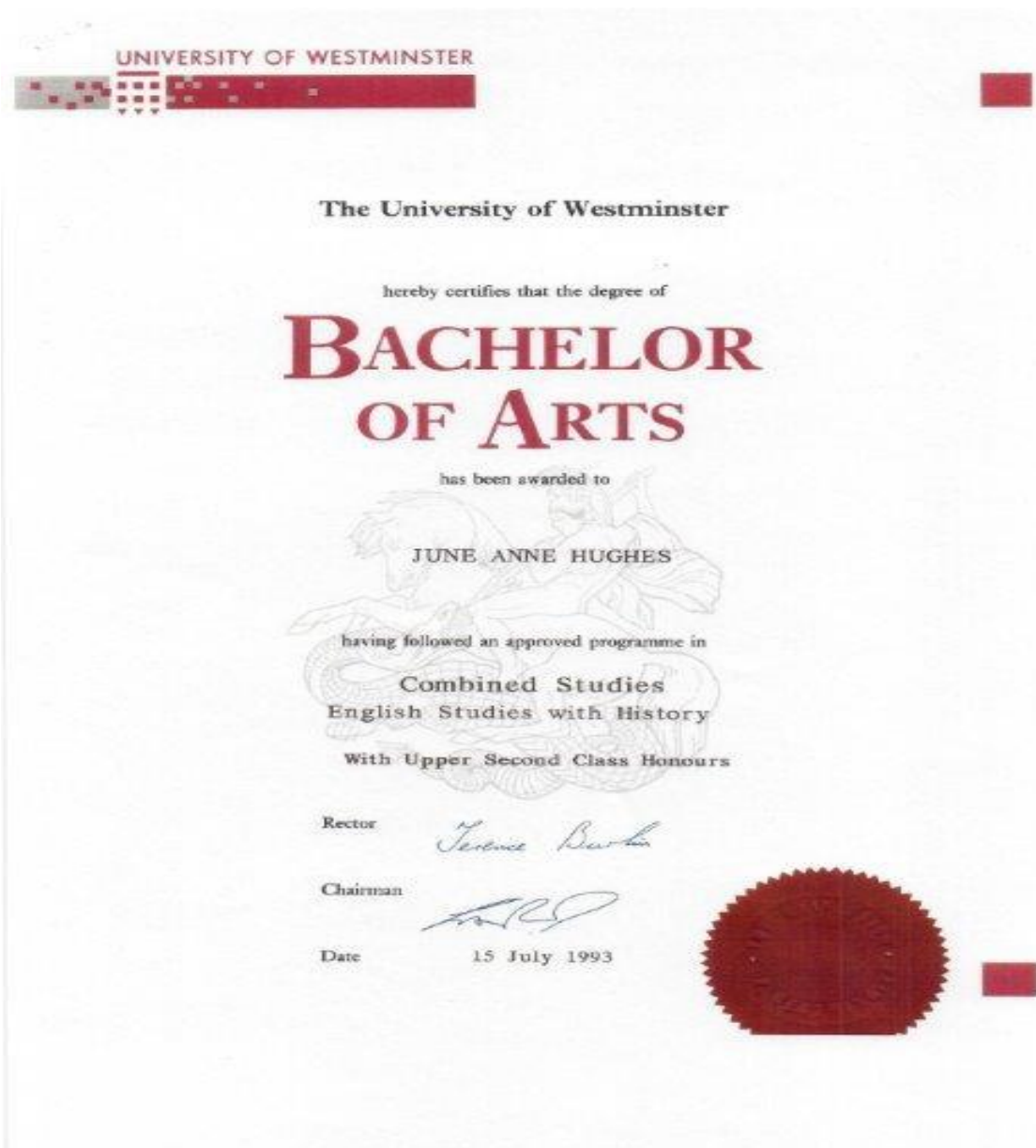
Appendix 11: Philologist qualification – Postgraduate Certification in Education

UNIVERSITY OF LONDON

June Anne Hughes
of
Institute of Education

having completed the approved course of study and passed the
examinations as an Internal Student has this day been awarded by
the Senate a

Postgraduate Certificate in Education

S R Sutherland
Vice-Chancellor

Peter Newsam
Director, Institute of Education

1 August 1994
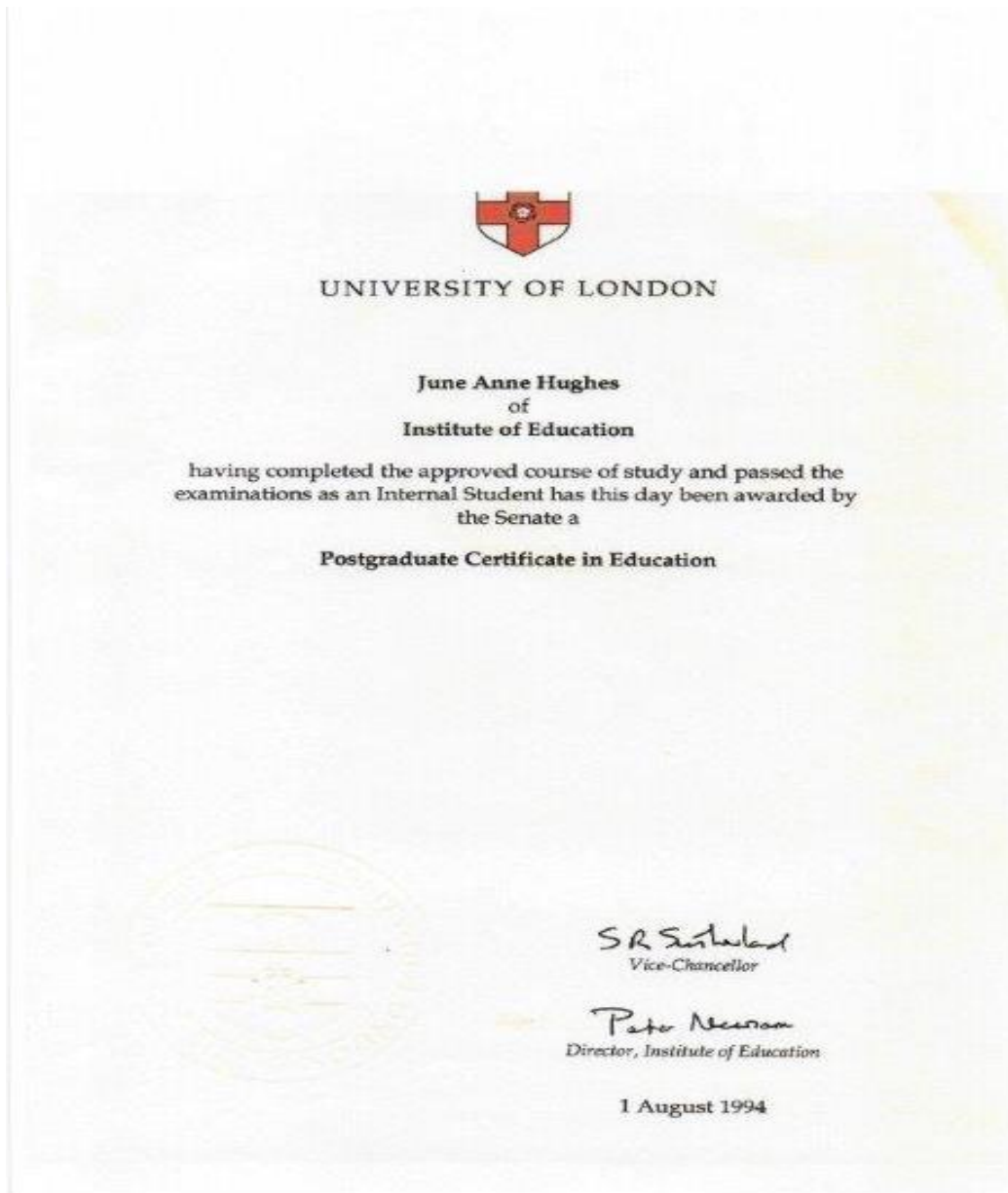
Appendix 12: Philologist qualification – Master of Arts in Education

UNIVERSITY OF LONDON

Institute of Education

June Anne Hughes

having completed the approved course of study and passed the
examinations has this day been admitted by the Institute of Education to
the University of London Degree of

MASTER OF ARTS IN EDUCATION

in Language and Literature in Education (English as a Mother Tongue)

Director, Institute of Education

Vice-Chancellor

1 November 1997

Appendix 13: Philologist qualification – Doctor of Philosophy

Nottingham Trent University

June Anne Douglas

has been awarded the degree of

Doctor of Philosophy

in recognition of a programme of work entitled

*'Two Daniels in the Lion's Den: The National Curriculum
through the experience of two GCSE students'*

October 2008

Chancellor

Vice-Chancellor