Pre-SDLC

Over the past few years, Yoga Everywhere has gone from 5 studios to 13 studios due to the popularity of Mr. Paul Kendal and Ms. Saphia L'Esperance and their new technique is shown on television. The yoga studio currently has 1,100 clients and want to offer live yoga sessions to clients. The reason being, the studio wants existing clients, new clients, and potential clients to be able to join them wherever and whenever they want while the lesson is live in order to give customers flexibility in terms of time and travelling. Due to the growing locations and clients, business manager Margie Robbens suggested an information system to better meet the studio's information needs and properly manage the activities. The yoga studio currently uses paper forms and Excel documents on their local computer to keep records.

Yoga instructors Paul Kendal and Saphia L'Esperance from Yoga Everywhere (YE) has hired Telfer consulting (a small information systems consulting firm) to look into the possibility of developing an information system for YE. The team in charge of this project consists of Ankica Basar (*Information Systems Analysts*), Jacqueline Lui (*Information Systems Analysts*), Layanah Jane Saint-Louis (*Customer Relations Representative*), Oluwabukola Oladeji (*Information Systems Analysts*), and Jessica Zheng (*Project Manager*).

Before moving to the next stage - System Planning and Selection, there are a few questions that need to be asked. These questions will help the consulting firm decide if YE needs a new information system (IS) or simply improve their current system. It will also help the consulting firm understand Yoga Everywhere more. Basically, these questions will assist the consulting firm with the system planning and selection stage and establish a relationship with the customer. The following questions are:
- What does a typical day at the office consist of?
- Who will be using the potential information system?
- Who currently records the information and updates the records? How do they do it?
- What type of information is collected? Example: Names, numbers, gender, etc

- What type of information or records do the current system contain? How detailed are the information?
- What will the information system be used for? Example: Class registration, new client registration, employee information, etc
- What functions are needed and wanted?
- What is wrong with the current system? Is there anything that would help to improve the current system?

After all the questions are asked and briefly answered, the consulting firm will determine if YE needs a new information system. If it is found that YE requires a new information system, Telfer consulting will determine if the yoga studio should go with packaged software, cloud computing or in-house development. The feasibility study will also determine whether an information system will meet the functional economic and operational requirements for YE . If it is found that these requirements are met, the different advantages and disadvantages of various information systems will be considered.

S - System Planning and Selection

This section will explain why the information system should be built and how to structure the project. It is similar to the pre-SDLC stage but system planning and selection is more detailed. The primary outputs will be the system request with the feasibility study as well as the project plan along with the project timeline as a PERT and Gantt chart.

Project Identification and Selection

As previously mentioned, Margie Robbens (Business manager of YE) suggested to both the yoga instructors (Mr. Paul Kendal and Ms. Saphia L'Esperance) to consider an information system development to fully replace or extend the existing system. The project was suggested to assist the yoga studio in meeting its information needs, manage its activities and provide a new service to its clients. Since this project was identified by the business manager and suggested to the yoga

instructors, they are considered the steering committee. Therefore, the source of this potential project is from the steering committee with a cross-functional focus.

As discussed with YE, the company does not have any potential or current projects besides this potential information system project. Since the possible information system is the only project, it meets all the possible evaluation criteria (value chain analysis, strategic alignment, potential benefits, etc) when classifying and ranking projects. Based on the project selection decision factors (existing and available resources, perceived and real needs, the list of potential and ongoing projects, current business conditions, and evaluation criteria), this project is acceptable and should be actioned right away. The reason being, based on the current business conditions, YE needs a new information in place to keep track of all client information, manage company activities efficiently and effectively, allow clients to sign up for online and in-studio classes online, and send clients promotional details, monthly payments, and reminders for classes.

Project Initiation

After confirming that a new information system is the main project for YE at the moment, Telfer Consulting had a meeting and considered all the different sources of software for this information system such as outsourcing, IT services firms, packaged software providers, enterprise resource planning systems, cloud computing, and in-house development.

As previously mentioned, the consulting firm chose Ankica Basar (*Information Systems Analysts*), Jacqueline Lui (*Information Systems Analysts*), Layanah Jane Saint-Louis (*Customer Relations Representative*), Oluwabukola Oladeji (*Information Systems Analysts*), and Jessica Zheng (*Project Manager*) as the project initiation team in charge of this project. To being, the team will be contacting Paul Kendal, Saphia L'Esperance, and business manager Margie Robbens to go over the overall project planning after they have completed a project plan. Afterwards, Oluwabukola Oladeji will design the information system to fit the company's needs and Layanah Jane Saint-Louis will be implementing the system for Yoga Everywhere. Jessica Zheng will be a part of each process and over-looking the whole project.

The team will also hand out the project charter prepared for internal and external stakeholders as seen below. The project charter will formally announce the establishment of the project and briefly describe its objective, key assumptions, and stakeholders. The project scope will also contain details, objectives, and other information about this project. These documents are produced to ensure that everyone on the team, YE, and stakeholders of YE understand the objective of the project, to ensure everyone is on the right track and to confirm everyone's role in the project.

<u>Project Charter</u>

Project Title: New Information System   **Project Start Date**: February 29, 2016
Date of Authorization: February 1, 2016   **Project Completion Date**: June 30, 2016

Client: Yoga Everywhere   **Project Manager**: Jessica Zheng
300 Eagleson Rd, Kanata, ON K2M 1C9   55 Laurier Ave E, Ottawa, ON K1N 6N5
Tel: 613-560-6565   Tel: 613-562-5731
paulkendal@yogaeverywhere.com   jzheng102@telferconsulting.com
saphialesperance@yogaeverywhere.com
margierobbens@yogaeverywhere.com

The main objective of this project is to offer clients live online yoga sessions and help the yoga studio meet its information needs and manage its activities efficiently and effectively. A new information system will be implemented in order to help achieve the objectives. This new information system will be easy to use, all information and records will be accessed anywhere at any time, and the system will help the yoga studio with the fast-growing business.

The key approach is to find an information system that will be beneficial to Yoga Everywhere in terms of economical and operational standpoint.

All key stakeholders are responsible for informing Telfer Consulting of their own opinion and should truthfully answer all questions raised in order for the consulting firm to obtain the best fitting information system for Yoga Everywhere. Jessica Zheng (Project manager) will be available to answer any questions and concerns.

Please sign after reading and understanding the project charter:

Signature: _____   Date: _____

Yoga Everywhere	Prepared by: Jessica Zheng
Project Scope Statement	Date: February 5, 2016

General Project Information
Project Name: New Information System
Sponsor: Paul Kendall, Yoga Instructor
Saphia L'Esperance, Yoga Instructor
Margie Robbens, Business Manager
Project Manager: Jessica Zheng

Problem/Opportunity Statement:
Records are kept on paper forms and on Excel documents on local machines. It is difficult finding records when needed, some records get lost and some are incorrect information. The fast-growing yoga service center has outpaced the yoga studio's ability to track all information. Also, the yoga instructors would like to offer live online yoga sessions where customers can join the class directly online.

Project Description
A new information system will be constructed that will collect all client information, merchandise purchases, and other records. All the information will be stored and update across the full system to prevent duplicates, errors, and missing information. The information system will also allow clients to join live online yoga sessions and re-watch clips of previous yoga sessions.

Business Benefits
Improved understanding of customer buying patterns.
Improved client database.

Project Deliverables
Customer and merchandise tracking system analysis and design.
Online streaming system analysis and design.
Information system that offers customer & merchandise tracking and online streaming.
Information system tracking documentation.
Training procedures.

Estimated Project Duration
4 months.

Assessing Project Feasibility

Economic, operational, technical, schedule, legal and contractual, and political feasibility factors must be considered throughout the project.

Economic feasibility - The financial benefits and costs associated with the information system must be considered. By implementing the new information system, YE will be able to save financial costs such as working over time and increase the number of members by attracting more clients with live online yoga.

Operational feasibility - This information system, will solve business problems and take advantage of business opportunities. The information system will be able to keep up with the fast-growing past YE is going at and take advantage of live online yoga.

Schedule - This system will take 4 months to complete which is fast enough for all the employees to understand the system and start using it before it's released to the clients. It's also done before summer which is usually the time period people start working out.

Political feasibility - All stakeholders within the organization believe that this is a good project and that this new information system will definitely benefit Yoga Everywhere.

Although this project meets all feasibility factors, there are a few feasibility concerns. For instance, technical feasibility concern is one of the biggest ones. With the new information system, it's a new skill set for development and there will be maintenance at times if the information system is not running as smoothly as possible. As for legal feasibility, account misuse is a concern. Since YE wants to offer live online yoga sessions, account sharing may occur. Those are the two major feasibility concerns for this project.

Project Review Process

To make sure the information system is implemented on time, a PERT chart and Gantt Chart is shown on the next page. Figure 1 is the PERT chart and figure 2 is the Gantt chart. Both charts

are used for different reasons.The PERT chart is used to analyze and represent each task in the project. It's shown as a network model which illustrates which task depends on each other. It does not show the percentage completed which is why the Gantt chart is something everyone must look at. The Gantt chart illustrates the project schedule as a type of bar chart. The start and finish dates are shown in the graphical representation to make sure the project is on track. The Gantt chart also illustrates the percentage of work completed without demonstrating the link between tasks. These charts will be used for project time management.

Please see Appendix A for the PERT and GANTT charts.

Figure 1 - PERT Chart
A = Interview
B = Company visit
C = JAD session
D = Group 1 testing
E = Group 2 testing
F = Beta testing
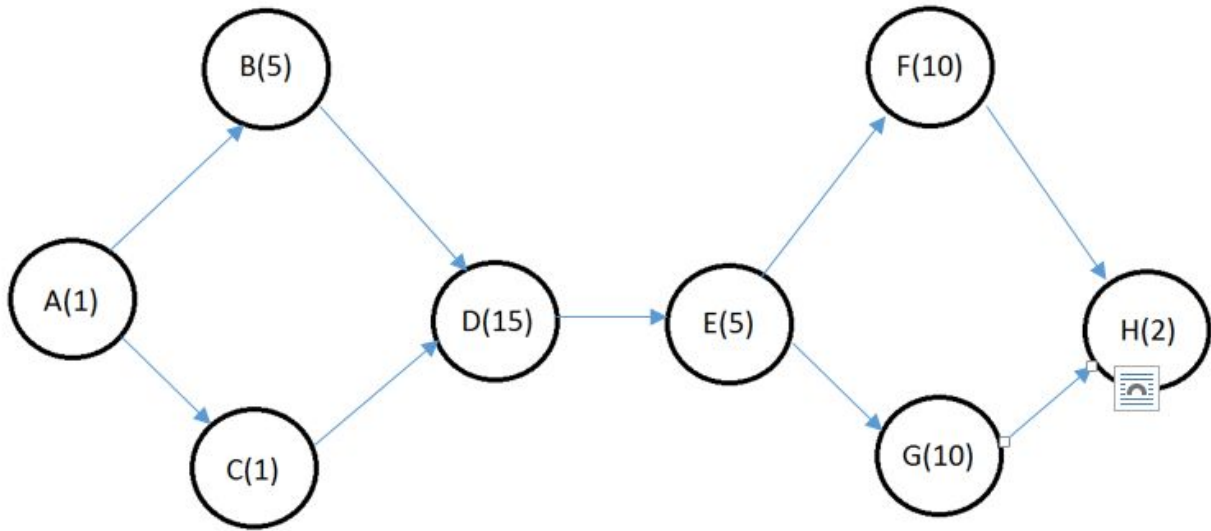*G = Parallel installation*
H = Training

Figure 2 - Gantt Chart

Task Name	Duration	Start	Finish	Mar					Apr				
				Feb 28	Mar 6	Mar 13	Mar 20	Mar 27	Apr 3	Apr 10	Apr 17	Apr 24	May 1
Yoga Everywhere Project	46d	03/01/16	05/03/16										
Determine Requirements	7d	03/01/16	03/09/16										
Interview with Yoga Instructors	1d	03/01/16	03/01/16										
Company Visit	5d	03/03/16	03/09/16										
JAD Session	1d	03/03/16	03/03/16										
Design	20d	03/11/16	04/07/16										
Group One Testing SaaS	15d	03/11/16	03/31/16										
Group Two Testing SaaS	5d	04/01/16	04/07/16										
Implementation	18d	04/08/16	05/03/16										
Beta Testing	10d	04/08/16	04/21/16										
Parallel installation	10d	04/18/16	04/29/16										
Training	2d	05/02/16	05/03/16										

D - Analysis

The analysis part will determine how the current information system functions and assess what type of new functions YE employees would like to have or see in the new information system.

Our Understanding of Components for Yoga Everywhere

To better understand Yoga Everywhere, the project team has used different resources to research Yoga Everywhere such as the Internet, news articles, word-of-mouth, and more. Based on the research, the project team has come up with the following business objectives for YE:

- Increase client base within the following business year
- Ensure quality customer service and full accessibility to all clients across Canada
- Maximize profit through different channels such as classes in the yoga studio or online, and merchandise sold at the yoga studio
- Expand YE physically and the company's online presence
- Better organize client information

The project team also schedules an interview with Mr.Paul Kendal, Ms.Saphia L'Esperance and Margie Robbens to obtain more information about the company and their requirements of the new information system. This interview gives the project team an opportunity to better understand the client and company.

Interview Outline

Interviewee(s): Paul Kendal, Saphia L'Esperance, and Margie Robbens

Interviewer(s): Jaqueline Lui and Ankica Basar

Location/Medium: Telfer Consulting Office - Downtown Ottawa

Appointment Date: March 1,2016

Start time: 2:00 pm   **End time:** 3:30 pm

Objectives:

- Understand the current system
- Understand the wants and needs in the new system
- Understand the company better

Agenda	Approximate time

Introduction:	1 minute
Background on project:	3 minutes
Overview interview:	5 minutes
Topics to be covered:	2 minutes
Permission to record interview (explain policy):	3 minutes
Topic 1 question:	2 minutes
Topic 2 question:	5 minutes
Topic 3 question:	2 minutes
Topic 4 question:	2 minutes
Topic 5 Question:	5 minutes
Topic 6 Question:	5 minutes
Topic 7 Question:	5 minutes
Topic 8 Question:	5 minutes
Topic 9 Question:	5 minutes
Topic 10 Question:	5 minutes
Topic 11 Question:	5 minutes
Topic 12 Question:	5 minutes
Questions from interviewee:	5-10 minute
Closing:	1 minute

Questions and Answers Recorded During the Interview

Question 1: What is the current system you are using to complete your job?

Paul: Most of our sales, merchandise and customer information are recorded in Excel spreadsheets. Some client informare are still written down on paper forms if they havn't been entered into Excel yet.

Saphia: We've been doing that for years since the yoga studio started off small but it has been growing at a faster pace the past few years.

Question 2: What type of data is being collected and stored? How is it used?

Margie: We collect and store all our customer's personal information, merchandise sales, membership sales, and class schedules. Customer information such as their name, age, email address, phone numbers, home/mailing addresses, purchase date of membership, and classes they've signed up for are collected and stored. Class schedules are collected in order to determine the number of students signed up per class. All this information is used when producing business reports to make future business decisions. Customer information is used to find a trend in sales in terms of customer demographics. We also use this information to see if we can find a link between the clients signing up and the clients leaving. Class schedules are collected to determine which classes are popular amongst the clients and what time is the most convenient for the clients and yoga instructors. Overall, all the information collected and stored is useful. We use it to find anything we can in order to determine if the company needs to make any changes to improve the business.

Paul: Agreed. As a yoga instructor, I like to know which days are the best and most convenient for clients. I'd like to have a full class than teach a few students each class especially how Saphia and I teach beginner, intermediate, and advanced yoga classes.

Saphia: I definitely agree with Paul. I'd rather have a few classes that are full compared to many classes with a few to no students at all. By having each class full, it allows the students to stay on the same pace and it allows me to work my schedule around.

Observation: Paul and Saphia emphasize the fact that they'd like to have full classes in order for all the students to stay within the same learning pace and have more time for other classes.

Question 3: How many students is a full class?

Paul: It differs depending on the class. Beginner classes are usually around 30 to 35 students. We like to keep beginner classes a medium sized class since a lot of members are just trying yoga out and they may not come back. As for intermediate classes, it's around 25 to 30 students and 20 - 25 students for the advance class. We like to have less students as the level of difficulty increases because we want to be able to keep an eye on each member since the yoga moves are more difficult and they may get injured if they are doing it incorrectly.

Saphia: Also, we usually have a main yoga instructor plus an assistant for each class. This is to ensure all students get our attention and help if needed.

Question 4: Who works and has access to the current system?

Saphia: Other than Paul, Margie and I, all the front desk employees use the current system everyday. A few yoga instructors

Margie: Essentially anyone with a computer login has access to the current system since it's just an Excel sheet.

Question 5: Are you and the employees good with technology and new programs?

Margie: I'm comfortable with new programs and I do follow the latest technology trend. As for the employees, it's a little different. We do require them to be comfortable with Excel though since we use Excel at the moment.

Paul: I'm comfortable with it as well but nothing too technical. I'm not too sure about the other employees.

Saphia: I'm not the best with technology and new programs. It takes me a long time. I know a few employees are similar to me.

Question 6: Do all YE locations use the same system and forms?

Margie: Yes. We try to keep everything consistent so all the locations have the same forms and systems. Everything is the same since we want to give all our clients a sense of familiarity no matter which location they go to.

Saphia: Exactly. We believe that our clients should be comfortable walking into any YE studio.

Question 7: What do you like about the current system?

Paul: We like the ease of looking up the figures and information.

Margie: The ease of use. It's easy using Excel creating simple business reports.

Question 8: What issues are you having with your current system?

Margie: As Paul mentioned earlier, it's hard to find information now. Also, some spreadsheets are updated but not all which is difficult when creating business reports since the information isn't accurate. There are a lot of duplicate spreadsheets now since everyone has a different version of the spreadsheet so I don't know which one to use when creating business reports. It's easy to create the business reports but hard when I have to do data cleaning before producing the reports.

Saphia: Basically, the system isn't meeting our needs anymore and it's causing us more trouble since our employees have to spend more time doing data cleaning such as making sure there are no duplicates, all information are the same and much more.

Question 9: List some features or functions you'd like to see or use on the new information system.

Paul:
1. A system that provides easy access to large amounts of information
2. Something with characteristics that will allow us to keep connected with our customers
3. A design that is easy to understand and use and where all information saved is the same. We don't want different versions of the same file

Saphia: To add to what Paul said I think it is important that we also have a system that can reach our customers at the same time, in different locations, incase you didn't know we would like to livestream our yoga sessions across Canada as they are happening. That is extremely important to us as we expand.

Margie: I agree with what Paul and Saphia say. The basic idea of this information system is to help us continue our work efficiently and effectively. We want to spend more time on our clients instead or organizing our database.

Question 10: What services do you currently provide to your customers?

Paul: We offer yoga classes, personal yoga training, memberships, day passes, and we sell merchandise such as yoga mats, yoga straps, sandbags, water bottles, and much more.

Observation: Saphia nodded in agreement

Question 11: Can you tell us what a typical day at the yoga studio is like?

Margie: For the front desk staff and I, we're usually helping out clients in terms of signing up for a membership, accessing their file information, etc. As for I alone, I usually create reports based on the information to make business decisions.

Saphia: For Paul and I, we barely use it. We only use it if we want to check the number of students for a yoga class. The list is usually printed for us though.

Question 12: How do you see your company growing in the future? In other words, where do you see your company in the future?

Margie: With the yoga studio growing at this speed, we see ourselves with a few more locations in the next 5 years.

Paul: Saphia and I also want to create our own brand within the next 10 years and sell it at YE.

Margie: To add onto that, we'd like to improve our sales of merchandise. YE would like current companies that sell yoga equipment to partner up with us and sell yoga equipment. We'd also like to add more classes for clients and possibly target America.

Questions Raised by Mr. Paul And Ms. Saphia

Paul: At the moment, are there any suggestions on how we will proceed?

Answer: At the moment we will be looking at all the information we have and consider all options. Afterwards, we'll move onto creating a design draft and contact you once we have a recommendation for your consideration.

Margie: After the system is implemented, will your team be providing technical support and training?

Answer: Depending on the information system implemented, we may or may not provide technical support. We will be giving you all the contact information for technical support once

the information system is implemented. Layanah will also be providing basic training and make sure all employees are set up.

Saphia: Will we be able to contact you if we have further questions?

Answer: Of course, feel free to contact us whenever you'd like. We've given all of you our business cards already.

General Observations: After finishing the interviews with Paul, Saphia, and Margie a much better understanding of their day to day operations and how an information system will fit into it was gained. The interviews will help our team narrow down the specific requirements needed for their information system based on the amount of data they deal with, the skill levels of the employees that will be using it, their day to day operations and how the system will be utilized, as well as the future outlook and growth planned for the company. It seems that it would be important for the information system to be able to rapidly grow with the company as from the interviews, it seems the company will be pursuing an aggressive business expansion and more products and services will be offered as a result to keep up with demand and to be able to have a competitive edge. Further observations of the work environment directly as well as review of source documents will need to be completed to finish gathering all the information needed to start compiling list of requirements for the information system.

We emailed Paul, Saphia, and Margie the next day to make sure they felt comfortable with the interview and asked if they had any other questions. We also made sure they knew that they could contact us whenever they like.

Observation of System in Work Environment:

As planned, the consulting project team went to visit the Ottawa yoga studio for a tour. This was scheduled in order to observe how the yoga studio operates on a daily basis and to get a feel of the work environment. The consulting team was split into two groups where one group consists

of the team members that YE have met before (Ankica, Jacqueline, and Jessica) and the other group contains Layanah and Oluwabukola. The second team are team members that YE employees have never met before. Team One (Ankica, Jacqueline, and Jessica) will be observing the backend of the yoga studio while Team Two (Layanah and Oluwabukola) will be acting as potential clients. Paul, Saphia, and Margie all knew about Team Two and they agreed to it. Team One will be appearing on Friday, Saturday, and Wednesday as scheduled. This allows the team to understand how the yoga studio operates during different days of the week. Team Two will be signing up as members to see how long it takes to fill out the forms, if it's straight-forward and how long it takes for the information to get updated. They will also be casually talking (as if talking to a friend) to current clients to see if they can obtain information in terms of how the clients like the service and classes, if there are any ways to improve the yoga studio and more. Team Two will be visiting a few times during a week.

Notes Taken After Visit:
- The business environment was very friendly and the forms were straightforward
- Front-desk staff did have trouble finding client records at times
- Due to the large amounts of students per yoga class, it was difficult hearing the yoga instructor
- The staff spent a lot of time looking for records and had multiple Excel versions of client information
- Seemed like most staff were comfortable with technology and open to learning
- Most clients ranged from teenagerss to young adults

<u>**Business Documents**</u>

Afterwards, the project team took a look at YE's mission statement and a few other sources to help better understand the main values of the company. The project team was hoping to get a better sense of the company and what they expect and value to see if any of that information could help when determining the right information system for YE. Yoga Everywhere's mission statement states:

"Yoga Everywhere is made up of highly motivated, outgoing, fitness oriented staff, and personnel who believe in the benefits of yoga. Here at Yoga Everywhere, we focus on the

mind, body and soul to help our customers maintain a balanced, healthy lifestyle. Our relationship with our customers is of utmost importance we strive to provide our best services 24/7 across Canada and on the go. We want to ensure you get the best out of Yoga Everywhere"

By reading the mission statement, one can see that the information system must be customer friendly and flexible for all internal and external users. The information system must prioritize the customers and employees in terms of ease of use. It should also benefit all users and help them out with their job and experience at YE.

The whole project team took a look at YE's current spreadsheets used to track client data, paper forms used to by clients to fill in their personal information, diagrams of their organization structure, job descriptions, training manuals, etc. The reason being, by understanding the current system, how the employees operate the system and their daily roles and responsibilities, it helps understand what information is processed and stored as well as the types of resources available with the current system. All this information will help create or choose the new information system.

Joint Application Design

The joint application design (JAD) is designed to collect information systems requirements simultaneously from the key people involved in this project. This can be considered as a brainstorming session. Paul, Saphia, Margie, a few randomly selected employees will be involved in agreeing on the design requirements, design details, time and organizational resources to ensure they are better managed. The JAD session leader will be Ankica as she has been trained in group management and facilitation. The JAD session will allow for users to discuss and debate issues such as the current key problems in the current system, analysis of the current system and what should be included in the new system. A to-do list with questions from participants of the JAD session will be noted for questions that cannot be answered during the

session. Form and report design will be discussed with analysts facilitating the discussions. Once the session is completed a report will be circulated to participants of the JAD session.

The following will be the agenda for the JAD sessions:

1) Project overview
2) Initiation plan and SSR
3) Project scope and risks
4) Management procedures
5) Data descriptions
6) Process descriptions
7) Team correspondence
8) Statement of work
9) Project schedule

The following paragraph highlights the main outcomes of the JAD session. After analyzing the current system with everyone at the JAD session, everyone has agreed that a new information system must be implemented. That system must be easy to use for people of all age since the age of clients vary. Also, a lot of people are not comfortable using technology regardless of the age. Therefore, ease of use is very important for YE. All participants gave their opinion on what the new information system should contain in terms of functions. A lot of employees wanted functions that make data searching a lot easier and that all the data is synchronized across all computers after it is saved. An example they mentioned was Google Drive. The front desk employees said they wanted an information system similar to Google Drive where you can see the changes, restore a certain version and how all the information is saved across all computers. They also want a system where you can login from any computer instead of having something similar to the current system where you have to be on a specific local machine to access the Excel spreadsheet. The system must allow yoga instructors to connect the cameras and record or share their live yoga class in order for clients to access the live online yoga class they signed up for. Margie Robbens also mentioned how a function to export data or customize data should

exists in order to help Margie and other managers create reports for executives of YE. Lastly, the system must also contain a way to track inventory or sales since the yoga studio sells merchandise.

The following list is a summary of requirements gathered. Note that the following is a list of a summary of requirements gathered. These are secondary requirements while the highlights illustrated before are fundamental:

- The system must be available on demand and running 24/7 for clients, instructors, employees and managers
- The system needs to be able to grow and take on higher customer demands with the growth of the company in the near future
- Client information should be updated instantaneously to ensure all up to date information can be easily searched and accessed when needed
- The system should be able to store numbers, names, logins, track customer information, upload video sessions, and sales information seamlessly
- Visitors should be able to get basic information such as class schedules, class & membership prices, merchandise available, and more
- E-mails easily sent using the system to clients for important updates and reminders.
- Clients will have a user login and password so that they can watch and follow along live stream videos of the yoga sessions and have access to all important information easily at a glance on one application such as updates about discounts, merchandise, fitness tips, location of the closest yoga studio, etc.
- Certain employees have specific access levels when logging in such as admin level users, regular level users, and client level users in order to add, edit or delete customer information and information necessary to fulfill their day to day jobs

Before the JAD session ended, the project team made sure that all participants were comfortable and understood the progress of the session. There was also a recap on important points made throughout the JAD session to make it clear that those were the requirements that the participants agreed on. All this information will assist Jacqueline in creating the data-flow diagram (DFD).

Data Flow Diagram:

Based on the requirements for the new system, a data flow diagram which illustrates the movement of data between external entities and the processes and data stores within the system is shown below.

Please see Appendix B for the data flow diagrams.


Context/Level 0 Diagram
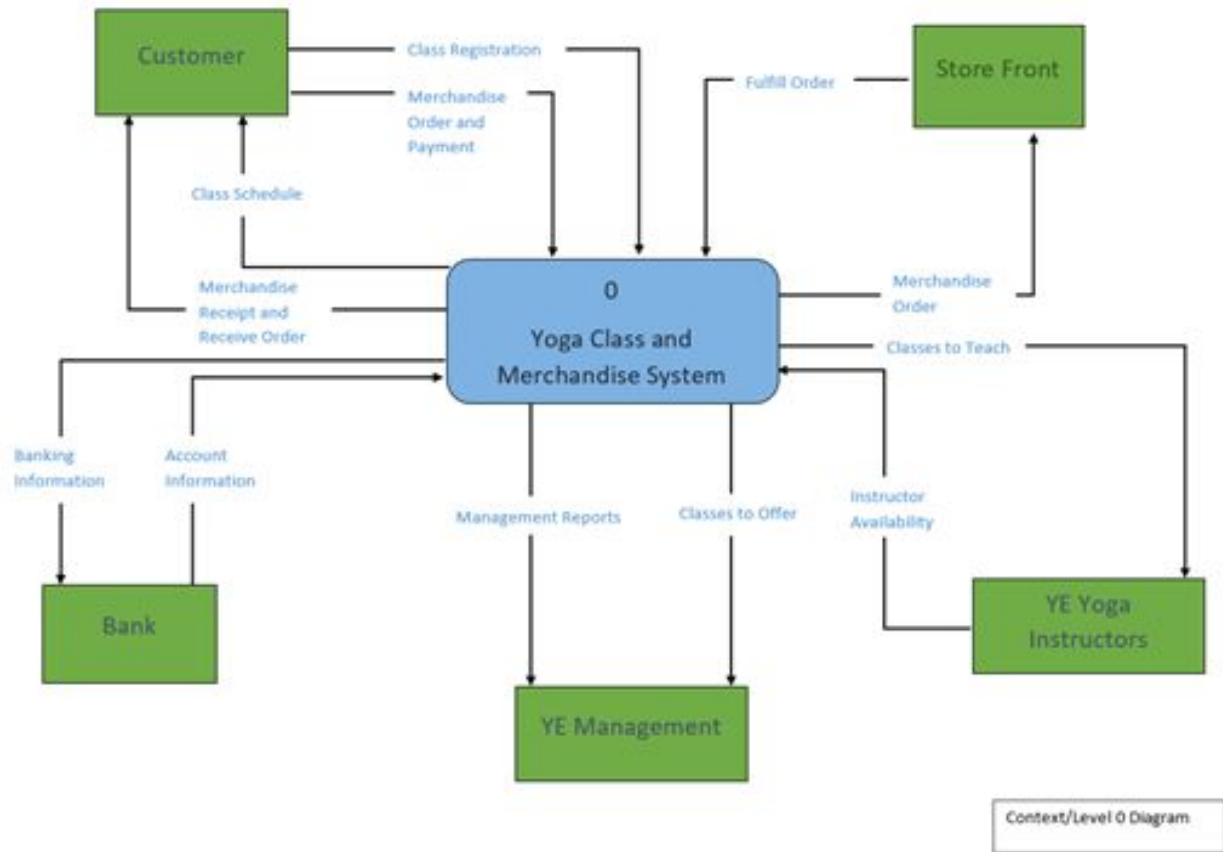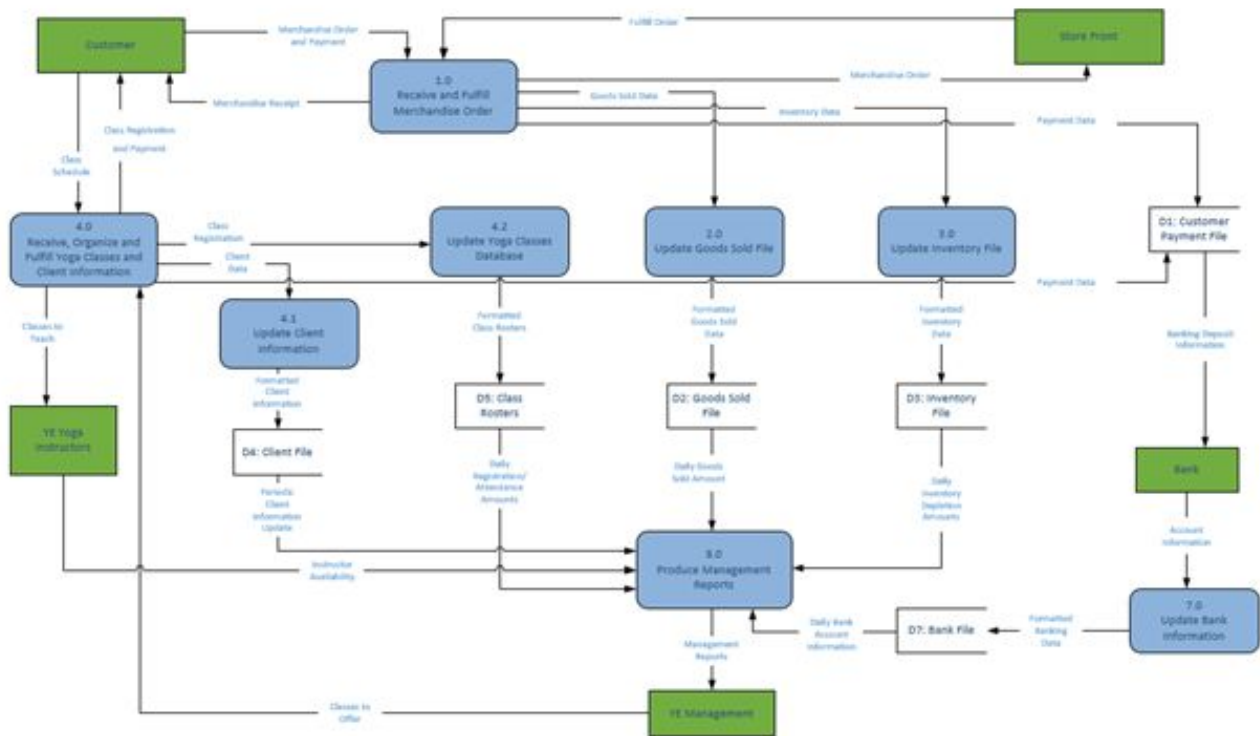
L - Design

This section will decide how the system will operate, the user interface, forms, and reports that will be used, and specific programs, databases, and files that will be needed.

After obtaining all the information from multiple sources, the project team has decided to use cloud computing services. The figure below illustrates the differences between traditional IT (in-house development & packaged software overlap within traditional IT) and three different cloud computing services.

Source: http://www.mazikglobal.com/blog/cloud-computing-stack-saas-paas-iaas/
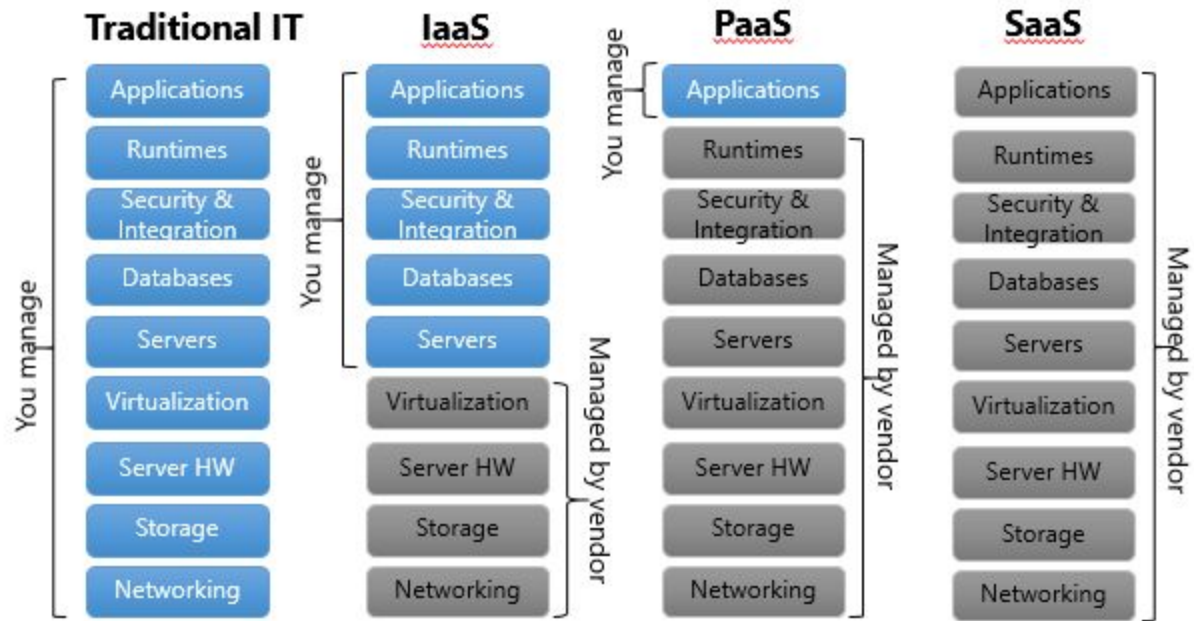
After much consideration and analysis, Software as a Service (SaaS) is the best information system for YE since it passes the feasibility study and meets all of the company's requirements. SaaS is the best for the company because it will cost the least in the long term since it prevents YE from building an information system. It also fits YE's business values (something simple for everyone to use) and it's convenient for everyone (front-desk employees, managers, yoga instructors, members/customers, etc.) in terms of logging in and accessing information. Anyone with credentials is able to login whenever and wherever they want and all the information is saved on the cloud instead of a local machine. Everything is managed by the vendor which allows YE to focus on their company objectives and not have to worry about the information system. Also, there is documentation, vendor support and most importantly, it's easy to use and convenient for all.

To start, the project team chose three different SaaS and compared them in terms of the items that need to be considered as part of the design interface.

	Cost	Compatibility	Advantages	Disadvantages
Zen Planner	$	Windows, Mac, Mobile Web app, Android, IOS	Developed specifically for fitness gym exercise studios.. Simple and easy to use interface Online Integrated billing that automatically bills members their monthly membership fee. Integrated retail sales tool for in-store purchases Offers free customer support	Unable to track online marketing on external websites Used mostly by small – midsized gyms with an average of 50 and 300 members so may not be able to support YE which has 1100 members and expected to grow even bigger in the upcoming years. Customization is limited.
Salesforce.com	$$$	Windows, Mac, Linux, Mobile Web app,	Capabilities include sales, manages customer accounts, track sales lead, conducts and monitors marketing campaigns Great amount of support available Allows custom application development Highly customizable	Expensive User interface that is complicated to learn and use More features than needed Salesforce customer base is predominantly B2B. The CRM software is not well orientated to the B2C industry

			Robust third-party marketplace	
Microsoft Dynamics CRM	$$$		Offline access Tight integration with Microsoft Products Excellent reporting tools Highly customizable Powerful data tracking and analytics Simple user interface	Difficult for non-technical users to learn Expensive Designed for very large organization. Has more features than needed Support is hard to teach and user-documentation complicated

Reliability:

Zen Planner is the smallest and newest Software that will be considered. Based on reviews from customers, it is considered very reliable and customers are generally satisfied with the software (GetApp, 2016). The main concern is that it does not have a definitive Service Level Agreement like Microsoft Dynamics CRM. Salesforce is the market leader in CRM has a proven reliability in the industry but Salesforce.com does not provide a SAAS Service Level agreement unless the customer negotiates for one (CRMSearch, Salesforce.com, n.d.). These SLA'a are inconsistent from customer to customer and depend on the customer negotiation skills. Microsoft Dynamics CRM offers a very flexible Service Level Agreement (SLA) for its cloud (CRMSearch, Microsoft Dynamics, n.d.). The SLA is measured every month and Microsoft guarantees a 99.9% uptime. If Microsoft cannot meet this requirement, they are willing to offer the customer a fee reduction in the monthly cost of their subscription (CRMSearch, Microsoft Dynamics, n.d.). This fee reduction ranges from 25% to 100% if downtime results in less than 99.9% to 95% availability.

Maintainability

Zen Planner is easy to use and customize. It has been specially built for health clubs and sports organizations so does not require extreme technical skills to suit the needs of Yoga Everywhere (GetApp, 2016). The User Interface at Zen Planner can easily be maintained and upgraded by non-technical people and permits users to have multiple roles if necessary. On the other, Salesforce does not permit users to have multiple roles. This can make security management with companies with multiple lines of business or geographies like Yoga Everywhere a challenge when it comes to accessing the same CRM system. Salesforce comes with many configurations which can be challenging for small to medium sized business without any technical capability to navigate. Although there are many channel options available for systems integration and software customizations, these channel options are mainly focused on big organizations who work on bigger projects so it is hard for smaller organizations to get the resources and support they need (CRMSearch, Salesforce.com, n.d.). Like Salesforce, Microsoft Dynamics comes with many customizations and options to integrate with many other applications. The software has been said to be very hard to customize and maintain compared to other CRM in the marketplace and the CRM is said to be very complicated and hard for non-technical customers to use (CRMSearch, Salesforce.com, n.d.). The upgrade process for Dynamics CRM can be quite strenuous and isn't as effortless as Salesforce.com and Zen Planner.

Supportability

Support is offered to customers by phone and email from Monday to Friday 9-5 PM EST but because they are a smaller organization, they may not have the resources to fulfill all the demands of Yoga Everywhere (GetApp, 2016). Salesforce customer service and support is available 7 days and week and 24 hours a day. Salesforce clients generally feel that support is good but inconsistent with smaller companies finding it hard to get the support they need from the organization when compared to bigger ones. Although Microsoft is a large company with many resources, their Dynamics section is new and has grown very rapidly and they have

struggled to keep up with the demands and are slow to recognize issues and risks that are important to customers (CRMSearch, Microsoft Dynamics, n.d.).

IPS Elements

Affordability

Out of the three products featured, Zen Planner is the cheapest and most affordable product. Unlike the other two, Zen Planner pricing is based on the numbers of members in the Yoga Studios and not on the number of users of the product. It is priced at $150 monthly for 400 and more active members (Zen Planner, Pricing, n.d.). This price is adjusted monthly with the site of the active members. There are no contracts or start-up fees and Yoga Everywhere is entitled to a free 15-day trial of Zen Planner. Salesforce is one of the most expensive CRMs on the market, pricing at $25/month per user (Salesforce, n.d.). If there are 15 staff members who require a Salesforce account, that would be $375/month. Microsoft Dynamics CRM is even more expensive than Salesforce.com. It is priced at $30/month per user (Microsoft, n.d.). If there are 15 staff members who require a Salesforce account, that would be $450/month.

Configuration

Zen Planner offers the least amount of configurations as it was created specifically to be a health club management system. Certain basic application features are customizable but overall customization is limited (GetApp, 2016). This makes it much simpler to use but it also means that if Yoga Everywhere is considering diversifying their organization, they would have to purchase additional software in addition to Zen Planner. Salesforce is highly configurable and can acts as a Software as a Service as well as a Platform as a Service. It has app development capabilities that enable users to create and develop apps to suit their needs. Dynamics CRM is highly configurable and like Salesforce can act as a Platform as a Service as it has app development capabilities and the ability for the user to modify many parts of the application including data objects, many-to-many entity relationships, navigation, forms, lists, reports and workflow processes (CRMSearch, Microsoft Dynamics, n.d.).

Management

With Zen Planner user logs such as attendance data retention time can not be set by the owner of the application and are kept for a minimum of five years. This means that if Yoga Everywhere would like to keep a permanent record of these logs, they would have to store it in an external system (Zen Planner, Features Overview, n.d.). Zen Planner is the simplest of the three SAAS would like likely require Yoga Everywhere to hire any additional technical staff but it does not have an extensive database record keeping process.. In order to fully utilise Salesforce, it would be advisable for Yoga Ever to hire a technical person. As with Salesforce, in order for Microsoft Dynamics CRM to be utilised to its full potential and in order staff, it would be advisable for Yoga Ever to hire a technical person.

Safety Requirements

Zen Planner is the least secure out of the three applications. It does have some security certification such as the Payment Card Industry (PCI) Data Security Standards (DSS) certification that enables it to process debit and credit transactions but lacks the Cloud Security Alliance (CSA) Cloud Controls Matrix (CCM) and the HIPAA Business Associate Agreement (BAA) (GetApp, 2016). Like Microsoft and Salesforce, Zen Planner has HTTPS encryption for all pages.

Legal Requirements

Zen Planner Privacy policy prohibits them from accessing or selling their client's private information without their consent but in order for a user to sign off for a Zen Planner membership, they must consent and agree that Zen Planner may access, use, preserve and disclose their account(s) information and use the content (Zen Planner, Privacy Policy, 2016). They must inform clients when there is a change in their policy regulations but they do not have a requirement to inform clients of any changes and expect clients to look through their website to find these changes. Microsoft and Salesforce have similar privacy policies.

Fundamental Questions When Designing Forms and Reports

Live Yoga Session Sign-up Form

1. Who will use the form or report?

   Yoga Everywhere customers and staff.

2. What is the purpose of the form or report?

   To enable users to sign-up for live online yoga sessions and for membership signup.

3. When is the form or report needed and used?

   When the form is submitted, customer data validated and read and they are sent an email. Users are sent a link to watch the live yoga session through their emails.

4. Where does the form or report need to be delivered and used?

   The form is used through web browsers and delivered straight to Yoga Everywhere's management system.

5. How many people need to use or view the form or report.

   All of YE's 1100 clients must have the capability to view and complete this form. YE's staff must also have the capability to view use this form at all time. This form should be open to all users but form is validated during the submission process.

Membership Sign-up

FIRST NAME

M

LAST NAME

ADDRESS

ADDRESS Line 2 (Optional)

CITY

PROVINCE

POSTAL CODE

HOME

MOBILE

Submit

Week of April 24, 2016

Yoga Everywhere Weekly Timetable

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9:00AM	Yoga Class or Beginners Instructor 1 9:00AM-11:00AM Gym 1		Yoga Class or Beginners Instructor 1 9:00AM-11:00AM Gym 1				
1:00PM		Intermediate Yoga Instructor 1 1:00PM-3:00PM Gym 2	Intermediate Yoga Instructor 1 1:00PM-3:00PM Gym 2	Intermediate Yoga Instructor 1 1:00PM-3:00PM Gym 2			
4:00PM						Hot Yoga Instructor 3 4:00PM-6:00PM Gym 5	Hot Yoga Instructor 3 4:00PM-6:00PM Gym 5
5:00PM		Yoga Class or Beginners Instructor 2 5:00PM-7:00PM Gym 1		Yoga Class or Beginners Instructor 2 5:00PM-7:00PM Gym 1			

Submit

Calendar

Hot Yoga

DATE
April XX, 2016 – June XX, 2016
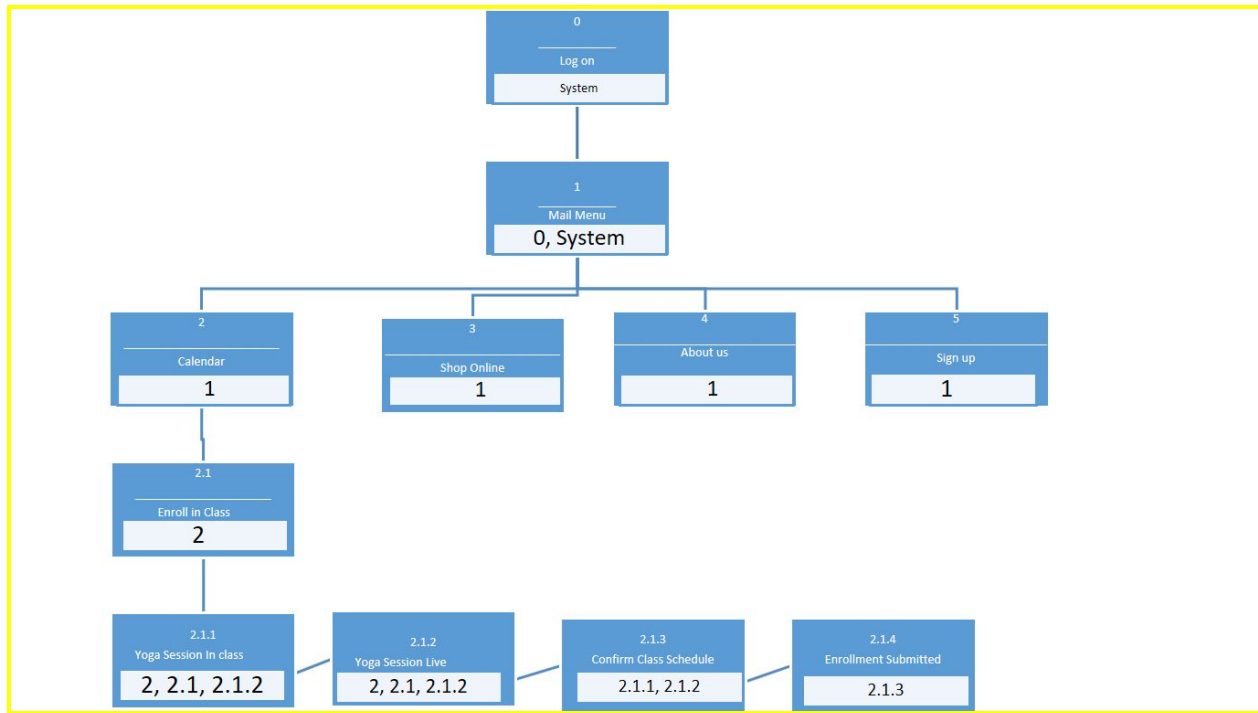
TIME
Hot Yoga

LOCATION
Gym 5

STAFF
Instructor 1

☐ In Class   ☐ Watch Live

Submit

Dialogue Diagram

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Zen Planner. (2016). Zen Planner Privacy Policy. Retrieved from Zen Planner: https://zenplanner.com/privacy-policy/

Zen Planner. (n.d.). FITNESS MEMBERSHIP SOFTWARE PRICING PLANS. Retrieved from Zen Planner: https://zenplanner.com/pricing/

After choosing three SaaS and comparing them, there will be two groups that will test the three options. The reason why the project team recommends testing the SaaS out before implementing it is to avoid error and confirm that the clients are comfortable with the new information system. The first group to test the top 3 SaaS will be the main users such as the front-desk employees, Margie Robbens, and all yoga instructors. Front-desk employees, Margie Robbens, and all yoga instructors are chosen as the first group because they are primary users that will use the new information system the daily or frequently. Front-desk employees are the front-line representatives where they help future and potential clients sign-up for the service. They also give technical support if people are having trouble accessing the online yoga session or if clients have simple questions. Yoga instructors are included in this group because they will be using the software when class is in session. Margie Robbens is also in the first group because as a business manager, the information system will be used frequently to produce business reports. Each possible SaaS will be tested out for one week to introduce the SaaS to the company and test the functionality. Keep in mind that the testing group does not have to test each SaaS for the full week. If it is obvious that the SaaS is not compatible with company needs, the next SaaS should be tested right away; no need to wait for the full week.

After the SaaS passes the first testing groups, the second testing group will be testing the final SaaS chosen by group one. The second group is a selective group of clients; clients who are willing to help test the system. The reason why the second group is a group of clients is because clients will be primary external users. Although they are primary users, they will only use basic

parts of the system - Logging in for online payments, updating account information such as name, contact information, etc as well as checking class schedule, signing up for courses, purchasing merchandise online, and much more.

During the whole project, time will be an important factor in order to keep potential client's attention and have a competitive advantage in terms of online classes. This system must be tested thoroughly to decrease the amount of technical errors when implemented. Based on the growth within 3 years, increasing amount of clients, and live online yoga sessions, the information system should be implemented within 3-4 months (earliest 3 months and latest 4 months). This will allow the users to get a sense of the system before it's offered to clients. Releasing the information system internally first also allows the company to test the system out and see if changes need to be made.

C - System Implementation and Operation

This section will explain how the SaaS chosen will be implemented within YE. The emphasis will be put on training for all parties to use the platform effectively and efficiently as well as a support plan, which will provide help to the user once the platform is implemented.

No coding will be necessary during the implementation phase as the information system is not built in house. Moreover, very few testing will be necessary since the service provider will have conducted this phase before giving YE access to it. Beta testing will be conducted by YE with the help of Telfer Consulting. This will ensure that the service software work as intended and the customization requests have been respected. This will provide YE with the possibility to get a sense of how things will work after installation. If any errors or concerns are found, they will be addressed with the service provider. Subsequently, a parallel installation will be conducted. This means that staff members will still be able to consult the excel spreadsheets in case of inconsistency for a short period of time. However, it will be a direct installation for clients.

In terms of training, Telfer Consulting will be taking into consideration that the type of system implemented will be a cloud computing software solution and the expertise of the different users, which vary greatly. Training will essentially vary through different groups, which were identified as being the front desk staff, management and clients.

It is important to specify that all staff members of the 13 locations were aware that a system change was approaching. Telfer Consulting judged that concept training needed to be done after assessing the need for a new information system. Maggie, Paul and Saphia were advised to send a memo to all employees and clients in order let them know that change was approaching in the near future in terms of the system currently use to improve the service offered to the customer.

The Front Desk Staff

Front desk staff will be provided training in order to be able to use the system and they will also be provided with help regarding general computer concept such as how to duplicate files in the system. As they are 13 locations over Canada, formal instructor led training will not be possible for all front desk staff. Indeed, the team leader from all the different location only will assist to a formal led instructor class. They will be able to get hands on experience with the new system and ask various questions. Telfer Consulting access that the duration of this training will be a total of 6 hours divided in 2 sessions of 3 hours over a 2 day span. This will enable the team leaders from the 13 locations to bring back their knowledge to their respective location and share it with the other front desk staff. An emphasis will also be put on how to set up the recording for live online classes. This formal training will take place in the main location in Kanata, Ottawa.

Moreover, a short e-learning program of about 45 minutes will be mandatory for all staff which consist of the front desk staff and the yoga instructors will also be used in order to for everyone to learn about the new platform they will use. If they have more question they should refer to the team leader who assisted the formal instructor lead training. In the case the team leader had any interrogation they will be able to contact the cloud based software provider.

Management

Management will take part in the instructor led training as well as the e-learning short program which will be useful in order to use the program and touch up on general computer concept. In order to be able to achieve their more complex task they will have access to software help components. This aspect of the cloud based software consisting of a system software shell and will act as a coach in order to perform more complex task. This will be beneficial, as the management will not have to leave the software in order to get the help needed. Moreover, if management is not able to find the information needed in the platform that will be able to contact support from the service provider for system management purposes. This will be ongoing as management starts new projects throughout the year.

Clients

The client interface will be fairly simple in terms of usability. The platform will respect website's usability patterns therefore the clients are not going to feel too disoriented when trying to register online and trying to attend online classes. However, there will still be some training available in order for clients with less expertise to efficiently and effectively use the platform. The training provided will be software help component, which means that the educational information is included such as quick tutorials and in case of error an hypertext could lead to a reference material. This training will be available on the web page upon request. It will also be very short, as clients are very task oriented when accessing a website. They desire to receive a service they pay for promptly. Moreover, if the training is too long, in most cases they will abandon the task at hand.

Once the training phase is complete, support is very important and necessary in order to provide further help to users once the information system is implemented. As instructor led-training was provided to team leaders from the front desk staff and management, they will be a source of support once any instructor or any other front desk staff requires help. However, if their help is not enough support will be provided by the vendor. No issue tracking system will be necessary in YE's situation as they this process will be done by the service provider. Moreover, the vendor

will set up user group in order for YE to efficiently use the platform. The user group will be divided in terms of front desk staff (also including yoga instructors), clients and management. Policies and procedure will be put in place with the help of the vendor in case of system failure. Vendors will also provide assistance in terms of backup recovery and disaster recovery. Finally the service provider will keep an on going communication with YE everywhere through newsletter in order to advise about new software updates and new available feature.