**Feasibility Study**

This Feasibility study relates to the Restaurant Management System Project of the Pancake Factory Restaurant.

**Feasibility Study**

**Restaurant Management System**

**Sphynx Software Solutions  
NYU Abu Dhabi**

**December 11, 2019**

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# Executive Summary

Sphynx Software Solutions is a moderately sized company that provides software solutions to businesses mainly in the GCC (United Arab Emirates, Saudi Arabia, Qatar, Kuwait, Oman, and Bahrain.) However, it has had a few projects that spread to other countries in the Middle East due to its recent growth.

To further dive into the Middle Eastern market as a leader in software solutions for businesses, we have started this project of the Restaurant Management System as a pioneer in providing such a solution. We are positive in that this project will help drive growth in this company.

# Description of Products and Services

Sphynx Software Solutions (SSS) aims to generate growth by providing more innovative solutions to businesses in more cliché environments to stimulate growth. Until now, SSS has mostly provided services in database systems and other classic management systems for businesses like inventory management, employee hours tracking systems, etc. This market has now been saturated and to stay competitive, SSS now looks forward to provide more specific technology services and grow its profits by being a pioneer in the region in utilizing new technologies to provide novice services.

This study will not result in SSS withdrawing from its already engaged clientele, but only help to consider the newly appearing possibilities in technology services for a stable profit stream in the future.

# Technology Considerations (Technical Feasibility)

To pursue the new market of more cliché uses of technology in the businesses in the Middle East, SSS will need new capabilities to be able to test this market. The new capabilities mainly include recruiting at least one more employee for the app development that is required on Android tablets for the Restaurant Management System.

While SSS has multiple employees that manage database systems, inventory systems, and employee management systems for businesses, it also has an employee who has the knowledge of the portable devices and any app development for them. Hence, SSS will be able to develop apps for these devices and be able to work with our other two engineers who will develop the rest of the system functionalities.

SSS will also need a meagre amount of new hardware to test software for these new systems. All this should not put a big dent in the expenses of the company and is well worth the potential business this project will generate in the future.

**Tools and Technologies:** The language used for implementation is mainly Javascript. We will use Node.JS and Express for the back-end, Firebase as the database, and Bootstrap for the front-end.

**Product Size:** It is about 3 people (Ali, Aiza and Haseeb) for 3 weeks (the deadline of the project)

# Product/Service Marketplace

There exists a considerable number of overseas providers who offer such services, but they require the businesses themselves to partake in the physical implementation of the projects. This heavily affects maintenance possibilities in the case of problems arising in the system, which is frequent. Such systems need continuous updating and reconfiguration to maintain an efficient usability. However, with overseas vendors, the local businesses are not able to achieve such a workable product.

In contrast to such providers, SSS will provide in-house licensed technologies to the businesses and require no effort on the side of the businesses. We will implement the systems with a physical presence and will also guarantee maintenance support for free for a certain amount of time that will be decided upon after some consideration and experience with our first client of such a product, the Pancake Factory.

We will also showcase our product in all the offices across the country. More on marketing in the next section.

# Marketing Strategy

SSS will make it a point to showcase its new pioneering technology in the market. Doing this will allow other businesses to see the possibility of having what SSS is doing for Pancake Factory in this project.

First, when the Restaurant Management System goes live in the Pancake Factory Restaurant, we will have SSS branding all over the components of the system. This has been discussed and agreed upon with our client.

In addition to this, SSS will target restaurant owners in the city of Dubai in a social media advertising campaign. This is because such targeted advertisement will only add a negligible cost to the project.

SSS will also implement a subsystem that will allow users (end consumers) of the system to enter their emails to receive more information on this and other related projects that we will develop. This will help attract more interested clientele in a cost-effective manner.

# Organization and Staffing

As stated above, SSS has three members, Aiza, Ali, and Haseeb, who are all close to graduating in Computer Science and one of them has knowledge and experience in the new app development strategies for Android devices and can understand and link the database systems that our other two staff members already manage.

# Schedule

SSS plans to fulfill all requirements of the project by its final deadline, that is December 12, 2019. The following is a high-level schedule of some significant milestones for this initiative:

November 26, 2019: Initiate project

November 26, 2019: Project kickoff meeting, write the Gantt chart, SRS document, and determine the software process model to be used

November 27 – December 3, 2019: Write the requirements gathering document, feasibility study, and function point analysis.

December 4-7, 2019: Write the software process model document, create the use case diagrams, textual descriptions for each case, and activity diagrams.

December 8-10, 2019: Produce class diagram, sequence diagram for two cases, and implement front-end and back-end code.

December 11-12, 2019: Create the test plan, test cases for each use case, demo for presentation, test result document, and submit the project.

# Financial Projections

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Costs** | **Period 1** | **Period 2** | **Period 3** | **Period 4** | **Period 5** | **Period 6** | **Total** |
| Salaries | 20 | 20 | 20 | 20 | 0 | 0 | 80 |
| HW & SW | 25 | 0 | 0 | 0 | 0 | 0 | 25 |
| Training | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| Support & Maintenance | 0 | 0 | 0 | 0 | 5 | 6 | 11 |
| **Total Costs** | 55 | 20 | 20 | 20 | 5 | 6 | 126 |
| **Benefits** |  |  |  |  |  |  |  |
| Increase in number of clients | 0 | 0 | 0 | 0 | 1250 | 1250 | 2500 |
| Decrease Costs | 0 | 0 | 0 | 0 | 7.5 | 7.5 | 15 |
| **Total Benefits** | 0 | 0 | 0 | 0 | 1230 | 1230 | 2460 |
| NCF | 60 | 30 | 30 | 30 | 1225 | 1225 | 2600 |
| CNCF | 60 | 90 | 120 | 150 | 1000 | 2355 | 3775 |

Numbers are in thousands of DHS

NCF: Net Cash Flow

CNCF: Cumulative Net Cash Flow

One period corresponds to one month

H/w and S/w correspond to Hardware and Software respectively

Ø The return on investment (ROI):

ROI= (Total Benefits - Total Costs) / Total Costs

Total Costs = (2460-126)/126=18.5%

Conclusion: The ROI is good for for the technology company compared to competitors.

# Risks Taken

There are several risks associated with this project:

* Since we are new to the restaurant management systems market, there is an inherent difficulty in estimating the schedule of the project. As we progress through Sprints, the true velocity of the project will emerge and we will communicate any changes to the schedule with the stakeholders.
* Some complex functionalities might not have been completely identified, so there is a chance that this will impact the schedule and delivery of the project..
* There is also a chance of requirements inflating because our communication with the stakeholders has shown that some of the requirements are not completely fleshed, so they might change as we complete the project in increments.
* Tied to the previous point is the risk of incomplete specifications which will become more visible as the project begins.