CAPSTONE PROJECT REPORT

(Online Kitchen Registration System)

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ABSTRACT

Agriculture has been Arkansas's largest industry since it gained statehood in 1836, in fact the value of agriculture to the state's economy is almost eight billion dollars. From the Mississippi River to the Ozark mountains Arkansas is one of the most diverse farming states in the nation. From rice, cotton and soybeans, to beef cattle poultry and much more. So, starting a food business in Arkansas is such a great idea. This is a system based on accessing the internet to book a kitchen for food preparation. The main purpose of this system is to introduce an online system that will assist farmers and entrepreneurs preparing value-added food for the marketplace. The use of the new Kitchen Registration system allows users to view kitchens near them online and when the kitchens will be available. The company can update the system to show only the available Kitchens. In this case customers can make informed choices and make choices according to their standards. This system will also increase the efficiency in kitchen registration management at the university of Arkansas divisions of Agriculture.

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Problem Solving:

- The goal of our system is to replace the manual application which provides the facilities for booking Kitchens and packing services areas to pack their products. This business is operated in Searcy, Cleveland and Three County. The University of Arkansas share grounds decided to change their booking pattern from manual to web based system. It has helped them to manage their customers booking easily and to keep the customers data more secure. It also helped staffs to keep in track their customer's online booking request as well as easily to reply feedback to the customers. For that they hired a developer to build the web system for this reputed company. This web system allows users to login into the system and view the available kitchens near them for booking and provides a safe and secure payment system.

The old system was only used to a limited scope as compared to our system that can be used all over the state. i.e. the system is only limited to Areas near the mentioned areas. this system can be used across the globe by any company having commercial kitchen for rent and packing services.

Scope of the study:

This system is aimed at providing an effective online hotel booking system to improve the operations of reservation departments in different kitchens. The system can be used by any manager across the three kitchens or a trusted facility member for kitchen bookings.

System Analysis and Design:

Interaction Diagrams (Sequence diagram)

Figure 1.7: Manager Sequence Diagram
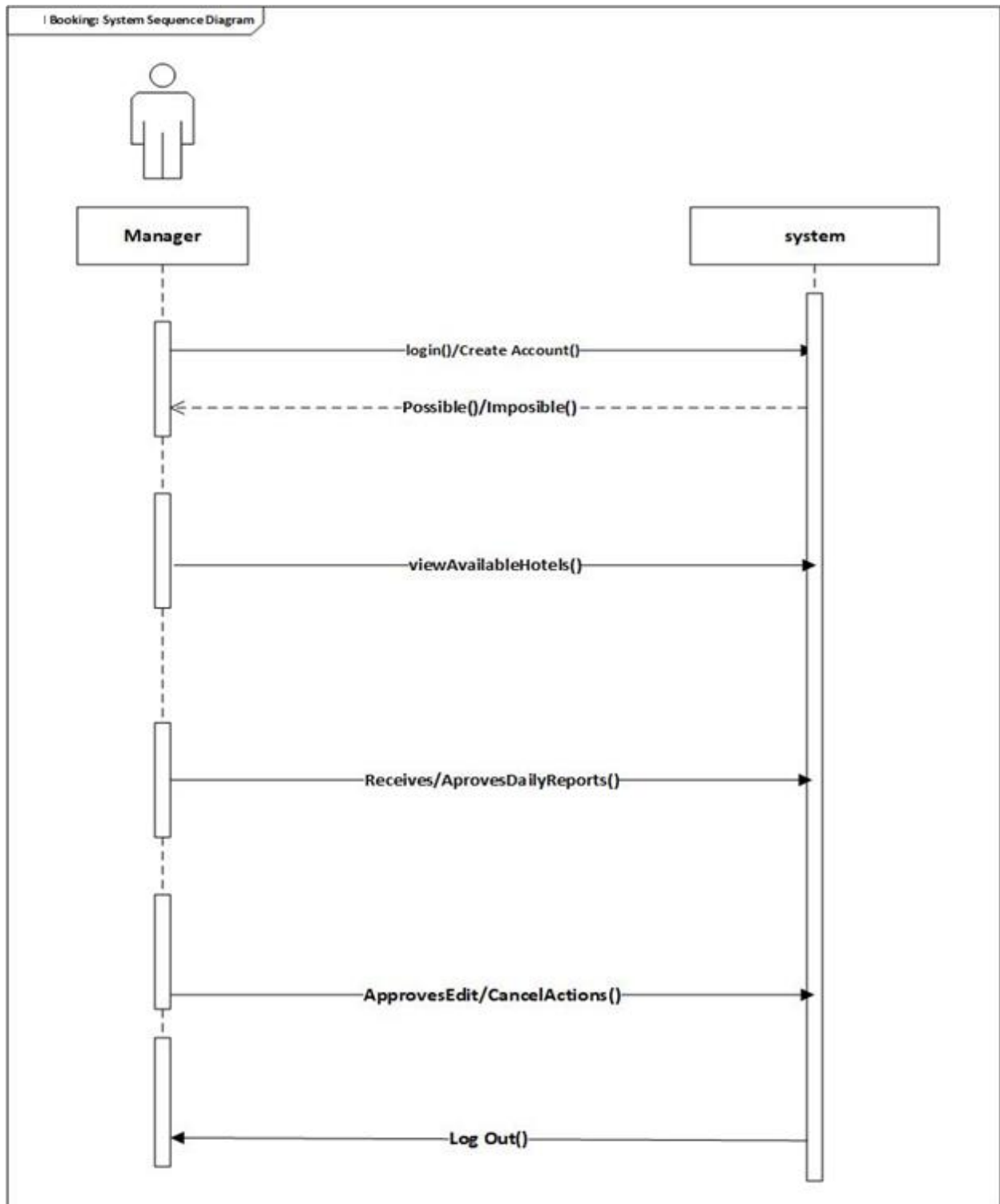
Figure 1.8: Developer Sequence Diagram System
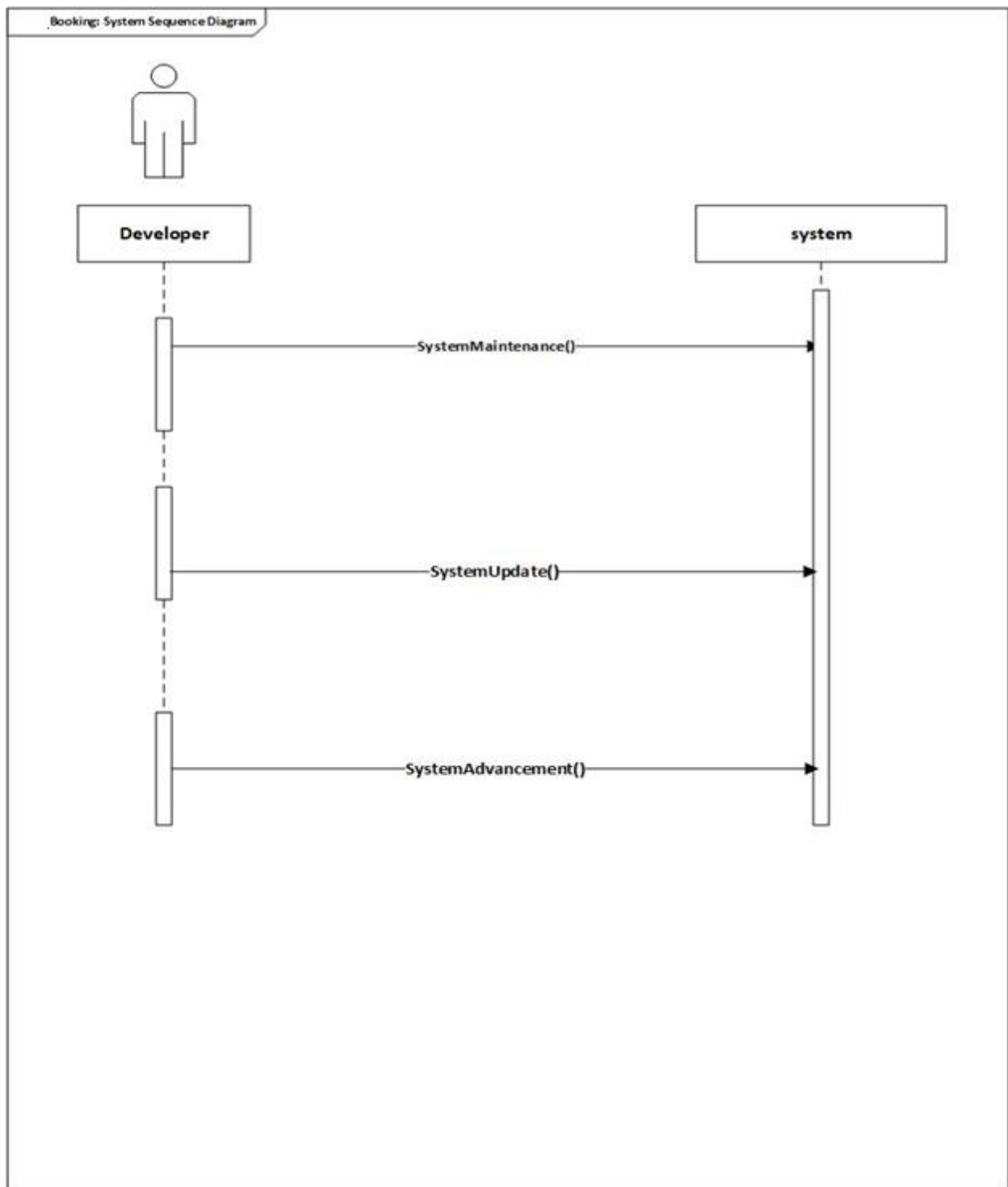
Figure 1.9: System Admin Sequence Diagram

| Booking: System Sequence Diagram

System Admin   system

login()/Create Account()

Possible()/Imposible()

ApprovesCustomerDetails()

RespondstoSystemIssues()

EnsuresSystemSecurity()

Log Out()
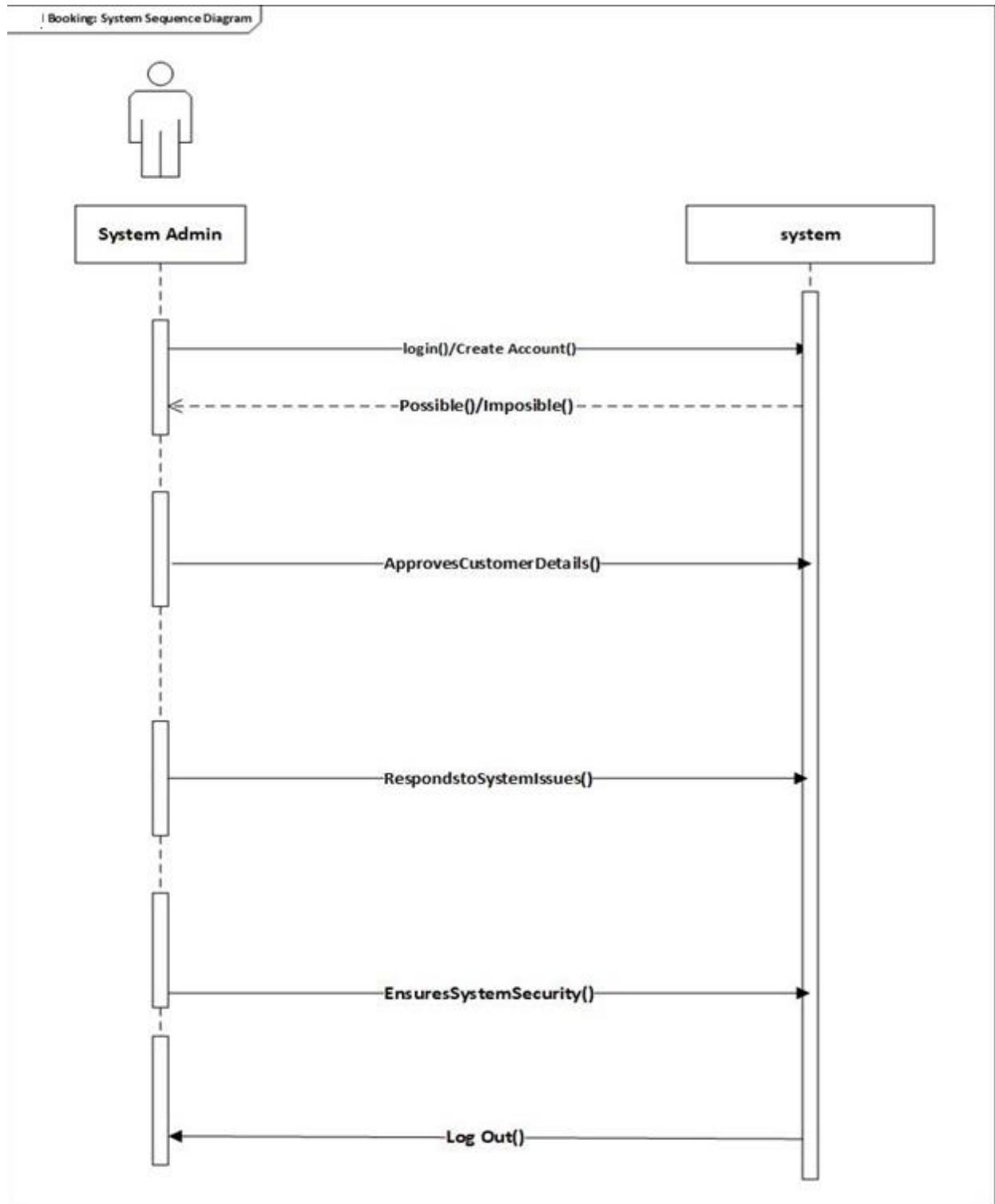
Figure 1.10: Customer Sequence Diagram
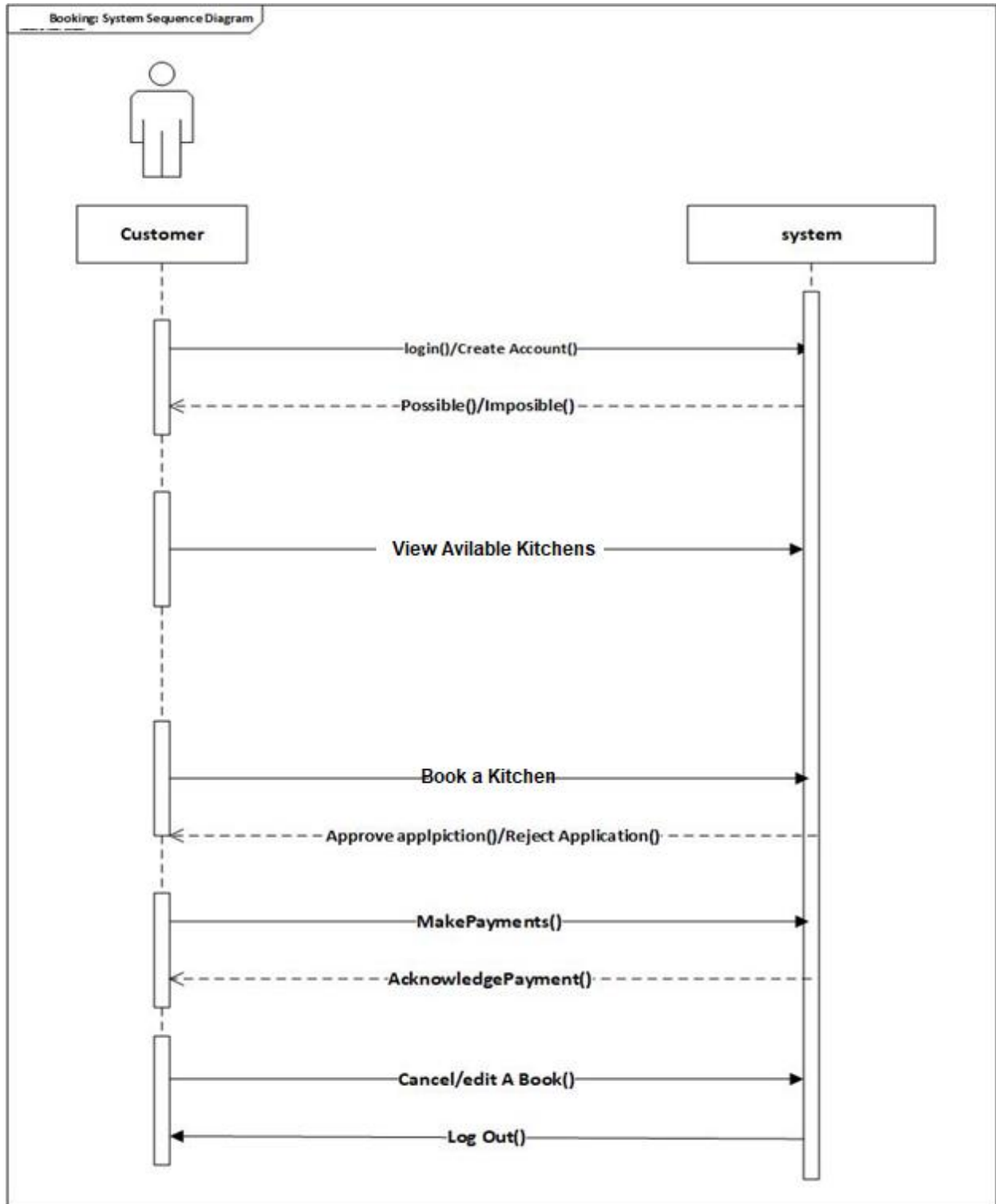
Figure 1.11: System Sequence Diagram

Booking: Sequence Diagram

| Customer | system | office clerk |

- login()/Create Account() → ← login()/Create Account()
- Possible()/Imposible() ← - - - - Possible()/Imposible() - - →
- View avilable kitchens() →
- Book A kitchen() →
- Approve applpiction()/Reject Application() ← - - - -
- MakePayments() →
- AcknowledgePayment() ← - - - -
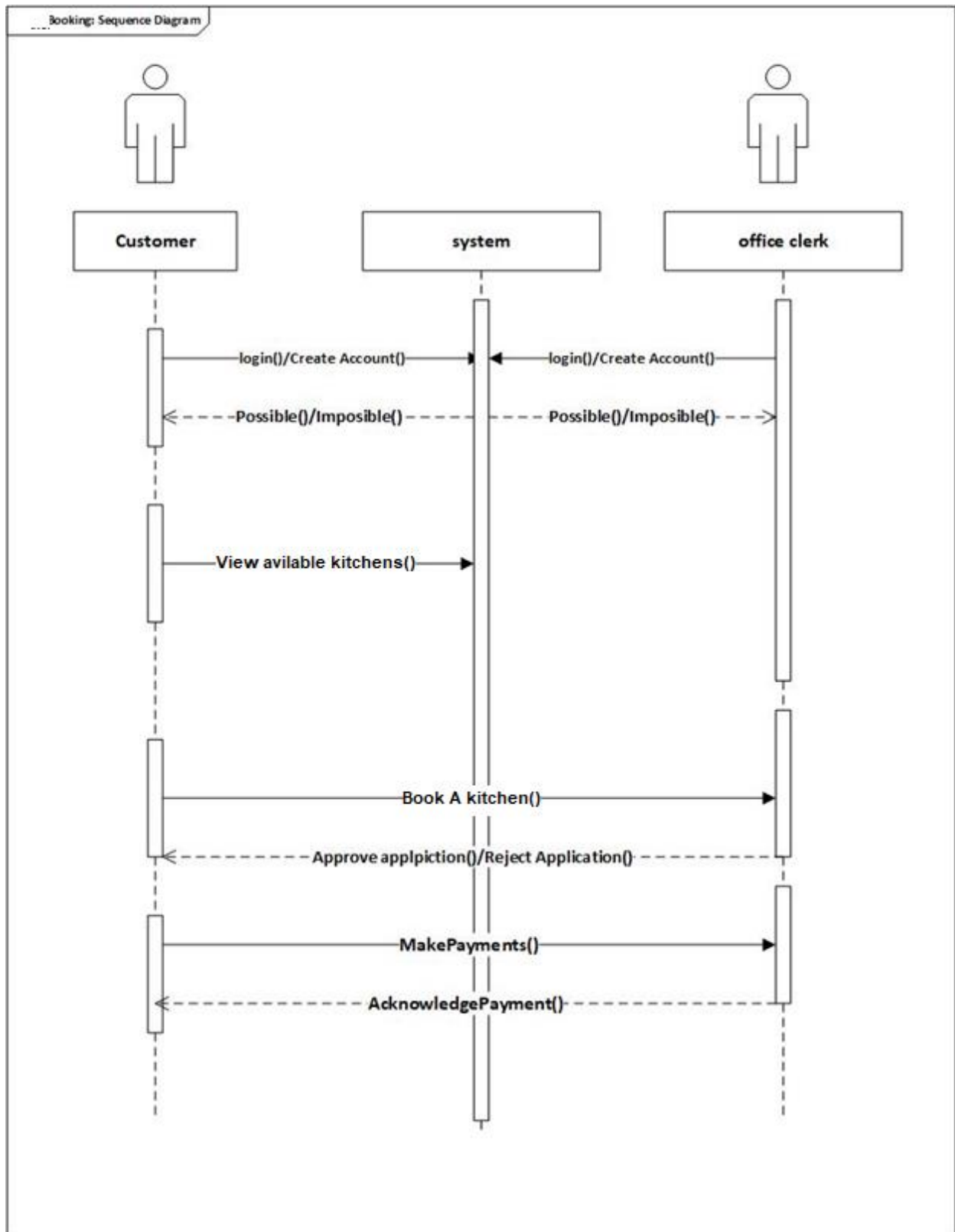
Figure 1.12: Booking System Class Diagram

Kitchen Booking System Class Diagram

system
id: int

GeneratesMessages()
GeneratesReports()
updatesRoomStatus()

Kitchens
roomid: int
description: string
status: int

Reports
descrition: string
duration: date

manager
name: string
address: string
email: email
phone: number
id: int
password: string

Login/CreateAcccount()
Receive/ApproveReports()
ApprovesEdits/CancelActions()

systemAdmin
name: string
address: string
email: email
phone: number
id: int
password: string

Login/CreateAccount()
VerifyCustomerDetails()
EnsuresSystemSecurity()

customer
-memberName
name: string
address: string
email: email
phone: number
id: int
password: string

Login/CreateAccoun()
ViewRooms()
BookHotel()
MakePayment()
ConsultClerk()
ReceivePaymentApproval()
PrintReceipt()
Edit/CancelBook()

office clerk
name: string
address: string
email: email
phone: number
id: int
password: string

Login/CreateAccount()
RespondQueries()
ApprovesBook()
Receives/ApprovesPayment

payment
status: int
amount: int

11
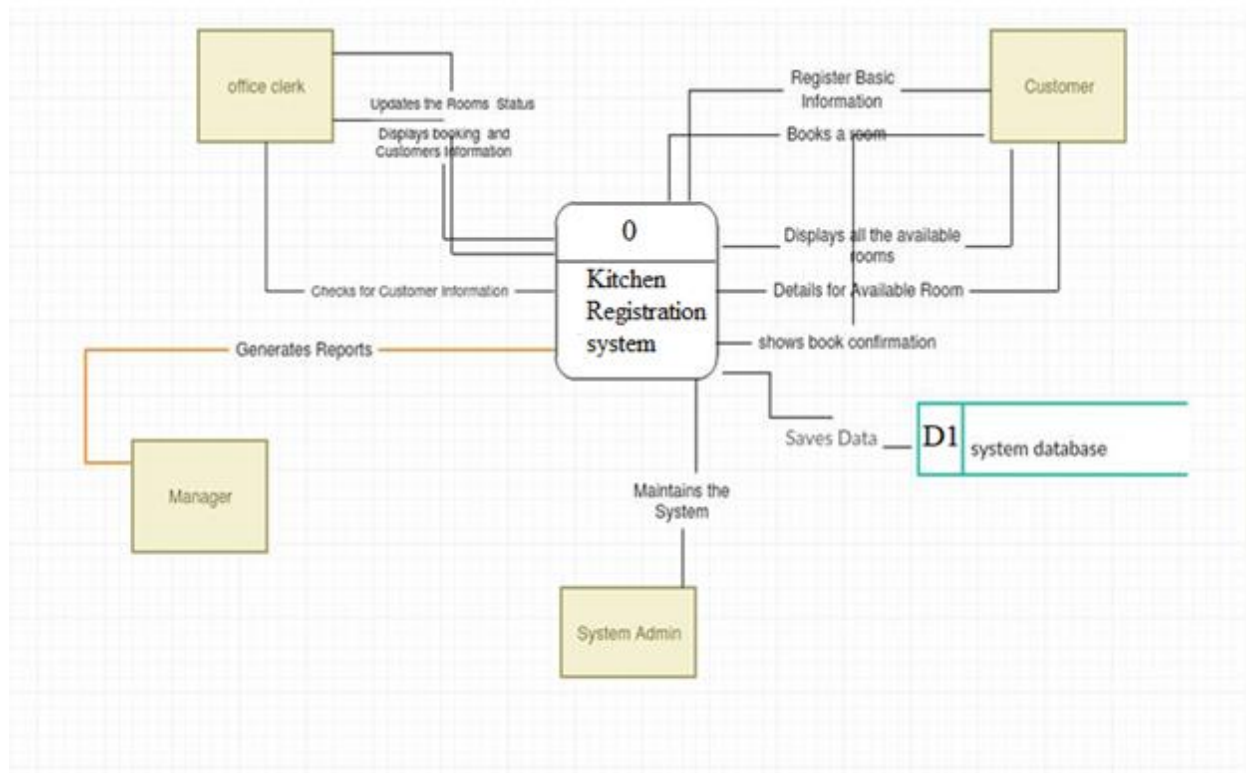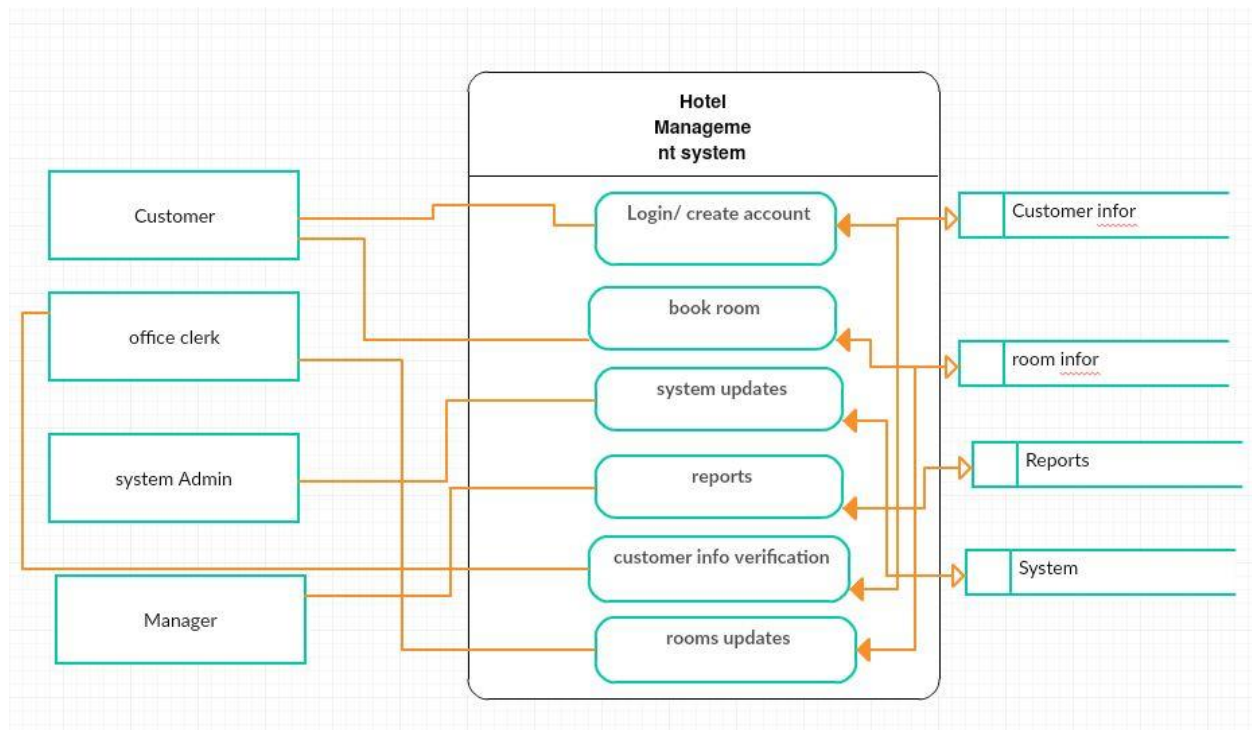
2 Data flow diagrams:

Figure 1 Booking System context diagram

Figure 2 Booking System level 0

Section 6: Professional Responsibilities –

A. Ethical Self-Awareness – While working on our Capstone Project for the Kitchen Registration, our team made sure to keep a certain level of professionalism to ensure the least amount of issues and inefficiency. We kept in mind and followed a lot of the codes listed on the ACM Code of Ethics and Professional Conduct list. The Codes listed on the list are designed to inspire and guide our ethical conducts when dealing with computing technology, and in our case, this specifically fits because we are dealing with building a Kitchen Registration system. The general ethical principles listed should all be followed closely. Code 1.1 mentions contributing to society and to the well-being of humans, and I think this applies to our team project because we would not want registrations to use a kitchen to be stressful. The code about avoiding harm is not too necessary to pay attention to just yet, if at all at this point for our team. Unjustified damage to property or mental injury is classified as harm and we follow enough best practices to avoid those risks. Code 1.3 is about honesty and trustworthiness. Our team understands that making any misleading claims, fabricating data, or other dishonest conduct are violations of the Code. This code is particularly important to us because we want to be seen as computing professionals and we would not want to misrepresent UA of Little Rock's organization policies or procedures. We also paid close attention to follow Code 1.4, which is about being fair and taking action not to discriminate. Our team is a group of technically underrepresented groups, so I think we already had a decent understanding of what being unfair, and discrimination looked like/felt like.

To continue with the list of ethical codes that we used to guide our team's thinking, codes 2.2 and 2.3 were important too. Maintaining high standards of professional competence, conduct, and ethical practice are the main rules of Code 2.2. When my team is getting ready to make any decisions, we reflect back upon this code to consider if we are successfully avoiding any ethical malpractices. Knowing and respecting existing rules pertaining to professional work are the main topics of Code 2.3. As students at the UA of Little Rock, all students get a general idea of following this Code because violating these rules could easily lead to expulsion. This code of conduct really ties into some of the 1.x rules due to the idea that there's a huge emphasis on morals.

B. Did you encounter any Ethical Issues? – Encountering ethical issues for projects of this size is probably not rare. Fortunately, the clients of ours, who are employees at the *U of A Division of Agriculture Research & Extension,* has plenty of experience with projects like these. So, at the very beginning of the process, we were informed of any common ethical issues we might face and how to avoid them. This involves privacy, security, intellectual property, and sustainability ethical issues. With those warnings coming to us upfront, it was easy to avoid any possible ethical issues.

Analysis Work Performed

After doing Project analysis, we figured out the problem with our client. They did not have a registration tool, where clients can go and see the available dates for the kitchen rental nor could they register to book the kitchen.

A. **Describe the Problem or Challenge Facing the Client and their Stakeholders.**

Our team has been working to find any problem or challenge that we would or are having with our client. We have broken the section down to see what challenges are we facing with our client's business.

Who does the problem affect? Specific groups, organizations, customers, etc.

This will affect local Arkansas farmers, local who are growing their own food, it will hurt customers a who are trying to support locally grown product.

The problem is that the client cannot use a third-party registration web page because of legality, and wants to write a code from scratch so it could be secured.

What is the issue?

The issue is that the client would like a code written in Django and written in python, so the client can have full control of the site.

What is the impact of the issue?

if there is no registration webpage the client can't rent out the kitchen, thus no business for our client. This could impact out client business a lot.

What impact is the issue causing?

There is only two ways to get information about the kitchen.

1. Visit https://www.uaex.edu

2. Call the manager during regular business hour.

Beside that the client cannot see open slots for renting the kitchen or give them prices. This information is only available only on webpage we are creating.

What will happen when it is fixed?

If there is a problem with the webpage it would be very easy to reset the webpage and being over, our client does not expect too much traffic on the webpage so we don't have to worry about crashing.

What would happen if we didn't solve the problem?

Our client does not have a physical calendar or anything to show their clients if there is any available slots to rent out the kitchen. Same applies for registration and payment options.

B. Evaluate the Current State (Data, Process, People, and Technology in Use) surrounding the problem or issue.

The client has not stared their business, so they are still experimenting on what they require to be successful. They requested to have 2 calendar one for viewing and second to edit, but for this the team have to create a data base. We do not have access to any database servers so, as soon as they code is approved, we will be had it over to the client and their IT Team will handle it from there.

The main challenge is right now that the team does not have any knowledge about python code. Python code was requested by the client's IT department.

I. The current state of our issue is structured but, the team do not have experience in coding.
II. We are using a YouTube tutorial to learn Python and Django. Karen the Information Technology supervision on this project has recommended us some good sources and tools to use for the application.
III. Currently they have approved the demo version one the webpage, and we have created a semi structured webpage for the client on WordPress.

C. Describe Client's Desired Future State (e.g., Data, Process, People, and Technical Improvements).

After consulting with the team, we are proceeding with Django application, If we solve the coding problem we will have an application with custom code and full control of the webpage.

IV. The webpage will be running on the same servers the website is running, this will be easier for updates and visuals for the application.
V. The clients will not need up anymore for updates or maintenance, because their Information Technology Department can handle it.
VI. If we just code in java or html or CSS it will be easy and faster to deliver final product, but they will also have to two different code to deal with, that why the client has requested the code in Python and Django.

D. Analyze the Options available for getting your Client to their desired future state and Recommend a Solution.

We have not reached to the final product yet so I believe, there are a lot to learn. As far as the client go in the future, we have to focus better on project proposal because the client changed their mind every other meeting.

E. Develop proper requirements documentation that provides a detailed plan for what your team plans to do to move from the current state (what the client currently has) to the desired future state (what the client wants in the future).

We used Gantt chart and data visualization for the client to make sure that we were on track.

Integration:

After considering our organization the conclusion is that, the project will need strict plans and, plans should be followed strictly, because of time management. Data analysts and Gantt chart are very useful. The team did not have any strategy but, we are learning as we go, COBIT Framework for IT Government and Control is a very educational support system.

Plan and Organize:

Our Strategy, tactics were pretty simple as shown in this model created by our team leader it helped the team execute the achievements of the business objectives.

If the team already know that do, they want, they should know how to get there and what tools are necessary to complete the final product. As running this application on servers, it will cost the client some type of fee, but since they already have servers, we do not know the cost. managing quality on this product will be very simple for a beginner python coder, because everything is organized and structured.

Acquire and Implement

To understand the IT strategy, we need to identify the problem. Then develop and implement the software into the business process. Business solution analysts play key part in this roll because we as a business have to make sure that the client can intergrade the software with their existing software. BACA phases were considered during the process.

Deliver and Support

Since this was a Group project we did not focus on human resources, and faculty members. One reason was because of our timing and irregular meeting. The physical environment was basically an employee can work anywhere in his/her comfort and record the hours. We did do an Identify and allocate cost of this project as shown in this diagram.

Labor Cost

Labor	Mueez	Ibrahim	Robert
Cost	$13.00/- hour	$13.00/- hour	$13.00/- hour
Hours Per week	16.00 hours	16.00 hours	16.00 hours
Labor Net Amount	$208.00	$208.00	$208.00
Total Cost			$624 per work

This project should take 3 months at least and after the labor calculations we have an estimate cost that would be $8112.00 for this project. As of this far he has not reached this far for security risk for this application but it will be implemented in Capstone II.

Monitor and Evaluate

We have not finished coding the product final because of some implication considering, we had to learn a new coding language, but we do have the frame work for the project, we have been learning and coding Payton instead of JAVA script.

Communication Capstone 1

Communication is one of the very important tools. In this project there were many tools used for communication. This helped us realize that there is software we can use in the future with the clients that are more professional and reliable when communicating and competing a task for the week or month.

> *In capstone 1, we as a team has decided to use Google Hangout as a communicator between team members. We created a group chat and used Google Hangout as main source of communication. Other option was considered too, like I message on iPhone as a group chat, or using strictly UALR g-mail. Google Hangout was the most professional and resourceful software we could find at the time.*

When considering using a communication software with your team, of course the team could contain three, ten, or more members. Consider what the client is using with their team or prefers. Of course, you do not want two separate software to communicate with your team member, the client, and clients team (example: The Information Technology department, Human Resource department, Administer).

This is what exactly happened in this project, although we were using Google Hangout and it was free for all users. Our clients preferred to use monday.com, to complete tasks. Although monday.com is a paid software subscription, the client preferred the weekly meeting on zoom.com a software via face to face conference. Our clients also preferred to use Outlook e-mail instead of UALR e-mail, which is generally g-mail by google.

Google Hangout

Capstone 1 Team Communication software

https://images.app.goo.gl/oG8D6X4Gv9SENu9E6

This an app selected by Ibrahim Attia, it features:

- Instant Messaging

- HD video Calls

- HD Group Conferencing

- Built-in Screen sharing

- Custom Control for Admins

- Integration with Google application & much more

UALR uses Google G-mail as a secured e-mail for their students, and faculty members. It is a UALR policy that professor should only use UALR Gmail to communicate with students. So, it was very easy to intergrade Google hangout in our project. The best part of this software is its free.
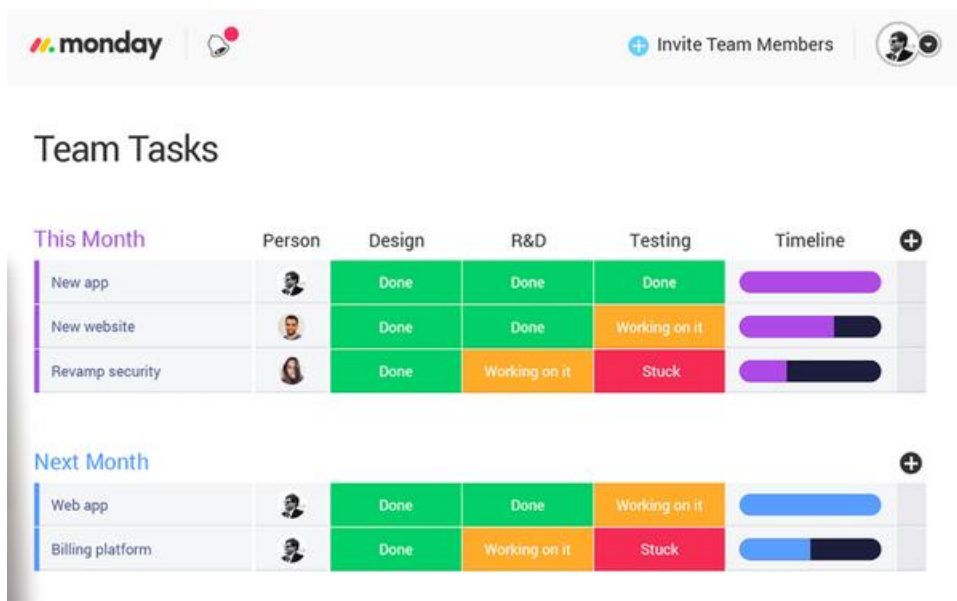
Monday

Capstone 1 Client communication software

https://images.app.goo.gl/BPxZX7GdkKUsLohY7

This application was recommended by the client, this is an application that features:

- A many-to-many communication tool

- A visual display of progress

- Easy collaboration: tag team, tag people for communication

- Execution Board, with big display.

This application was very useful, and recommended to everyone. It has very Gantt chart felling

to it. You can assign employee a task and he/she will get a notification with a due time and date.

You can also make your status on a project and contact a different team member or employee for help.

There was a bad downfall of this application its expensive. This application is subscription-based application, pay monthly for the service.

Basic	$ 17.00 a month	$ 49.00 a month	$ 125.00 a month
Standard	$ 26.00 a month	$ 79.00 a month	$ 195.00 a month
Pro	$39.00 a month	$ 119.00 a month	$ 289.00 a month
Enterprise	Contact them	Contact them	Contact them

As you can see in this table the application is very expensive our clients had the basic 10 users plan, so only one team member our team was added to the client's team board.

so, what does the basic feature that standard and pro don't?

Basic	1 week	5 GB	Not allowed
Standard	Unlimited	50 GB	4 guests billed as 1 user
Pro	Unlimited	Unlimited	Unlimited
Enterprise	Unlimited	Unlimited	Unlimited

This application is on expensive side but very helpful. If your client has a budget for this application, I recommend it 100% the client can see you and your team progress and if the clients want to add something to the project. (box)

Zoom

Capstone 1 Meeting / conference software.

https://zoom.us/resources

Zoom is a software where a team who is working on a project for a client can have video conference with their client and team. A lot of professors use this software on UALR campus for lecture and online class.

Of course this is a paid software but you can use a the basic package which is free :

- where you can have up to 100 participants

- 40 minutes limited group meeting

- Unlimited number of meetings.

Vs pro package which is 14.99 a month/host

Which features:

- 1GB of cloud recording

- Admin featured controls

- Meeting duration limit 24 hours

- Skype for Business interoperability.

In conclusion there are many free and expensive software that is very useful out there but, we get to study and use some new software we have never used. I recommend using google hangouts its free software and almost everyone have a Gmail account, so it makes easy to sign up for the service.

Section 10: Summary / Conclusions / Lessons Learned:

Conclusion:

With the establishment of the online kitchen registration \ system it gives customer full benefits to book kitchens of their choice from their comfort places. The system will be able to use used on phones and on desktop or laptops. By this customer can enjoy using the system with what is available for them. Also, the system offers customers a way to make payment for their applications in a much convenient and secure payment. Generally, this kitchen registration system gives customers a more user-friendly environment where they can easily book a kitchen of their choice.
This system will be of great help to the entire UAEX reservation system or for any company that has kitchen facilities and they want to take their system online.

Lessons Learned:

- ◦ Implementing a successful Hotel online booking system.

- ◦ Create and maintain an information system that can perform effectively within the Organization.

- ◦ Problem solving in order to achieve a desired goal.

- ◦ Troubleshooting and development.

- ◦ increase productivity and deliver quality products and services,

- ◦ How to successfully create (Data Flow Diagram, fully dressed Use Case Diagram, Context Diagram, Class Diagram, Sequence Diagram, System Sequence Diagram)