# In Fidelity Recordings

## New Client System Proposal

Presented by:

Smart & Loyal

Consultants


**Group Members**

Joshua Aguirre

Miguel Tovar

Michael Sen

# Meet Our Team

**Michael Sen:** An accredited CIT student attending CSUN. His expertise ranges in all facets of Information Systems as well as Information Technology. Respected by many in the industry, Mr. Sen's business driven mindset along with his versatile skill set makes him a crucial piece to In Fidelity Recordings as he helps his team navigate through the tough waters in the business and information systems department.

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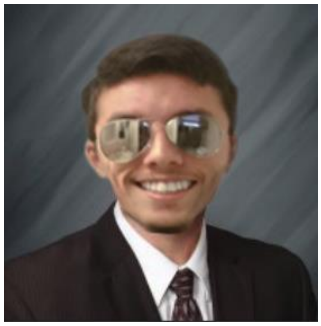

**Miguel Tovar:** A proud CIT student approaching the 4th year of his college life at CSUN. An expert on networking software and business-systems diagram development, his knowledge of data networking and resource-efficiency will come in handy for tackling the problems associated with strained networks found in In Fidelity Recordings and its business system.

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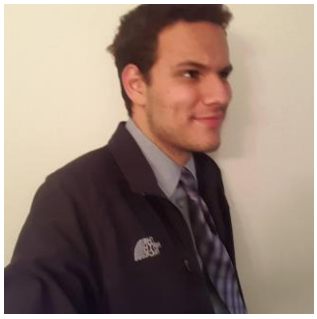

**Joshua Aguirre:** A clever and witty CIT student currently finishing his 3rd year at CSUN, Mr. Aguirre is knowledgeable when it comes to programming software and analyzing project feasibilities. His expertise regarding business functions and software-based utilities will help In Fidelity Recordings improve their day-to-day processes and promote the business brand.

# Executive Summary

In Fidelity Recording Studio is a family-owned company dedicated to helping clients produce the songs and music they've always desired to make. They've been in business for 14 years and specialize in a variety of different music styles, but more importantly are very good at adapting to the type of music the client wants to produce. Regular clients have a lot of good things to say about the company itself and the environment at the studio. The workers and the creative atmosphere at In Fidelity Recordings have no issues, but unfortunately, the same cannot be said about the company's system for handling clients or daily business processes.

In Fidelity Recordings has employed a simple and outdated system since they've opened, which was satisfactory for the company during its early stages, but it can no longer sustain the grueling tasks of the growing company's overflowing databases. Their current system lacks many key features that are integral in any contemporary business system. Client scheduling is performed on a slow and outdated computer system which in this current day and age is detrimental; also the lack of infrastructure and hardware has led the company to become less productive. Unproductivity can also cause clients to be scheduled at undefined times. Employees involved in this process are not satisfied with the outdated system that In Fidelity Recordings currently continues to use for its day-to-day operations. The amount of time and speed it takes to process these client bookings frustrates employees and clients alike. The client scheduling system also lacks the ability to store proper client information. This can cause confusion or may even lead to clients being given the wrong scheduling.

Our specialized consultants have assessed these issues at In Fidelity Recording Studio, and have gotten management's full support in developing a new system that will not only remedy the issues plaguing In Fidelity Recording, but also help future growth when they decide to further expand their business. The new system will improve the accuracy and speed at which client scheduling is handled, improve the management of production equipment and supplying, and improve client-business relations. We have proposed solutions that will make In Fidelity Recordings' current system more efficient.

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# COMPANY BACKGROUND

## MEET IN FIDELITY RECORDINGS

In Fidelity Recordings was the brainchild of Thomas Sharf; a man in love with music since his childhood. He had always aspired to one day open a music store where he could share his passion for music with other people. Despite having suffered a loss from a previous unsuccessful music store business, he never lost resolve and finally struck gold when he opened a business strictly for recording music in 2002. “I knew I was going to catch a break eventually,” he said in an interview in 2005, “when you continue to try, you can only ever expect success.” It was in 2008, when he finally handed the business down to his son, David Sharf, who had recently graduated from CSULA with a degree in business management. “I felt honored to have my father bestow the family company to me.” David would later comment on social media. Though many loyal customers were initially skeptical of David, he proved to be the best thing to happen to the company. With David’s management, the company’s value skyrocketed and the recording studio clients were immensely pleased. “Love this place. Great intimate atmosphere to keep your focus and get some work done.” one Yelp reviewer says, “David Sharf is super professional and gets the most out of the time you pay for. Do yourself a favor when you’re ready to lay down some vocals and ask for David.”

Located in Van Nuys, the heart of the San Fernando Valley, In Fidelity’s recording studio receives clientele from all over the world, from as far away as Australia and Japan, to as nearby as San Diego, Riverside, Orange County, and the rest of California. In Fidelity Recordings’ philosophy is very simple: Every project is important and every client is special. When you develop a sincere one-on-one relationship with your client and you communicate to them your intentions to bring life to their creative ideas, the outcome is almost always marvelous and your customers will be more than grateful you’ve gone the extra mile to make their production experience a magnificent one. They believe there is a musician within everyone, and it’s up to the recording studio to help people uncover their inner creativity. Working closely with their clients,

they attempt to provide optimal assistance to ensure their client gets their money's worth in quality sound production.

In Fidelity Recordings is not a home studio. They stress this point in particular because they do not want to be mistaken as a business outlet exercising unprofessional standards. In Fidelity's recording studio aims to offer state of the art recording equipment, all of which is housed in a professional facility. They hope to offer their clients the best combination of sound quality, price, personal service, and efficiency of any studio to help create a unique and memorable recording experience for beginners and professional musicians alike.

***MEET THE TEAM***

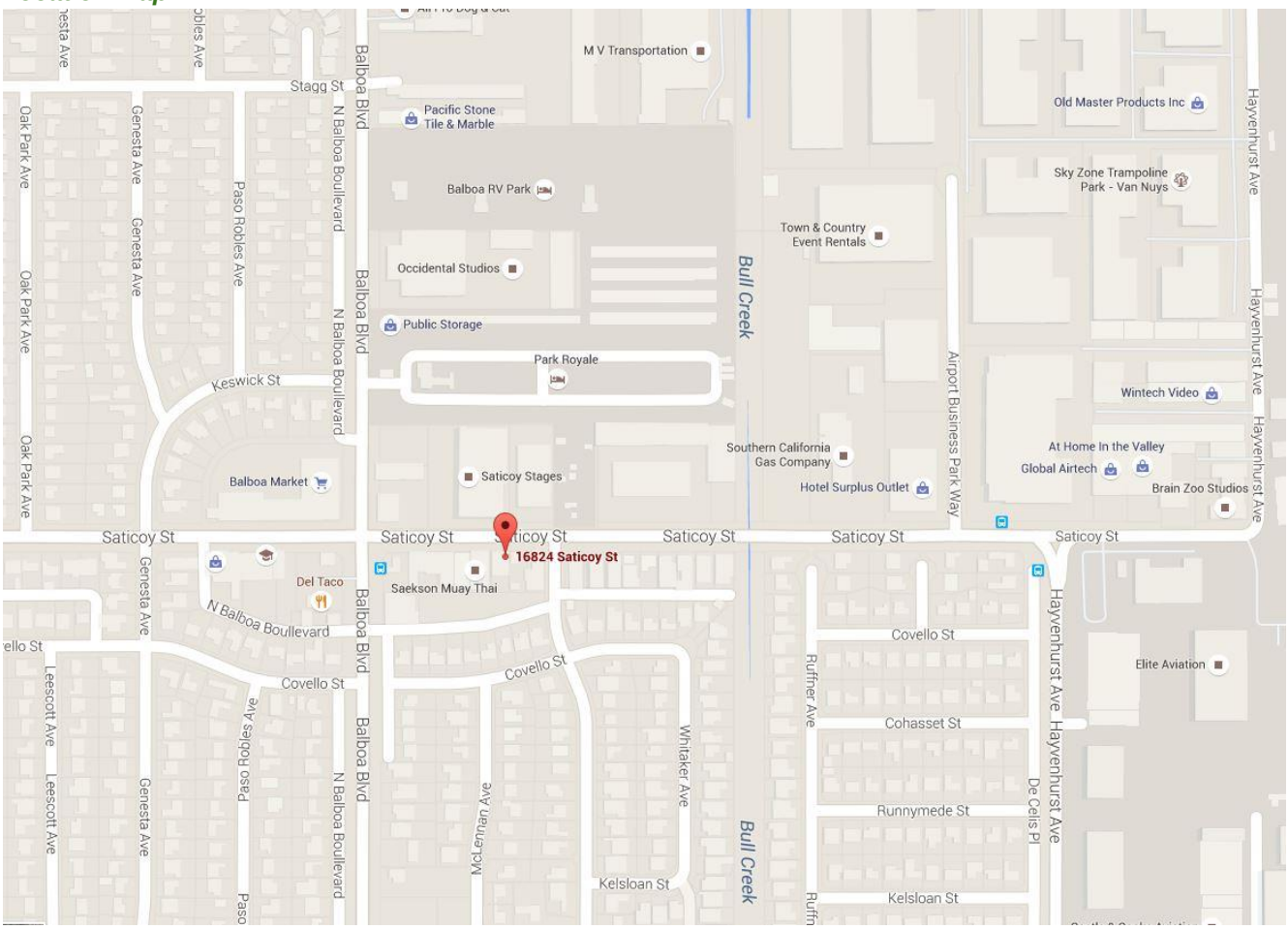
*Mark P. (left), Steve F., Jeff T., DJ mick, and David Sharf (Right)*

In Fidelity Recordings

## *Business Information:*

| | |
|---|---|
| **OFFICIAL COMPANY NAME:** | IN FIDELITY RECORDINGS |
| **BUSINESS ADDRESS:** | 16824 Saticoy St, Los Angeles, CA 91406 |
| **PHONE NUMBER** | (818) 786-3144 |
| **COMPANY WEBSITE:** | www.infidelityrecordings.com |

### *Location Map*




*16824 Saticoy St, Los Angeles, CA 91406*

# Project

## Plan

# Business Problem

Consistency is key for In fidelity Recordings; This company has been in business for 14 years. Even with the hard work and dedication within the company, it stills faces problems to this day. The company faces multiple problems that even successful companies will face time from time. Here is the list of problems the company faces:

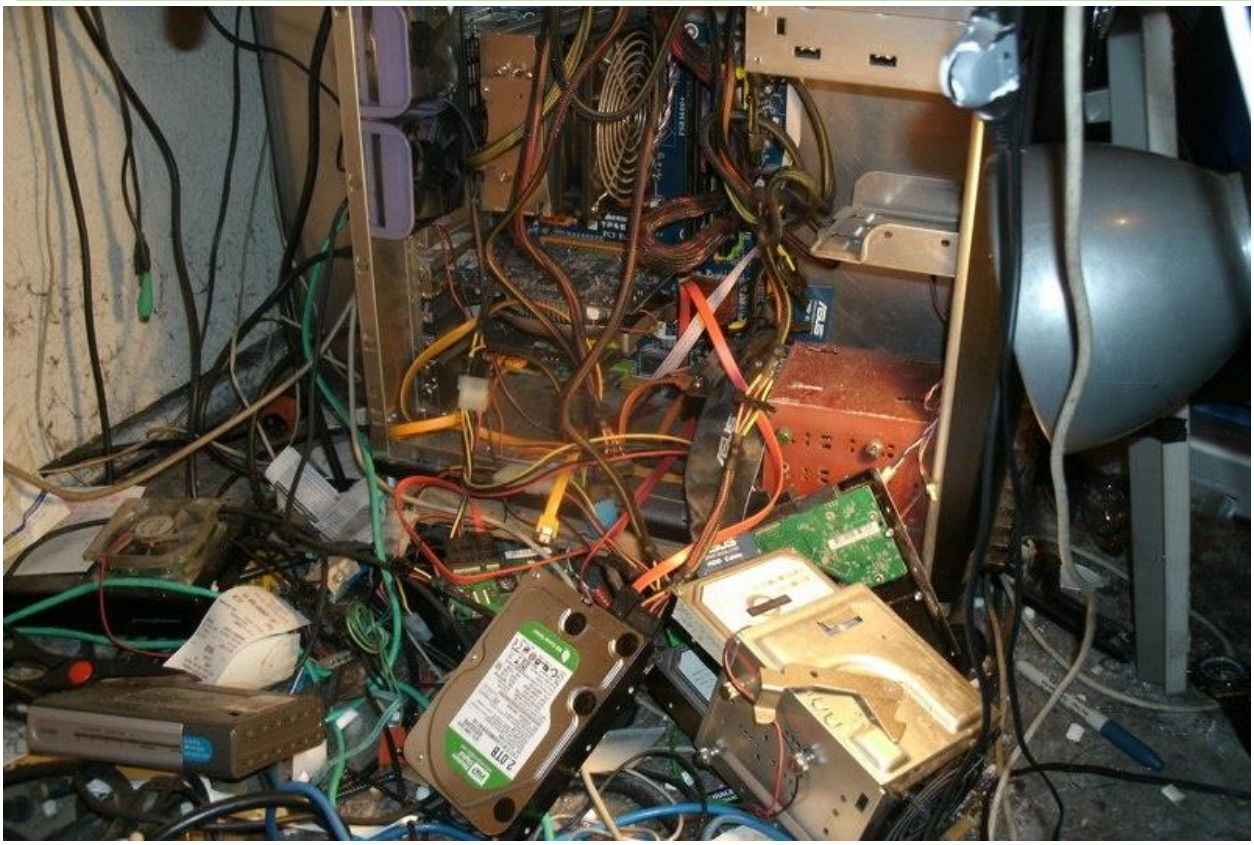
*Problem #1:*

Among the many problems In Fidelity Recordings has, Customer Management is the first on its list. In fidelity Recordings has a handful of artists coming and going. Even though the company isn't global, the studio receives a generous inflow of customers that continues to grow. Every month scheduling is packed. Many of the artists that come in have other looming priorities. With such a busy clientele, cancellations are not uncommon causing the scheduling to become a mess. The scheduling is done by phone, which was good for a business 10 years ago, but the digital age is here. Clients book and cancel more often than ever. There is always inconsistency within the bookings. The front office is handled by Steve who is also a producer. With many tasks on his plate, his attention cannot always be at the front office. The business needs a better option/management. Whereas, creation of an invoice repository will allow older data to be easily accessible when necessary. Data storing is a mess and the business recognize the issue. But for them, they lack the technology awareness and implication of data management that information system/information technology major have. Our organization will provide what’s necessary for an increase of steady flow of data in and out. Having the right management (data) the company can easily reschedule, rebook or cancel in a second. Their datastore need major implication and management.

*Their front office*

*<u>Problem #2</u>:*

The payroll/payment processing system is heavily outdated causing the work to become tedious and tiresome for Steve, the head of the department. The company provides hefty discounts to those who are regulars and charges general fees for those who are non-regulars. For this, the data inventory (data store) is unorganized, so an easy to use and quick to access datastore is needed for the company. Their protocol for handling data is unconventional and not the way a company should conduct business.



*Problem #3:*

The company handles many stores of data in five 3 terabyte hard drives, but the company seems to be a disaster in terms of organization. Almost every piece of data that the company produces is stored in this hard drive. If anything happens to a hard drive the company will lose one fifth of their data. Remarkably this has not happened, but the company needs to take the steps to insure that it never happens. Safety of data is key for a business. A failure to any form of storage medium will be disastrous. To make matters even worse, the company is outdated from a technological standpoint.

*Problem #4:*

The company has a hard time selling music that its artist produce. The company is a studio and a small time label. It has a few artists on payroll. So it their job to sell these songs and albums to the general public. Where the issue lies is distribution over the internet. This problems ties to problem number two, but its still its own problem in the regard. The mismanagement and messiness is not helping. The company needs a new way to distribute the data to the public, instead of purchasing the music in their studio and on their website.

*Problem #5:*

The company also lacks brand awareness, in terms that clients are not spreading the word, which I quote from Khaled who has been employed at the studio since its opening. The company needs to find new and creative ways to market their services; ex. business cards in music stores and advertisements around music schools. The company is looking to expand to a second store, but are too afraid because they lack new customers. Most customers are returning ones, it rare for the company to have a new customer. The company is looking to expand its brand name.

# Problem Statement

| **PROJECT:** Data Management | **PROJECT TEAM:** You Smart and Loyal Inc |
|---|---|
| *Project Creation Date*: March 3, 2016 | *Last Update Date:* April 14, 2016 |

| **Brief Statements of Problem, Opportunity, or Directive** | **Urgency** | **Visibility** | **Annual Benefits** | **Priority** | **Proposed Solution** |
|---|---|---|---|---|---|
| 1. Keeping track of data and information process that deal with customers bookings | ASAP | High | Unknown | 1 | Develop a new process: Create forms in visual basic to keep data organized. |
| 2. Organization of payroll and incoming income | ASAP | High | Unknown | 1 | Develop in complex Microsoft excel spreadsheet that describes they money flow, that comes in and out |
| 3) Understanding of the new invoice | 2 weeks | Low | $ 4,000 | 1 | Teach one employee how to use the full new designing |

| | | | | | |
|---|---|---|---|---|---|
| implementation | | | | | implementation, so employee can teach others. |
| 4) Spread Brand awareness | 4 Months | Median | $500 | 4 | Set up the company social media, this includes, Facebook, Instagram, Soundcloud, and Pinterest |
| 5) Keep data in an full equiped hard drive | 1 Month | High | $2,000 | 2 | Purchase an reliable and out performing external hard drive to keep data in storage, which also provides cloud storage in case of a fault over |

# Problems, Opportunities, Objective, and Constraint Matrix

| **Project: getting shit done** | **Project team:** S&L company |
|---|---|
| **Date created:** March 24, 2016 | **Data last updated:** 4/12/ 2016 |

| CAUSE AND EFFECT ANALYSIS | SYSTEM IMPROVEMENT OBJECTIVES |
|---|---|

| Problem or Opportunity | Cause and Effects | System Objective | System Constraint |
|---|---|---|---|
| 1. A matter of disorganization of customer data within the company | A delay in service time that can lead to a loss and gain of customers | Mr Trovar can and will creates a new system (invoices) in the amount of time we are with the company. | Requires computer knowledge and data management skills<br><br>A computer with enough processing power to handle the hard workload. |
| 2. An mismanagement in payroll invoices that are all over the places. | A delay in payment with their customers and employees. | Miss. Sin who has a background in accounting will create spreadsheets/system | Requires knowledge of money management |

| | | | |
|---|---|---|---|
| | An mismanagement of funds | invoices for the accouter. | and an deep understanding of Microsoft Excel |
| 3. An disorganization and mismanagement in media data | A delay in service time that the studio can send out data to its receivers. | Mr. Aguirre with his expertise of hardware will hand pick that will store all information that the companies has. | Mr. Aguirre suggests Cloud Storage and new storage need to be implicated in a new system |
| 4. A lack of sells and processing data (music) to outside sources. | A lack of profit and data overflow due to the delay. | We as an group will set datastores (social media) to pour the data to all the customers in a timely order. | An understanding of social media and setting accounts to distribute data amongst others. |
| 5. Lack of client incorporation of data flow | Unhappy and unsatisfied clients | Mr Sen in his outside sources will contract programmer, system administrators and database administrators. | With all the help that sen has found, we will create an GUI interface to had all the data flow, seamless and coherent. |

# Project Scope

Our company as a whole will implicate new innovative functions in the business process. During our time with company, our project plans will mainly focus on updating (data and storage) and invoice processing systems. This company is in drastic need of deploying a new system, because the old system is not getting it done. The poor management and disorganization of data leaves the data with less integrity. A structured data modelling system will be the first step to this business's recovery and help keep production high and costs low.

The scope and our mission regarding this project, is to give infidelity records the tools and the necessary needs for the company to settle their situation. Their company is functional but they are a ticking time bomb in the making. It is our commitment to infidelity records to help them, keeping in mind the budget that they wish to spend, to provide a clear cut system. After the smart and loyal company is finished with Infidelity Records, they will be able to:

1. Manage data in a consistent structure that helps distribution time, therefore increasing productivity.
2. An invoice processing system that will allow users to input data and data to output. This will help scheduling.
3. Spread brand awareness throughout Los Angeles count.
4. Keep track of data and information process that deal with customers.
5. Ability to organize payroll and incoming revenue that the company handles.
6. Keep data suited and deployable on a second notice, of course keep the data organization and let readable for future situations
7. Able to deploy data (music) to outside sources and media outlets.

# System Objective

To resolve the business problems, our company's plan is to implement a computerized invoice processing system that will allow for an easier and more effective way to organize and create data invoices and help manage user data. The new system will allow the company to focus on other task on hand and helping Steve, who is an employee, to focus on what he want to do, which is to produce. The business is small in the regards, so budgeting is not the best, but we believe with the budget the company is likely to afforded the extras. The company is ready to reach the next era in the data age. Our company believe that the company should implicate an user gui interface on the company's website that allow the client to schedule, reschedule, and cancel. This will prove time saving and will allow for more productive working. We as a group will perform a candidate solution for every point through an coherent feasibility analysis. Every solution proposition will be assessed on a technical, operational, economic. All aspect of the factors on hand, will determine the most appropriate solution for the company.

# Pieces

| Non-Function Requirement Types | Explanation |
|---|---|
| **Performance** | The proposed system should be able to process jobs as quickly as they arrive. The business provides as many as two separate jobs per day at its peak, meaning that the proposed system will be able to process this. The computers at Infidelity Recordings should have adequate memory and speed to process all requests and demands of the information systems implemented. |
| **Information** | All information that the business receives should be stored electronically. The inputs should include information about the customer, location the service is rendered, employee at job site, supplier of cleaning products, pricing/rate of service. The output includes a comprehensive invoice that will include customer information, services completed, service date, supplies used to render service, and pricing information. |
| **Economy** | The system will significantly reduce the costs associated with time sensitive invoice processing, supply delivery/management, and payroll processing. |
| **Control** | Security measures are imperative for business integrity and protections of all entities involved. Therefore, to access sensitive information on all implemented software, users must provide a valid username and password. Data will be backed up on a cheap cloud service provider in case of theft, failure, or physical damage. |
| **Service** | The primary user(s) of the system will be the owner and employees that may need to input and receive data electronically. A specialized trainer and training plan will be given to those users. Periodic updates will align the business's goals with updating technology. The system designers have provided quality assurance that will provide quick, efficient, and reliable results. |

# PROPOSITION

With our knowledge and expertise in information technology and information systems we will inform and assist In Fidelity Records with three candidate solutions that have been proposed. Our proposal is the right way to go and will solve the problem faced in the company with our solutions that we came up with. The solutions that we came up as a group and taking in the consideration of In Fidelity Records we will help the studio establish an efficient invoice management system, so the company can carry on with business, without giving an worry. With good management, comes an good business. The company is already successful, but they can still expand their horizons. Our group (company) the smart and loyal inc, we will further the process management in an coherent and self-reliant, in terms of data. Mr Aguirre, Mr Tovar, Mr Sin all specialized in a field that will be the company's future success. Alought it might take some time for the result to concerned with the price point, the money spent is well justified. Mr Tovar is the owner of S&L and has full administrative right, to design the new system. The proposition will allow him to enter information and create records accordingly. These records will be created on a main workstation located in his office that he owns. Employees will also have access to the system, but i'll have a lesser role (non-administrative rights). Thier right will be specified in the sudo files, were limitations will be specified in a fancy matter. The supplies that we choosed hand pick will be translated so they will now and continue to update data managements and record management. Our three proposed solution will provide and deliver efficient, reliability and ease of use for all.

# JUSTIFICATION

Our plan will deliver an new and brightening that will prove to be efficient  that allows infidelity recording.  With the new implementation of this serves, employees of this company will be able to perform their jobs mere efficiently because of the more reliably and stream less availability of supplies and intercommunication within this company. They system will help make the business more organized than before and also provide a more security surrounding. Having multiple databases to manage information, Mr. Tovar will be able turn all his focus and efforts on gaining new business. The time required to process and create an invoice will be greatly reduced. This will allow for a stronger focus on customer service as well employee relations.

With the new implementation of this service, employees of In fidelity Recordings will be able to perform their jobs more efficiently due to the higher availability of supplies and communications. With everything getting computerized rather than keep them in books, information will be readily available. More information will become available due to computer statistical gain with the new system. The ability to access data at any time, will greatly benefit In Fidelity Recordings. Customer satisfaction will also see an increases due to the necessary supplies that will be available with the new system. Therefore, increasing the company reviews, which leads to new customers. Nothing will never be late due to our system automation by scheduling tasks on hand, months and weeks ahead.

# Process

## Modeling

# *Process Modeling (Current)*

## Current System - System Outline

**System:** Client Scheduling/Invoice Processing @ In Fidelity Recording Studio

**Entities:** Client, Recording Team, Employees

**Dataflows:**

| Input | Output |
|---|---|
| -Client Request | -Appointment Date |
| -Deposit | -Invoice |
| -Available Dates | -Payslips |

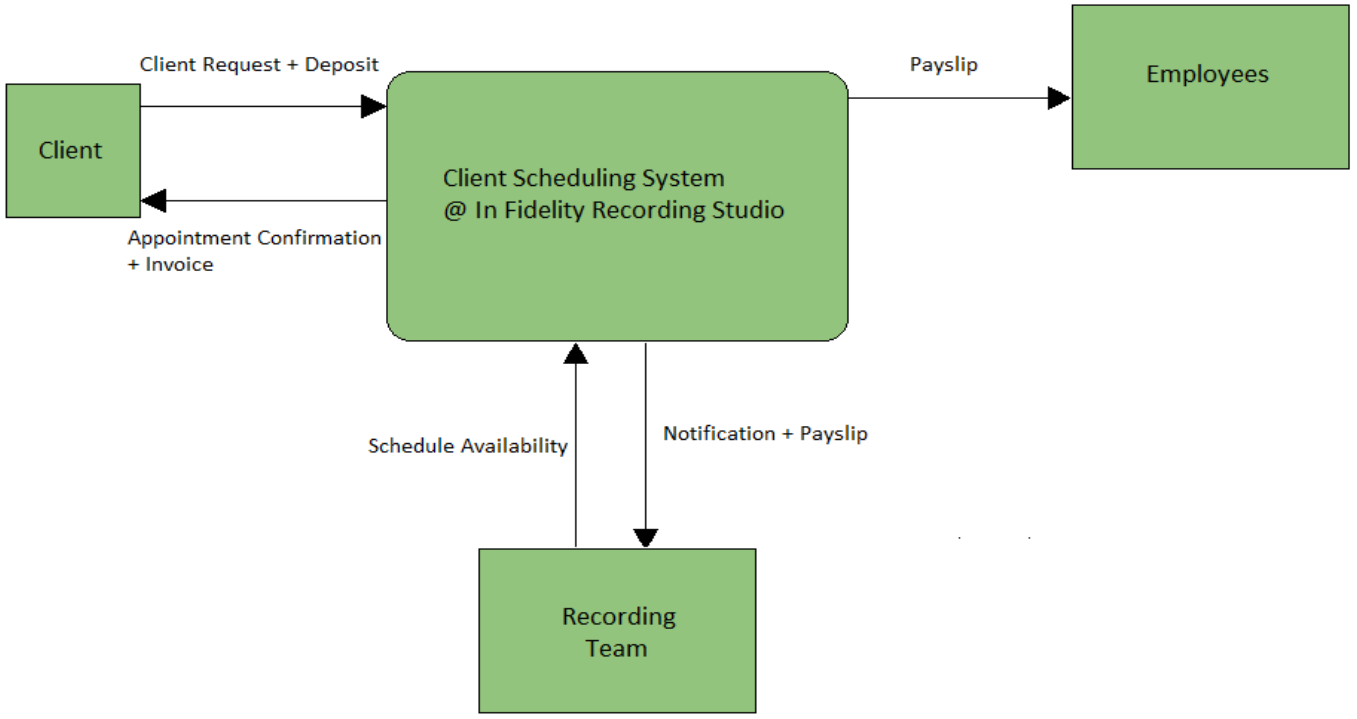
**Tasks/Processes:**

| | |
|---|---|
| 1.0 Assess Services | 1.1 Prepare Client Request |
| | 1.2 Cancel Client Appointment |
| | 1.3 Verify Client Request Date |
| | 1.4 Provide Available Scheduling Date |
| | 1.5 Schedule Client Appointment |
| 2.0 Process Deposit | 2.1 Determine Pay Amount |
| | 2.2 Verify Deposit |
| | 2.3 Confirm Transaction |
| 3.0 Process Invoice | 3.1 Create Invoice |
| | 3.2 File Invoice |
| | 3.3 Create Invoice Copy |
| 4.0 Process Payroll | 4.1 Read Employee Records |
| | 4.2 Compute Salary |
| | 4.3 Print Payslips |
| | 4.4 Update Employee Records |

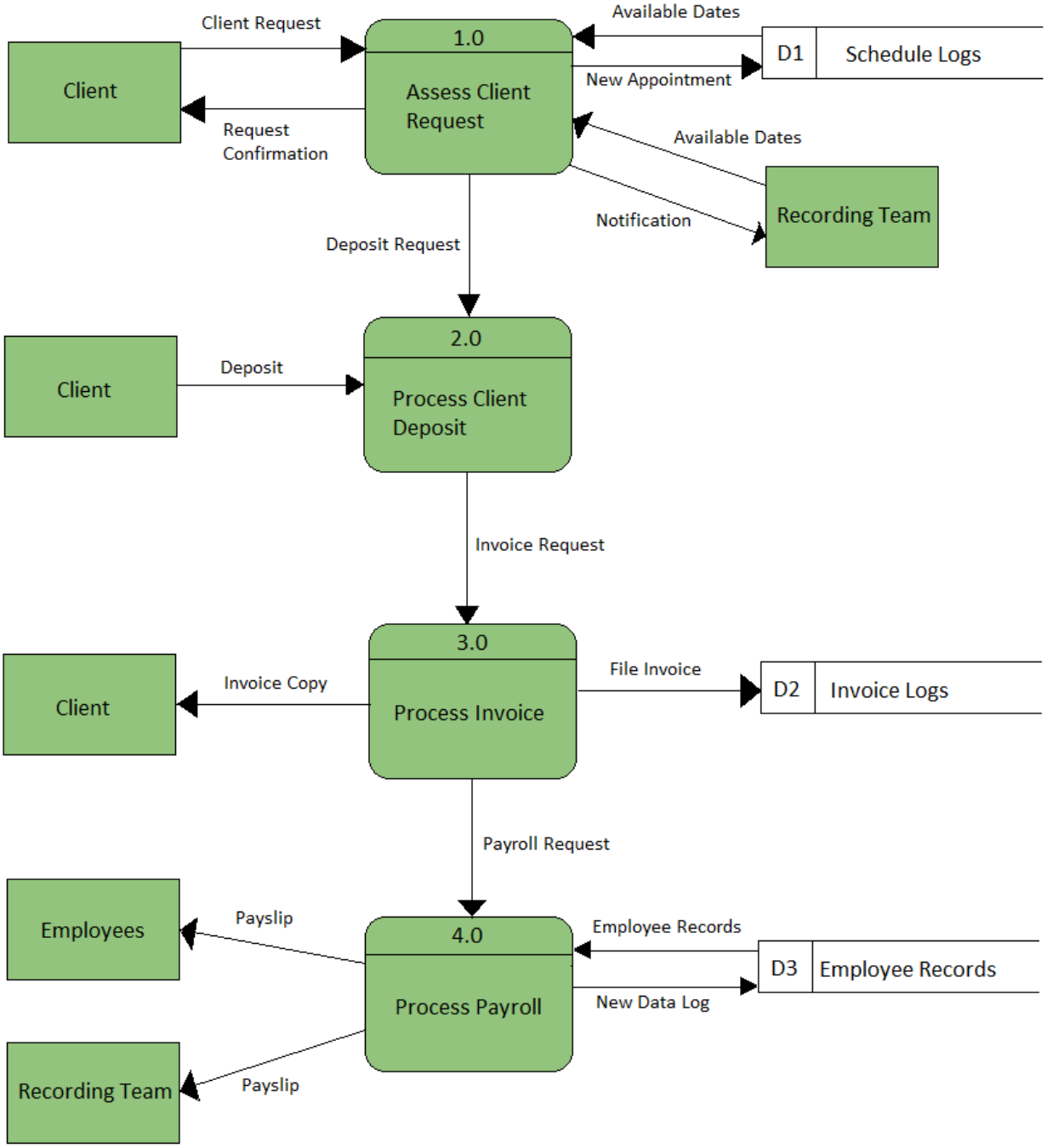
**Datastores:**
-Schedule Logs
-Invoice Logs
-Employee Records

*Going to continue refining the DFDs to make them better.

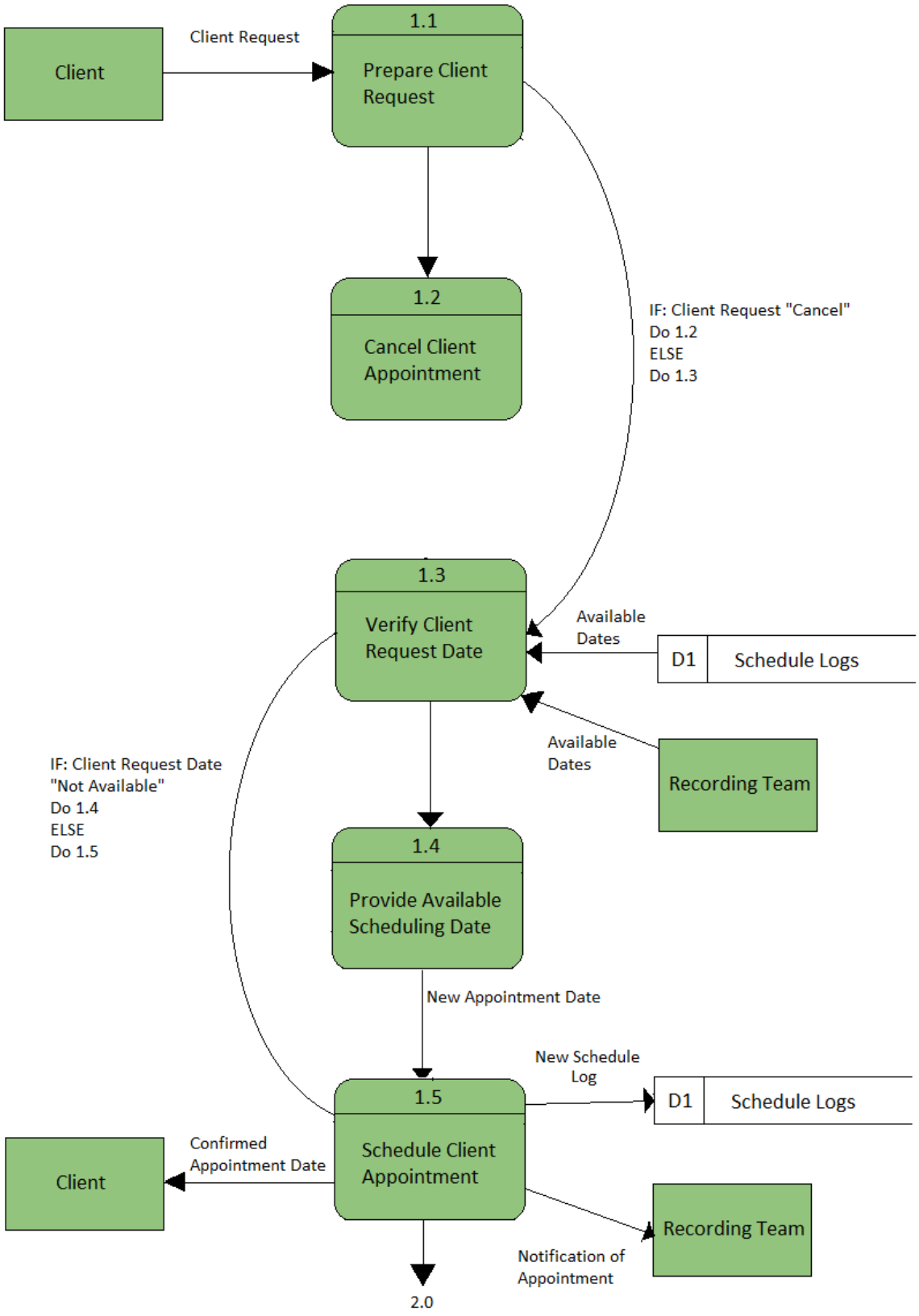
Context Diagram for Client Scheduling @ In Fidelity Recording Studio


Client Request + Deposit
Client
Appointment Confirmation
+ Invoice
Client Scheduling System
@ In Fidelity Recording Studio
Payslip
Employees
Schedule Availability
Notification + Payslip
Recording
Team

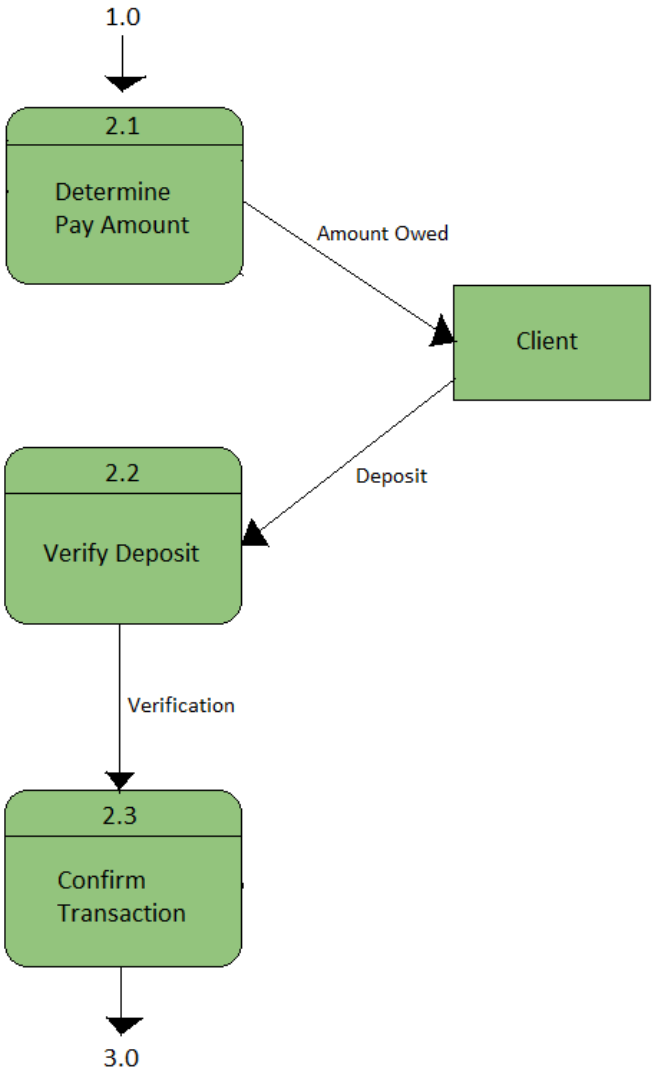
Level 0 DFD for Client Scheduling/Invoice Processing @ In Fidelity Recording Studio



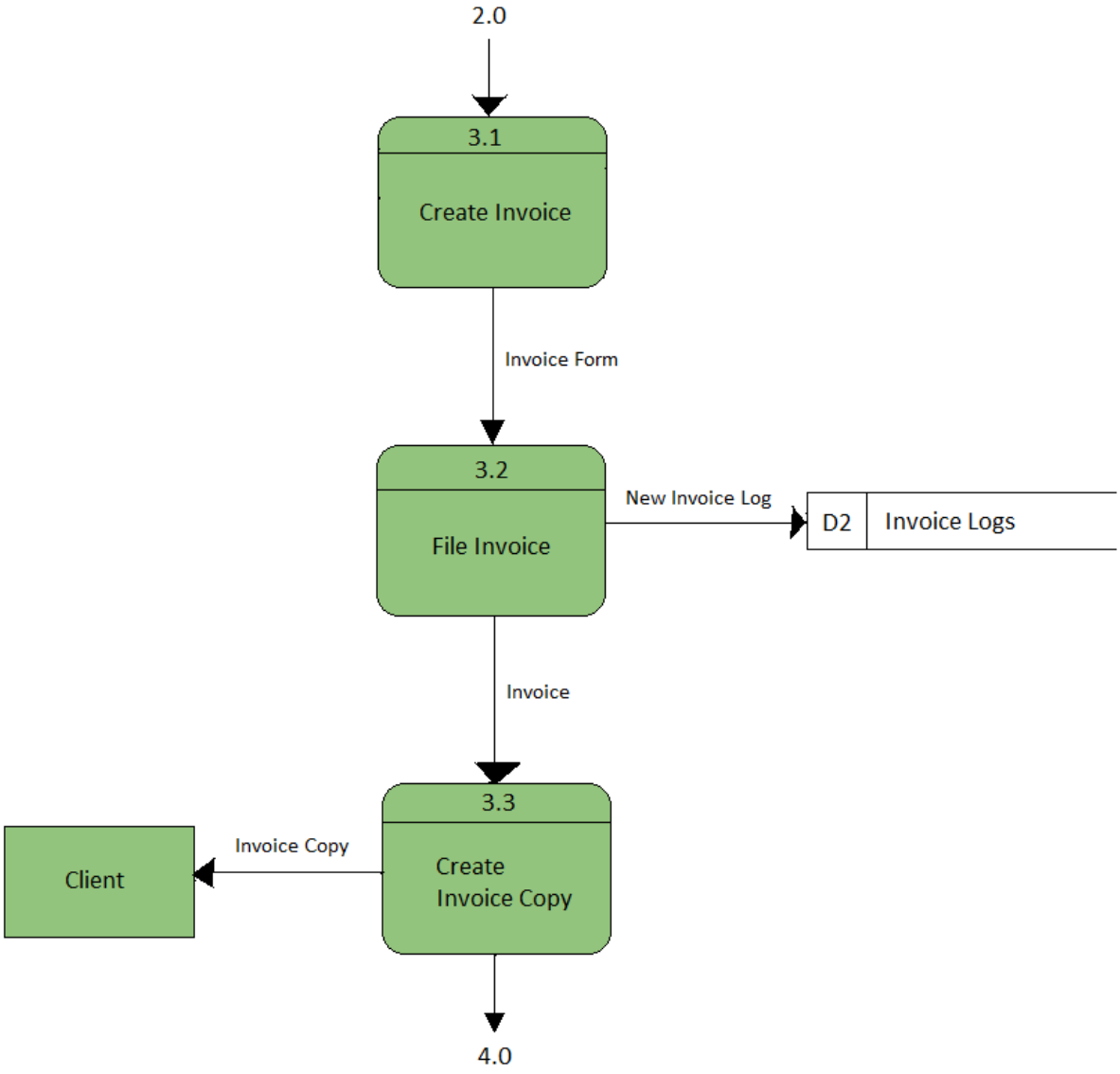
Level 1 DFD for "1.0 Assess Client Request" for Client Scheduling/Invoice Processing @ In Fidelity Recording Studio



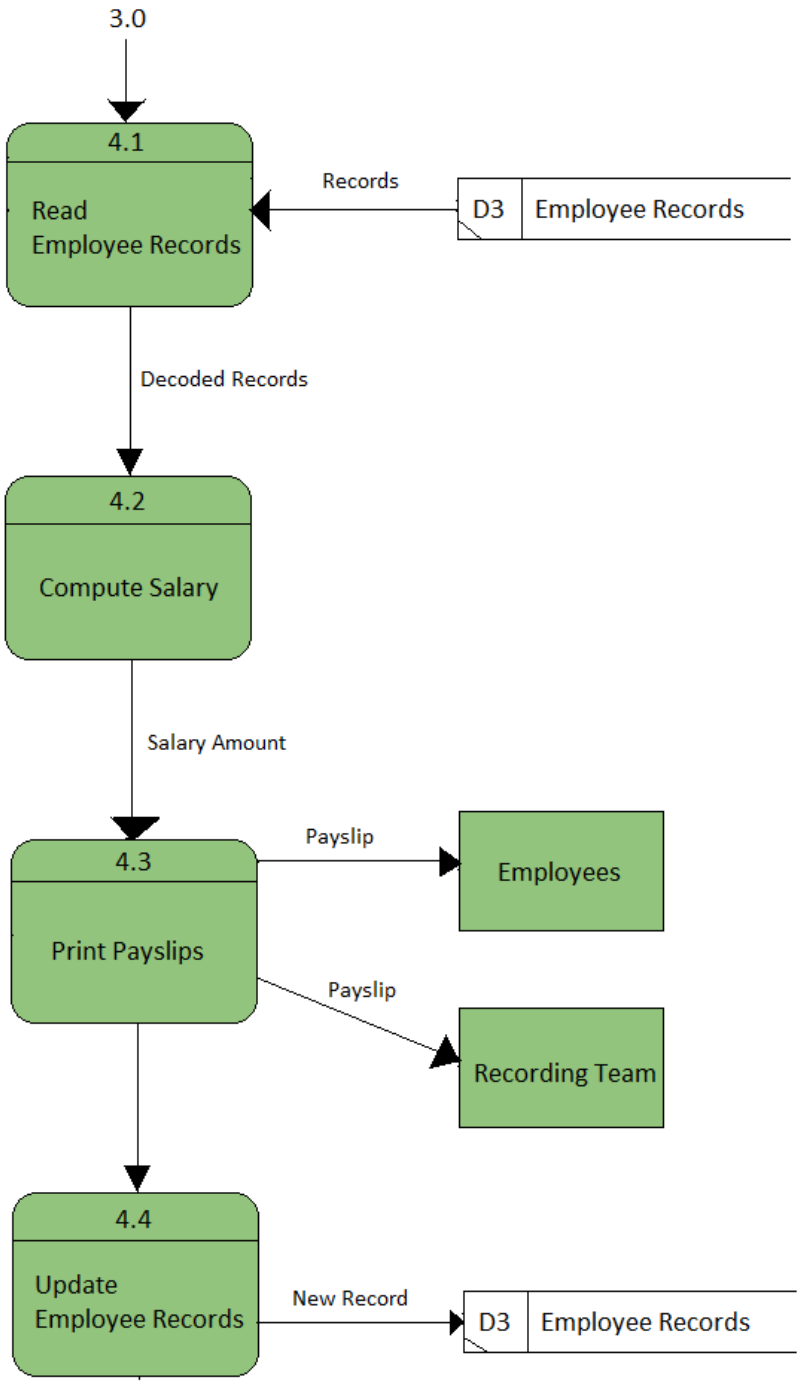
Level 1 DFD for "2.0 Process Deposit" for Client Scheduling/Invoice Processing @ In Fidelity Recording Studio



Level 1 DFD for "3.0 Process Invoice" for Client Scheduling/Invoice Processing @ In Fidelity Recording Studio



Level 1 DFD for "4.0 Process Payroll" for Client Scheduling/Invoice Processing @ In Fidelity Recording Studio



# *Process Modeling (Proposed)*

## Proposed System - System Outline

**System:** Client Scheduling @ In Fidelity Recording Studio
**Entities:** Client, Recording Team, Recording Equipment Contractor, Employees, Production Equipment Supplier, Payroll Service

**Dataflows:**

| Input | Output |
|---|---|
| -Client Request | -Appointment Date |
| -Deposit | -Invoice |
| -Available Dates | -Payslips |
| -Client Information | -Prod. Equipment Delivery |
| - Request Verification | -Request Approval |
| -Client Prod. Equipment Request | |

**Tasks/Processes:**

1.0 Assess Services

- 1.1 Log Client Service Request
- 1.2 Update Schedule with New Cancellation
- 1.3 Notify Client of Cancellation Confirmation
- 1.4 Notify Recording Team of Client Request
- 1.5 Verify Recording Team Response
- 1.6 Contact Recording Equipment Contractor
- 1.7 Notify Client of Approval & Available Dates
- 1.8 Update Schedule with New Appointment
- 1.9 Notify Client of Schedule Appointment
- 1.10 Update Request Log

2.0 Process Deposit

- 2.1 Determine Deposit Amount
- 2.2 Deduct Discount from Deposit
- 2.3 Notify Client of Deposit Amount
- 2.4 Verify Payment Method
- 2.5 Verify Deposit
- 2.6 Confirm Transaction
- 2.7 Update Deposit Logs

3.0 Complete Requests

- 3.1 Verify Request Completed
- 3.2 Update Request Logs
- 3.3 Create Request Report

4.0 Manage Production Equipment

- 4.1 Client Notifies Prod. Equipment Request
- 4.2 Create Production Equipment Log
- 4.3 Collect Production Equipment Requests
- 4.4 Request Production Equipment
- 4.5 Update Pending Prod. Equipment Log
- 4.6 Deliver Production Equipment
- 4.7 Create Production Equipment Report

5.0 Process Invoice

- 5.1 Create Invoice
- 5.2 Send Invoice
- 5.3 Verify Invoice
- 5.4 Update Invoice Files

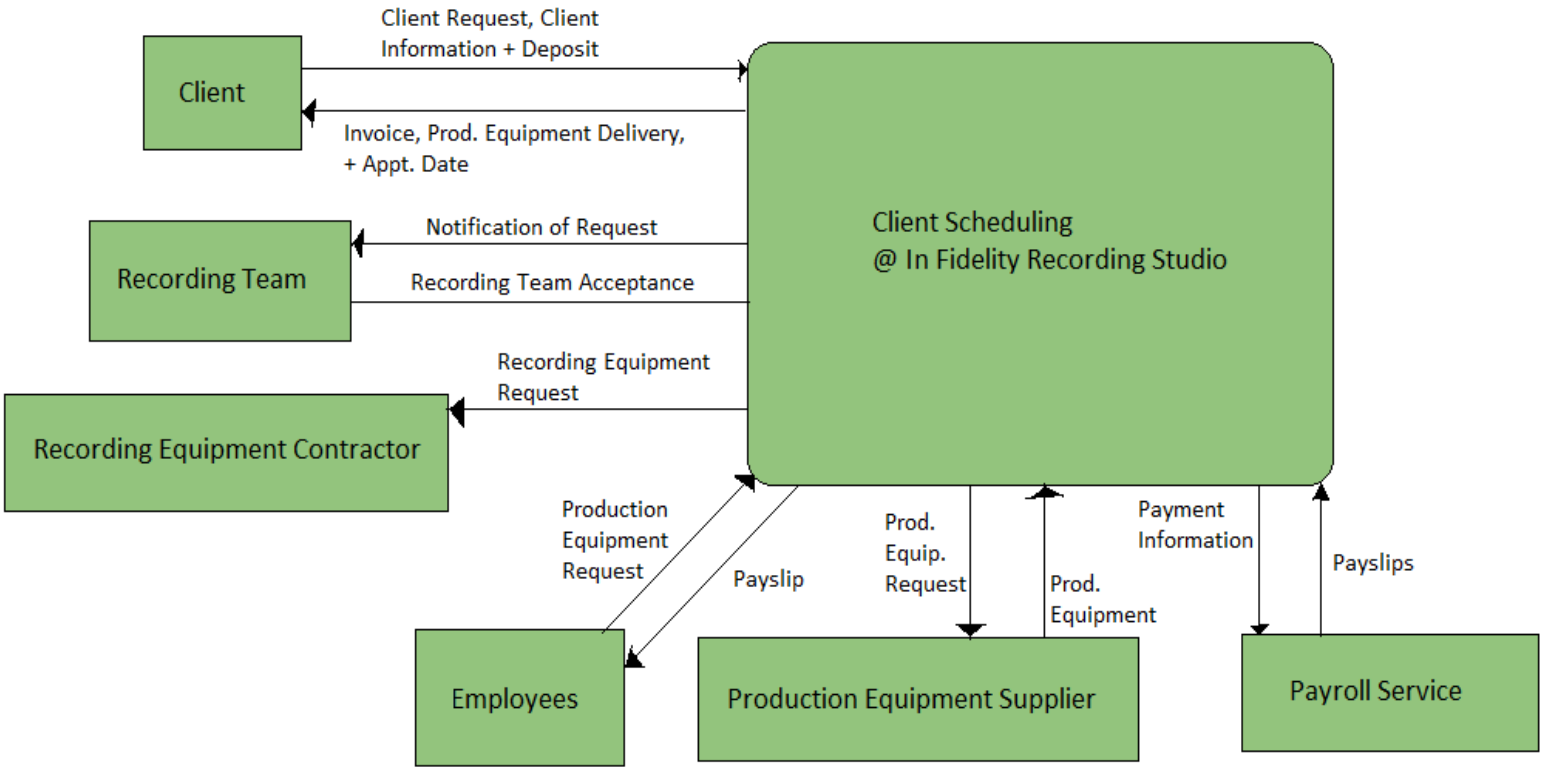
6.0 Process Payment

- 6.1 Verify Invoice
- 6.2 Check Employee Records
- 6.3 Pay Recording Equipment Contractor
- 6.4 Pay Payroll Service
- 6.5 Deliver Payslips
- 6.6 Update Employee Records

**Datastores:**

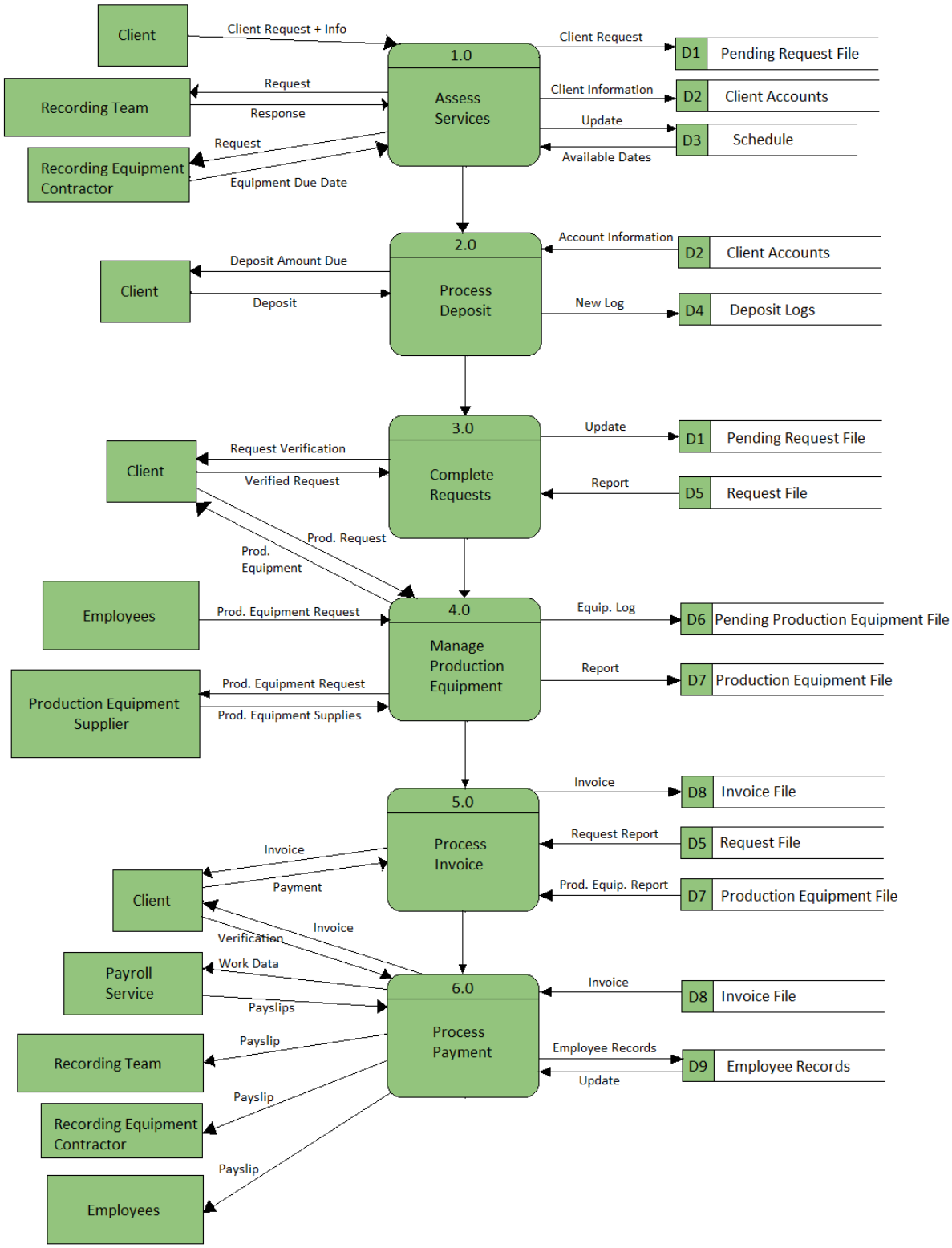
-Pending Request File
-Client Accounts
-Schedule
-Deposit Logs
-Request File
-Pending Production Equipment File
-Production Equipment File
-Invoice File
-Employee Records

Proposed Context Diagram for Client Scheduling @ In Fidelity Recording

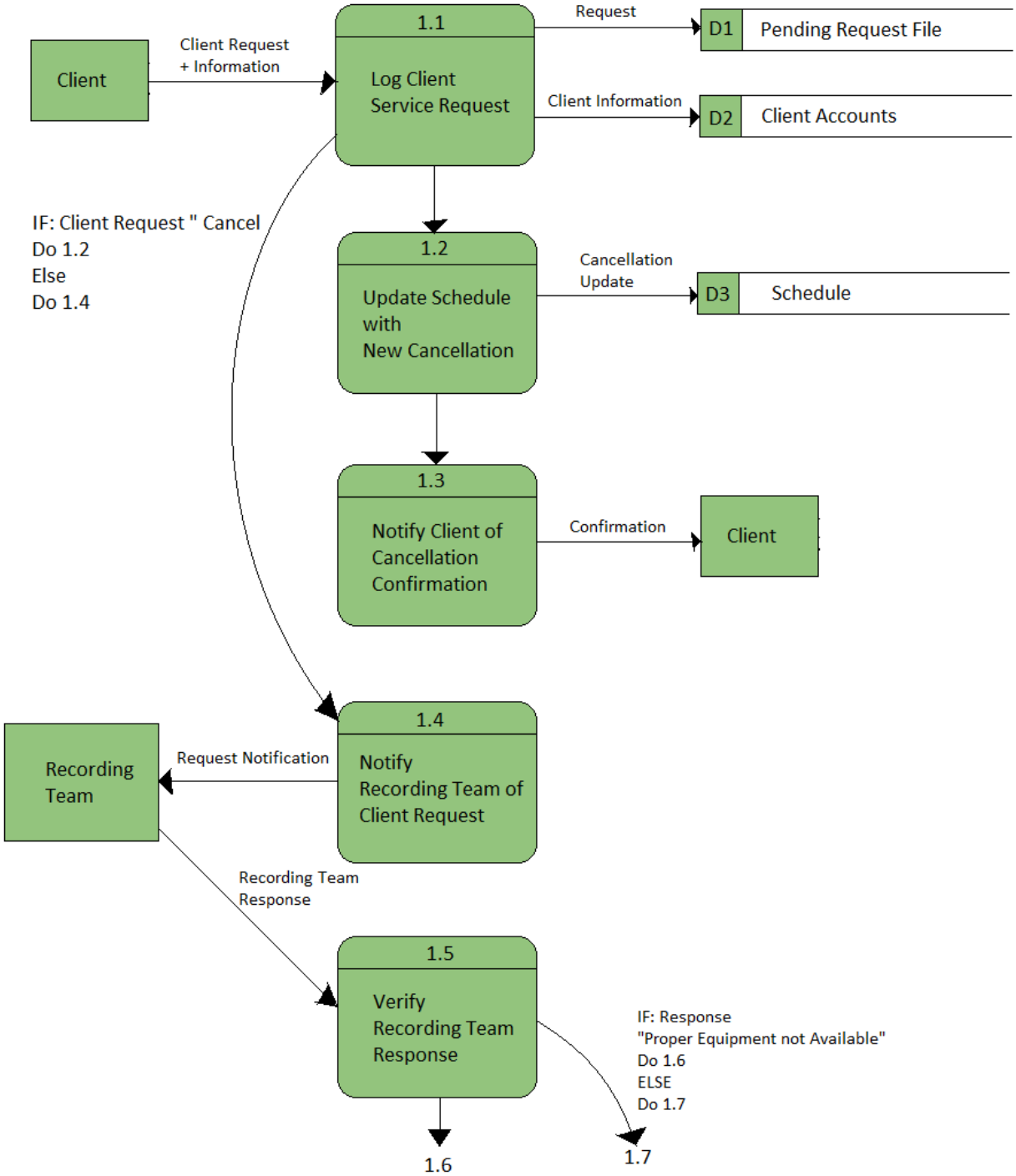


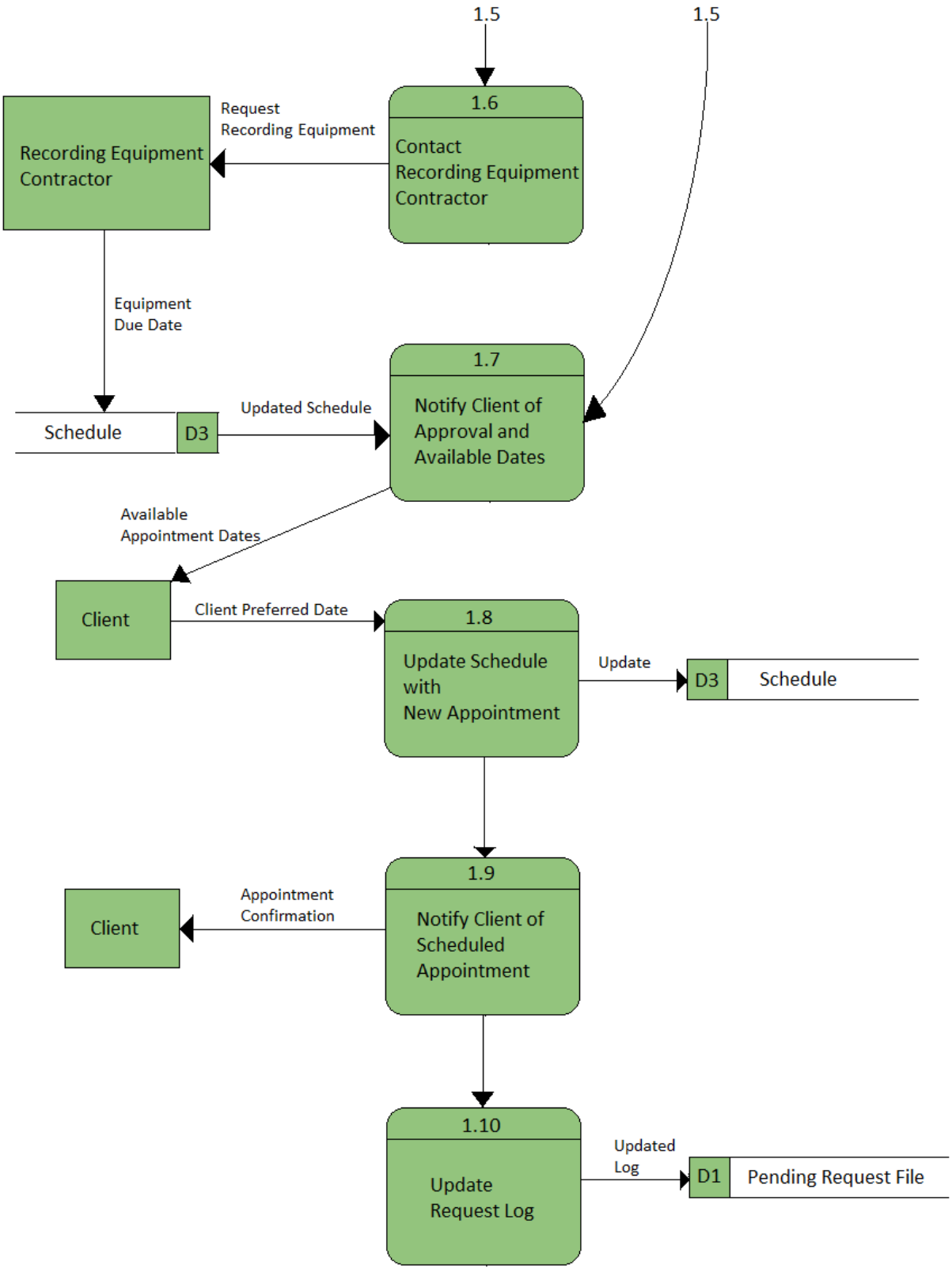

Studio

# Proposed Level 0 DFD for Client Scheduling @ In Fidelity Recording Studio

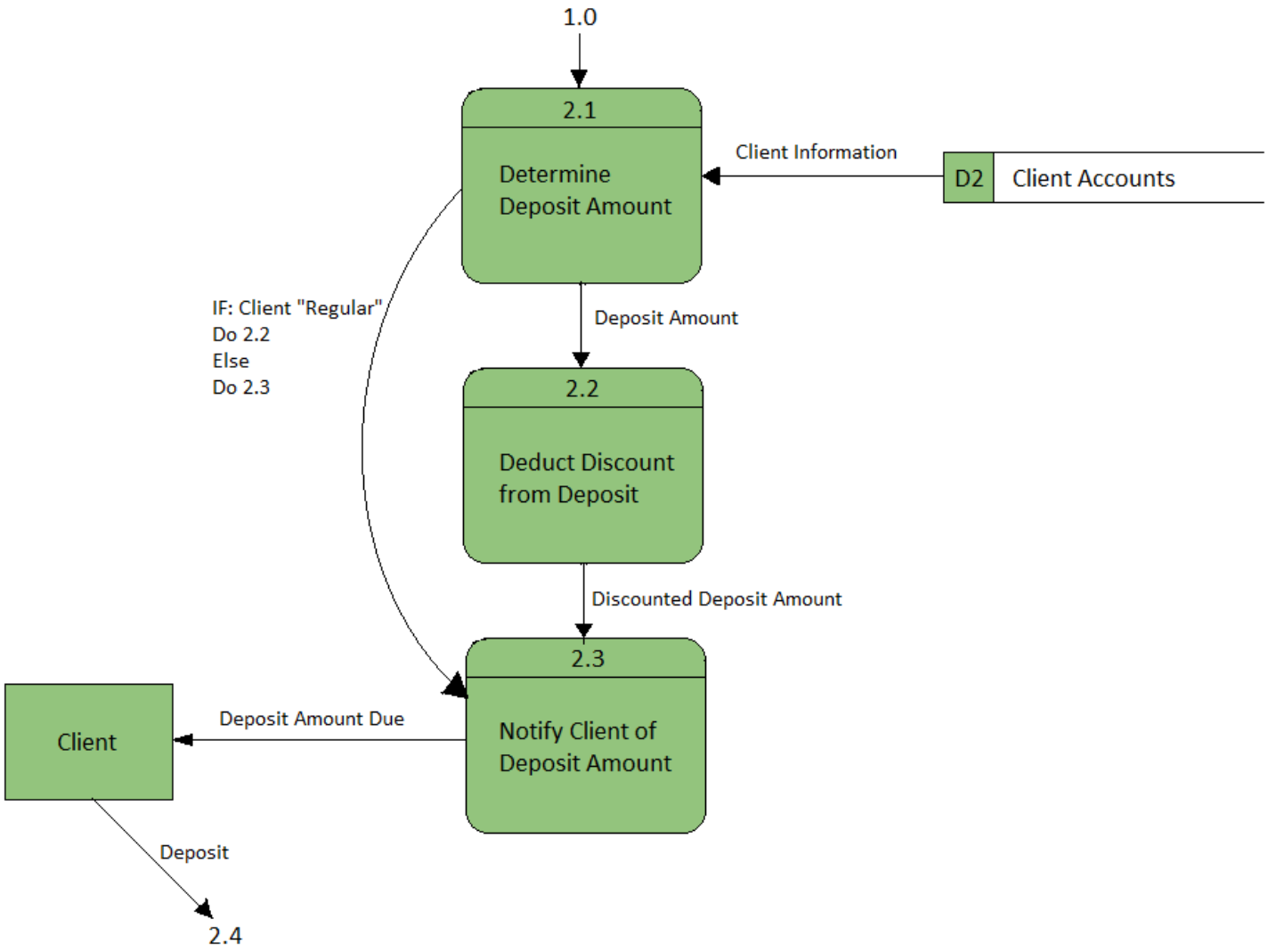


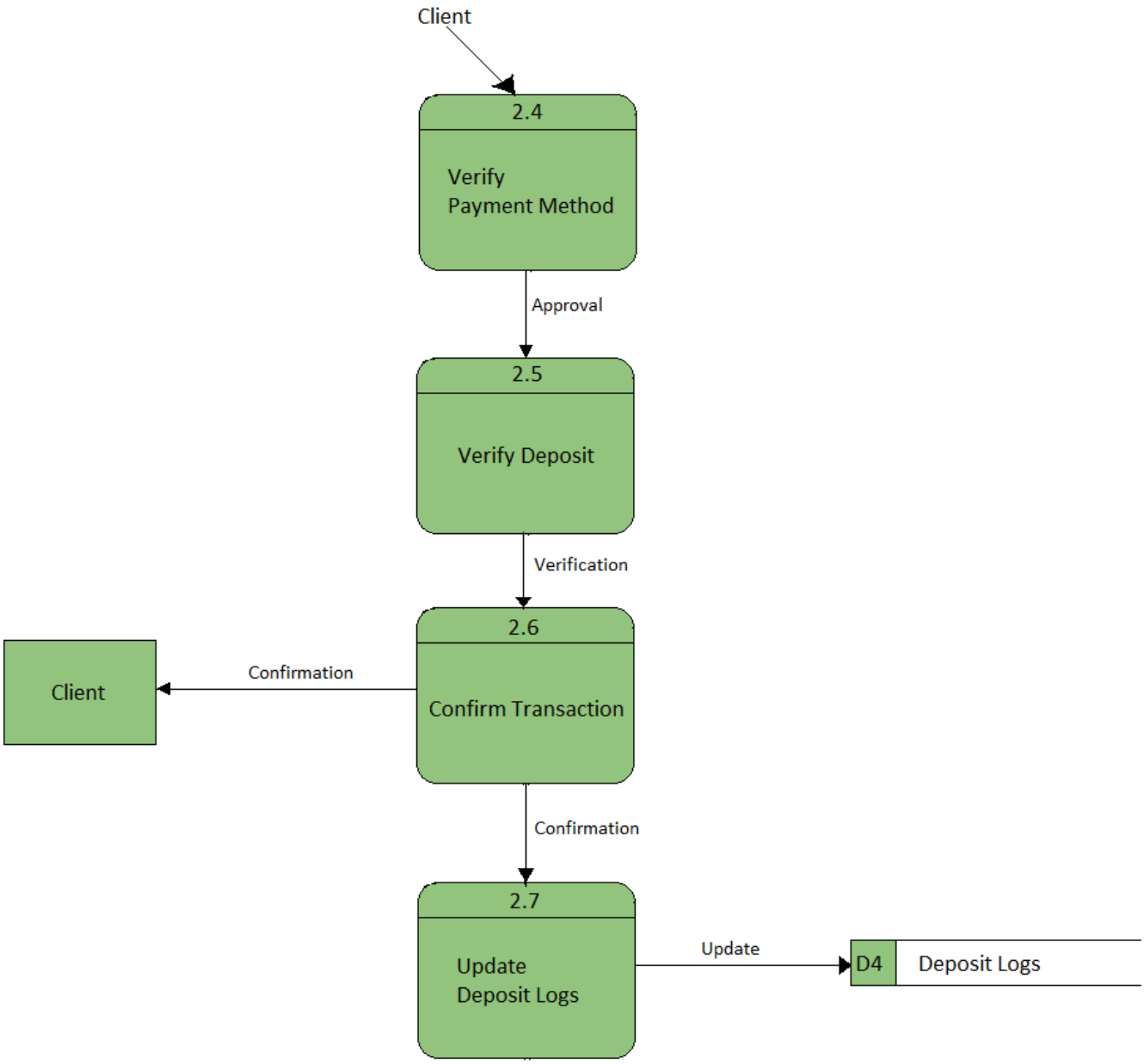
Proposed Level 1 DFD for “1.0 Assess Services” for Client Scheduling @ In Fidelity Recording Studio



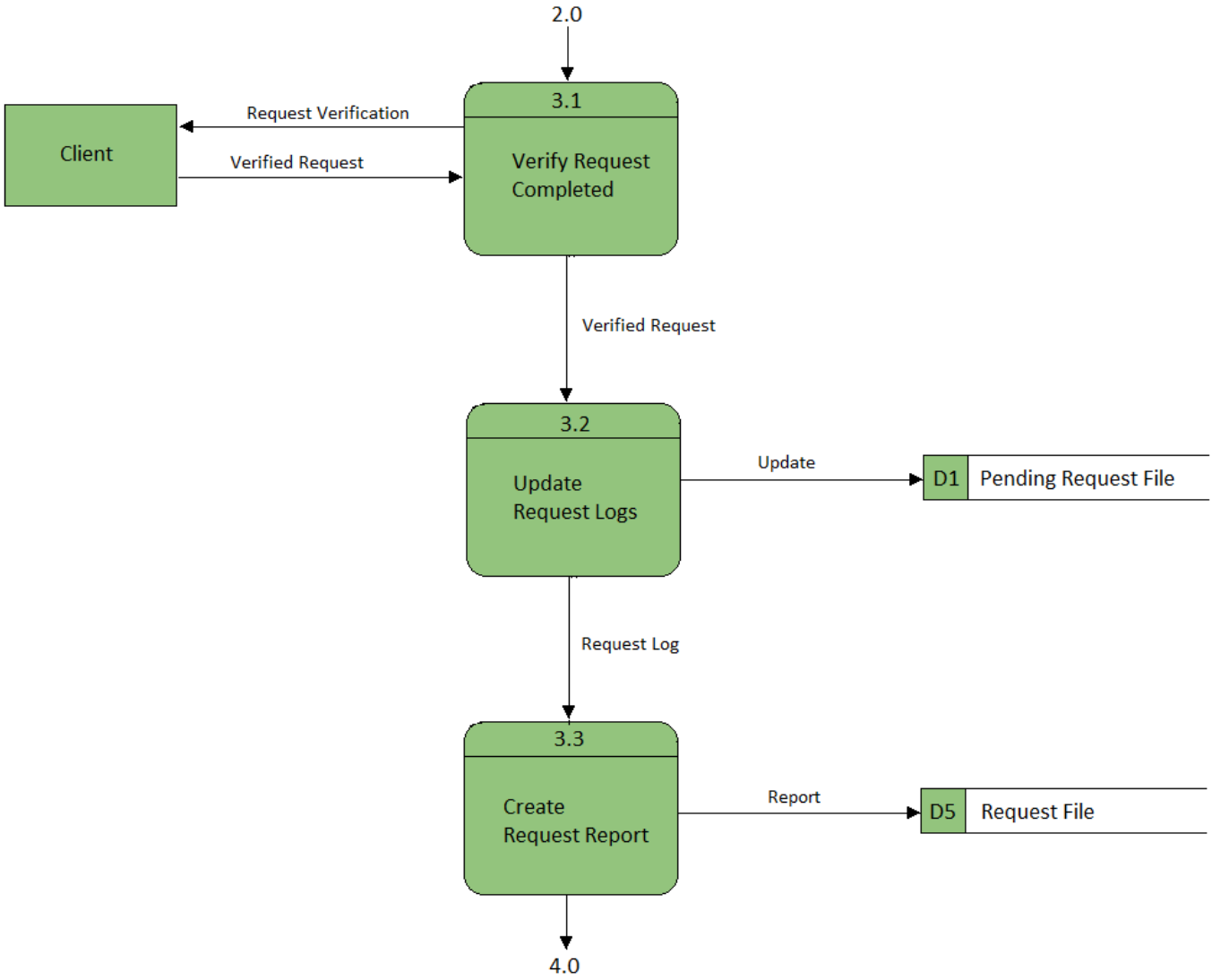

1.5
1.5
1.6
Contact
Recording Equipment
Contractor
Request
Recording Equipment
Recording Equipment
Contractor
Equipment
Due Date
1.7
Notify Client of
Approval and
Available Dates
Updated Schedule
Schedule
D3
Available
Appointment Dates
Client
Client Preferred Date
1.8
Update Schedule
with
New Appointment
Update
D3
Schedule
1.9
Notify Client of
Scheduled
Appointment
Appointment
Confirmation
Client
1.10
Update
Request Log
Updated
Log
D1
Pending Request File

Proposed Level 1 DFD for “2.0 Process Deposit” for Client Scheduling @ In Fidelity Recording Studio

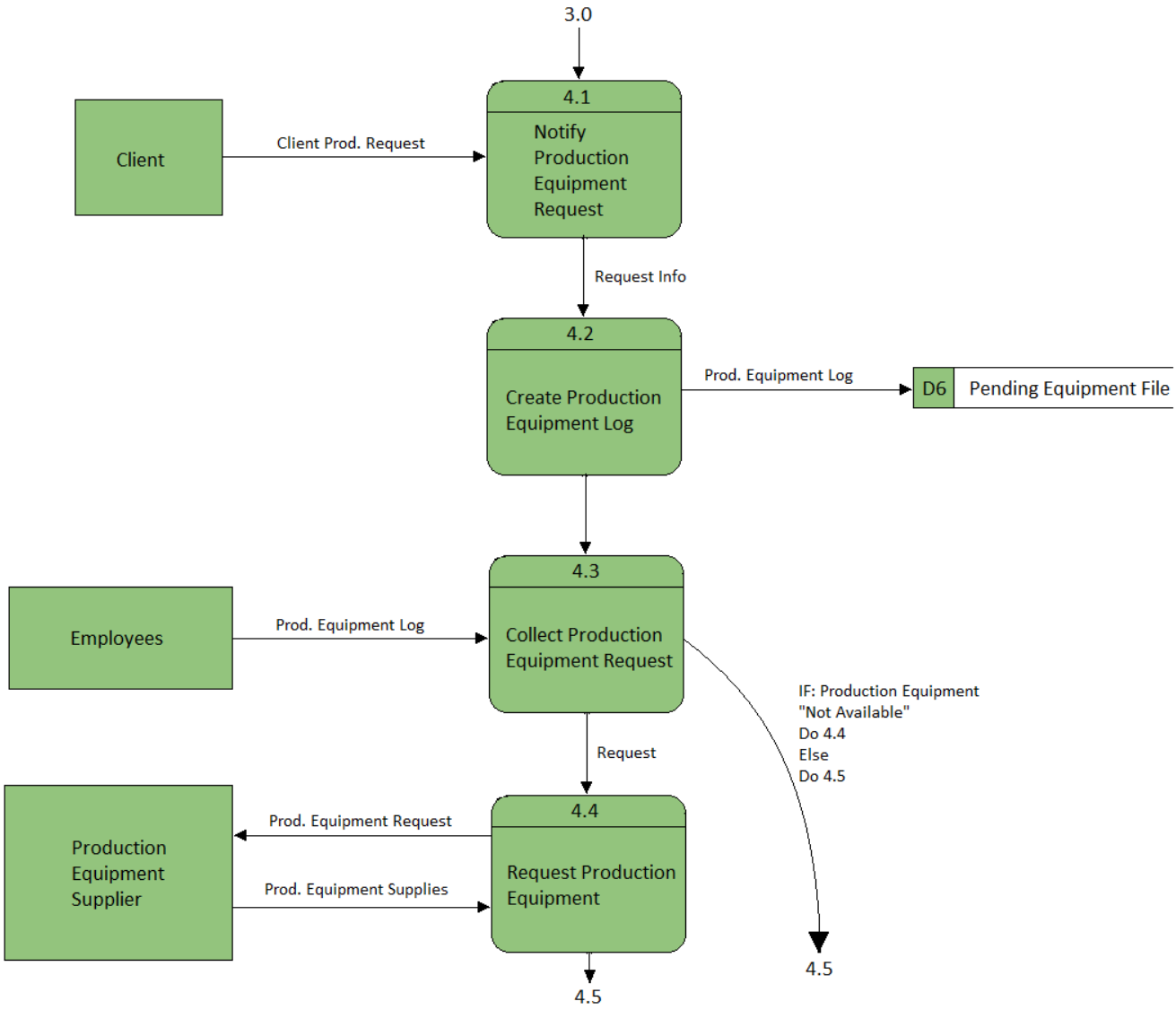


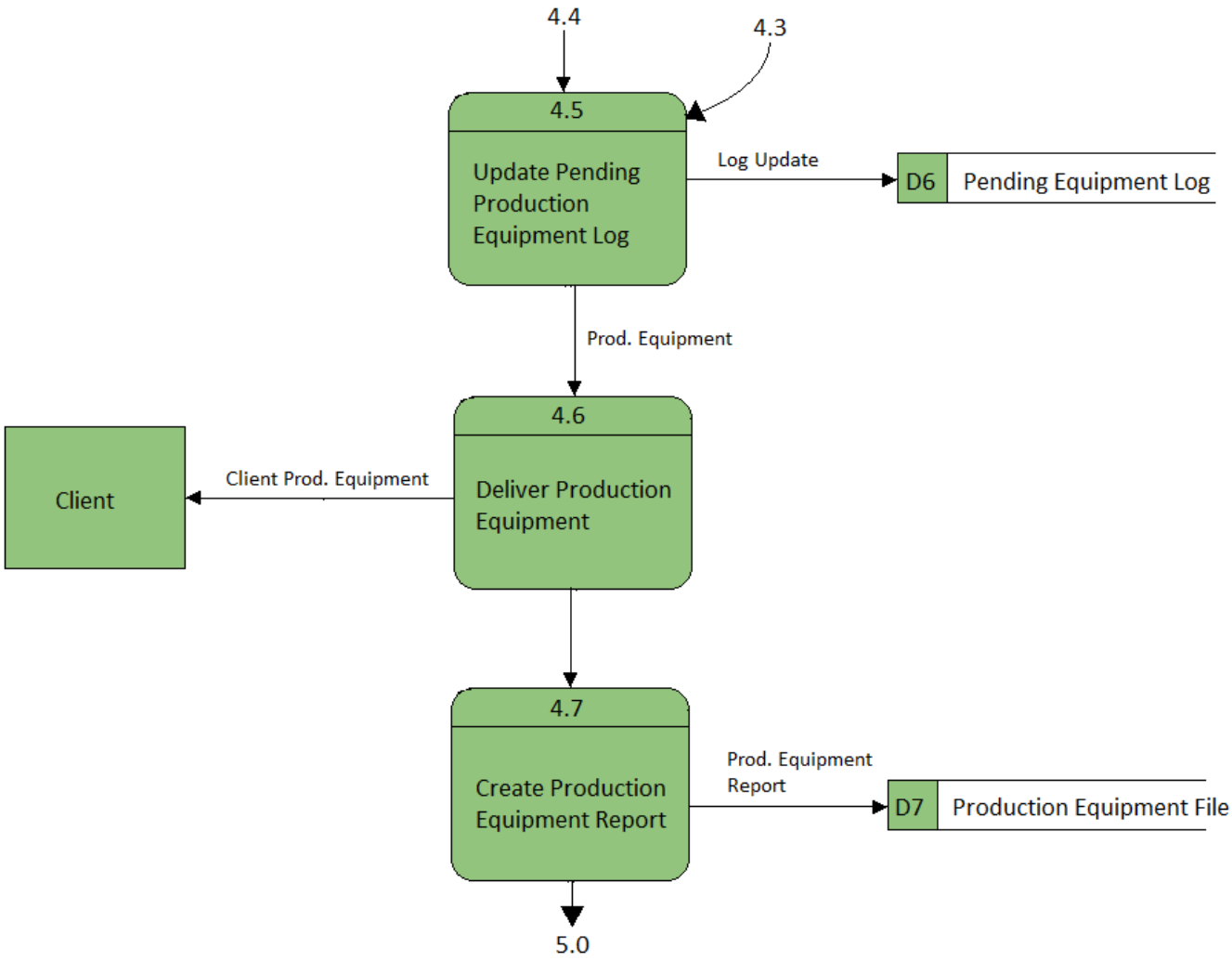

Client
2.4
Verify
Payment Method
Approval
2.5
Verify Deposit
Verification
2.6
Confirm Transaction
Confirmation
Client
Confirmation
2.7
Update
Deposit Logs
Update
D4
Deposit Logs

Proposed Level 1 DFD for “3.0 Complete Requests” for Client Scheduling @ In Fidelity Recording Studio

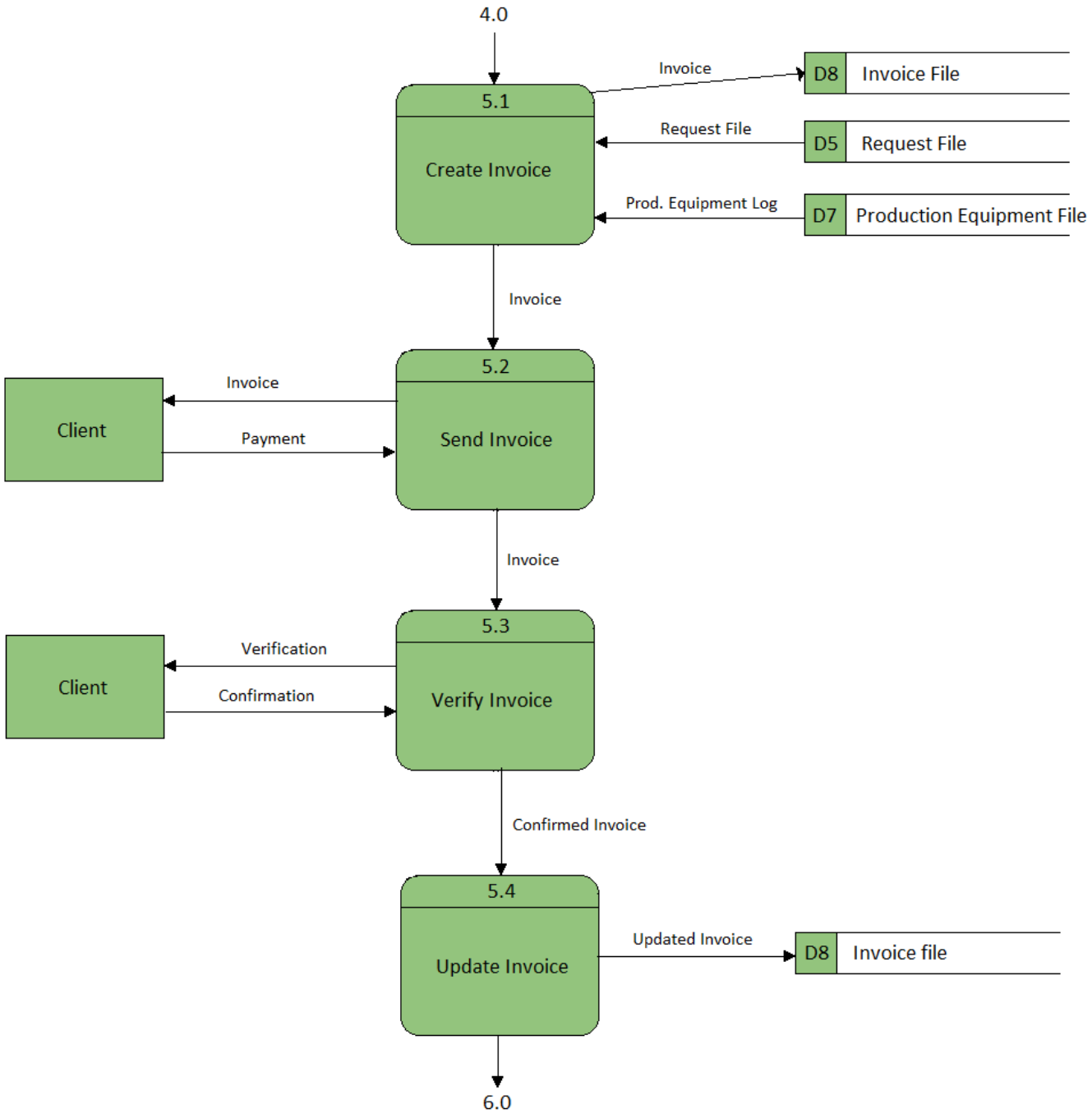


Proposed Level 1 DFD for “4.0 Manage Production Equipment” for Client Scheduling @ In Fidelity Recording Studio

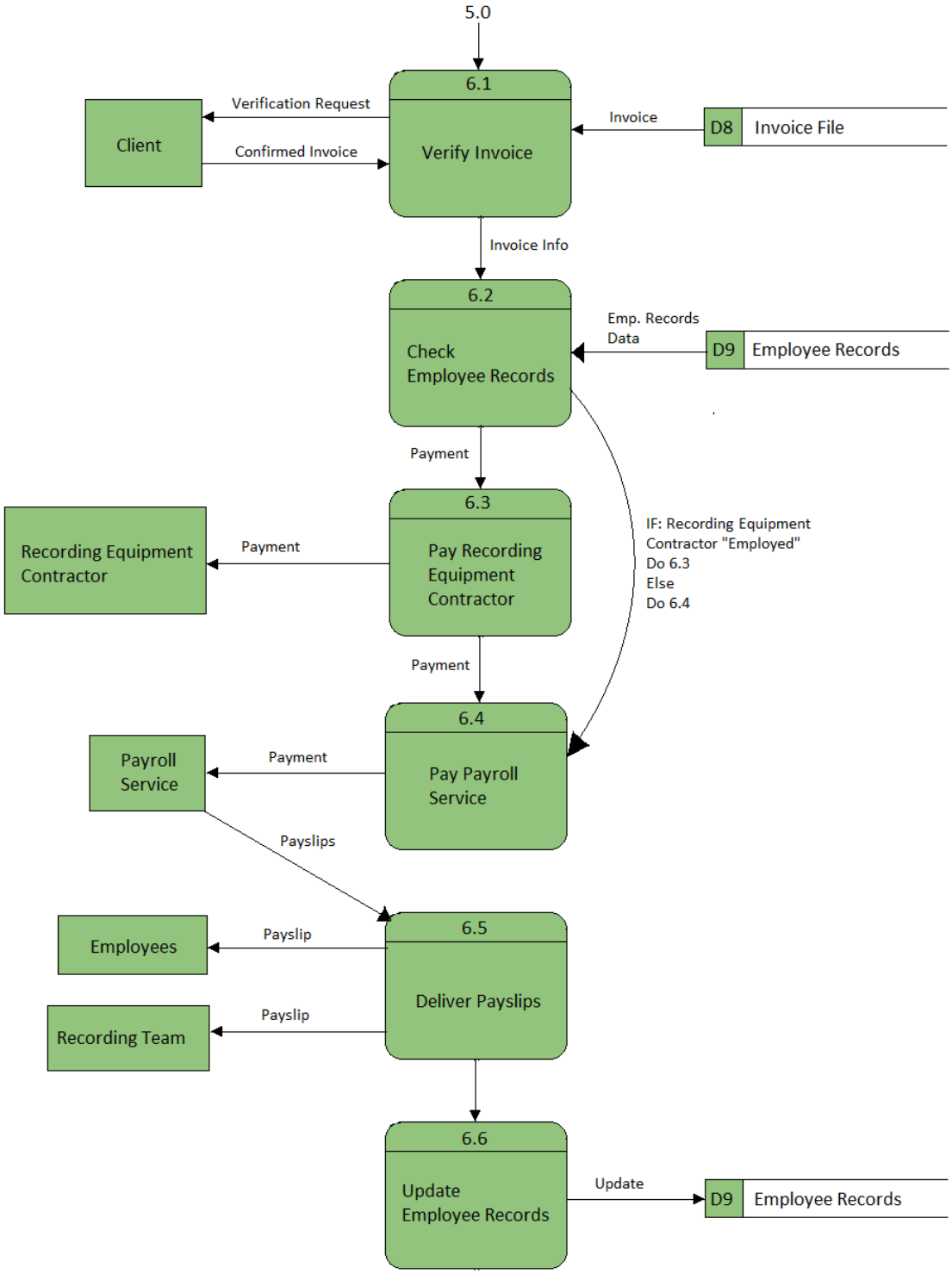



4.4
4.3
4.5
Update Pending Production Equipment Log
Log Update
D6
Pending Equipment Log
Prod. Equipment
4.6
Deliver Production Equipment
Client
Client Prod. Equipment
4.7
Create Production Equipment Report
Prod. Equipment Report
D7
Production Equipment File
5.0

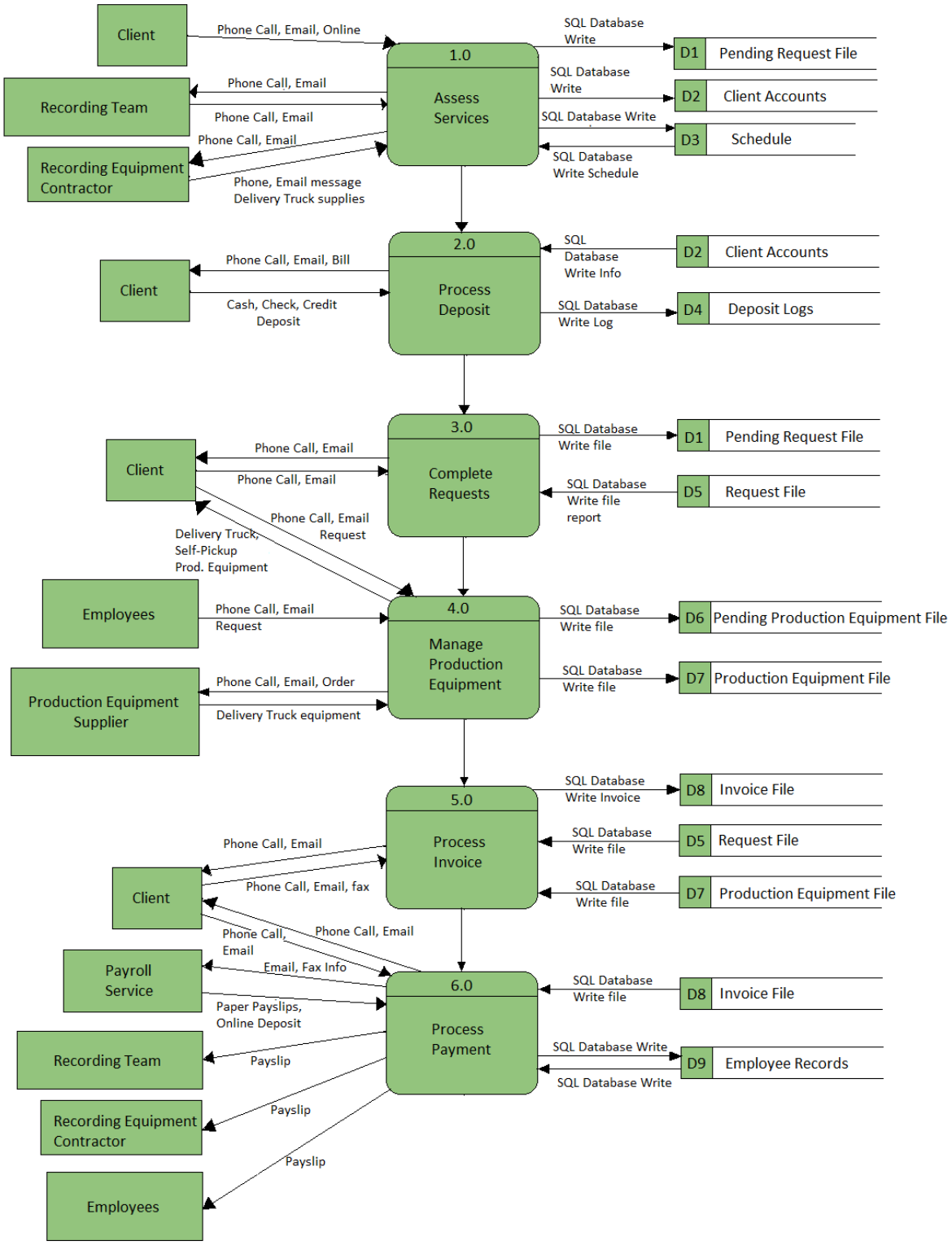
Proposed Level 1 DFD “5.0 Process Invoice” for Client Scheduling @ In Fidelity Recording Studio



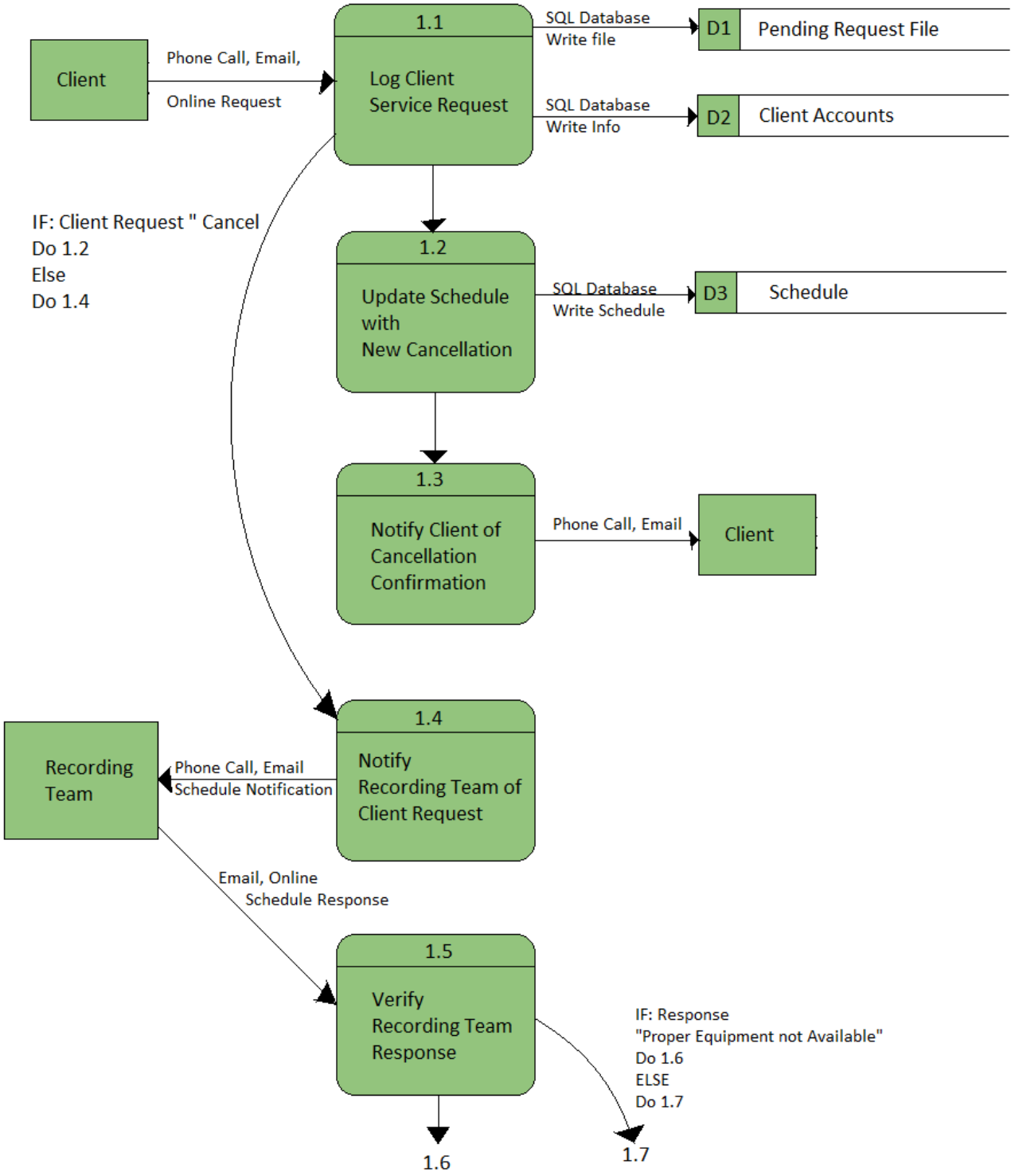
# Proposed Level 1 DFD for “6.0 Process Payment” for Client Scheduling @ In Fidelity Recording Studio

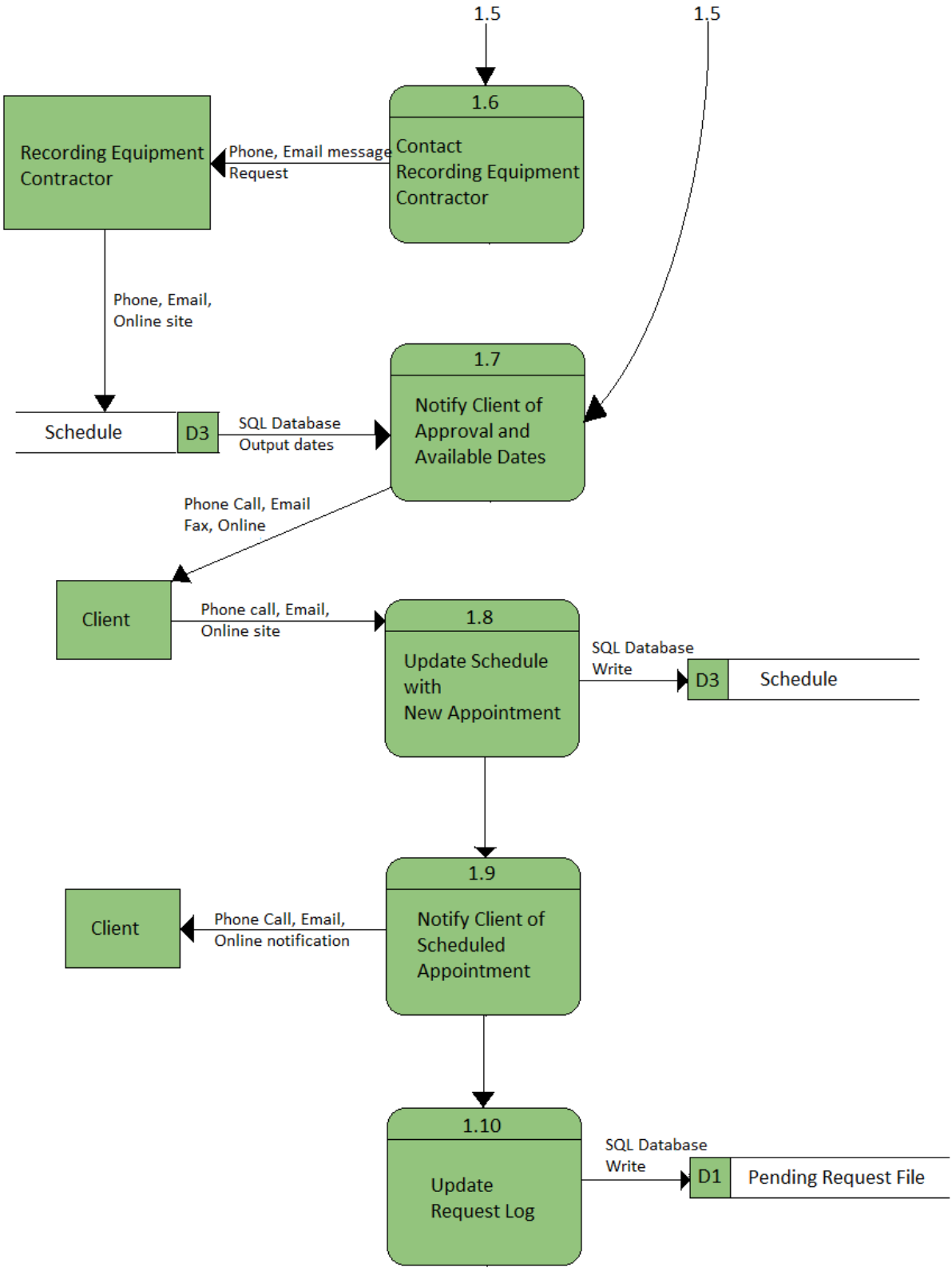


# Proposed Level 0 DFD for Client Scheduling @ In Fidelity Recording Studio (*Physical*)

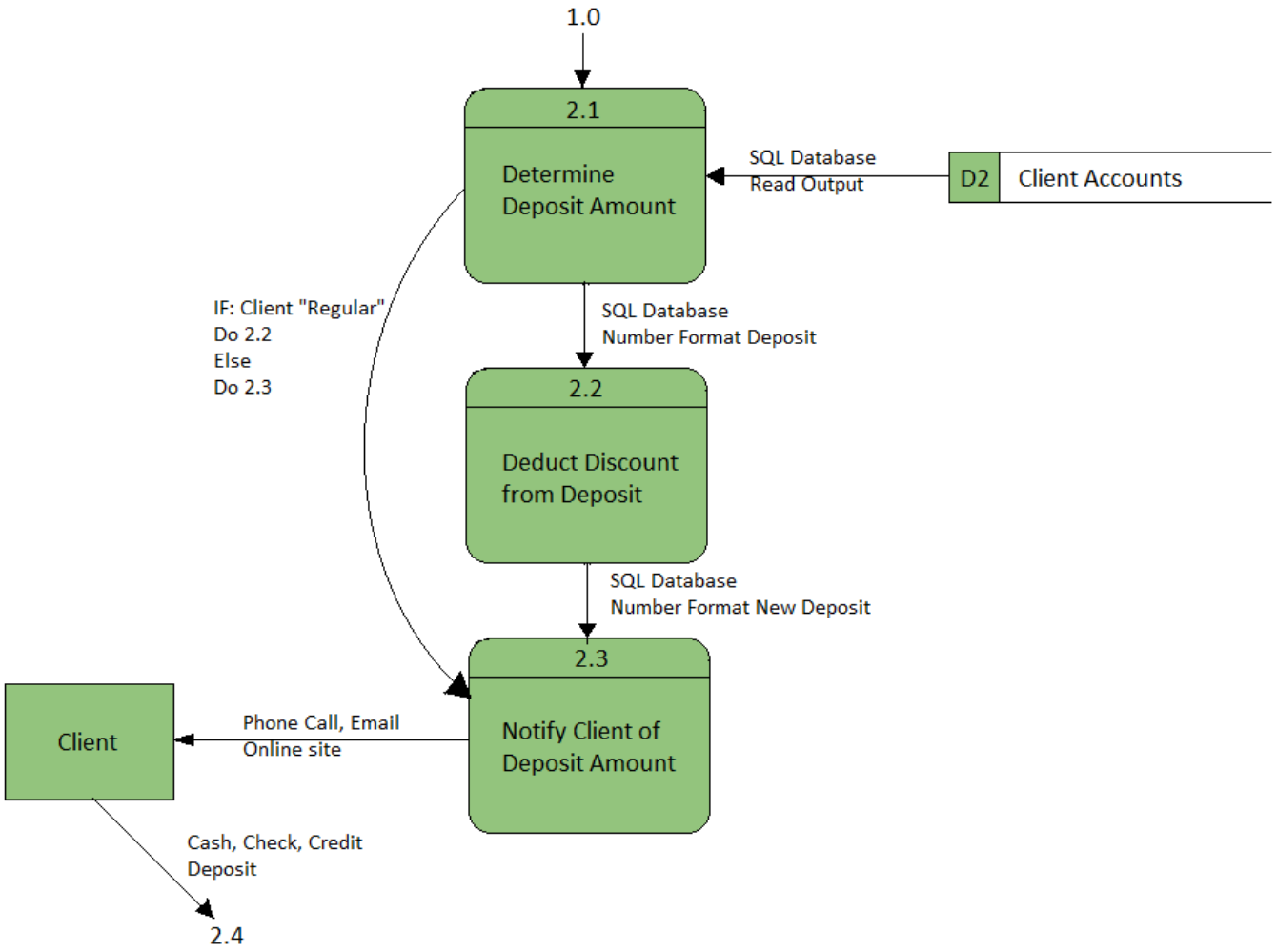


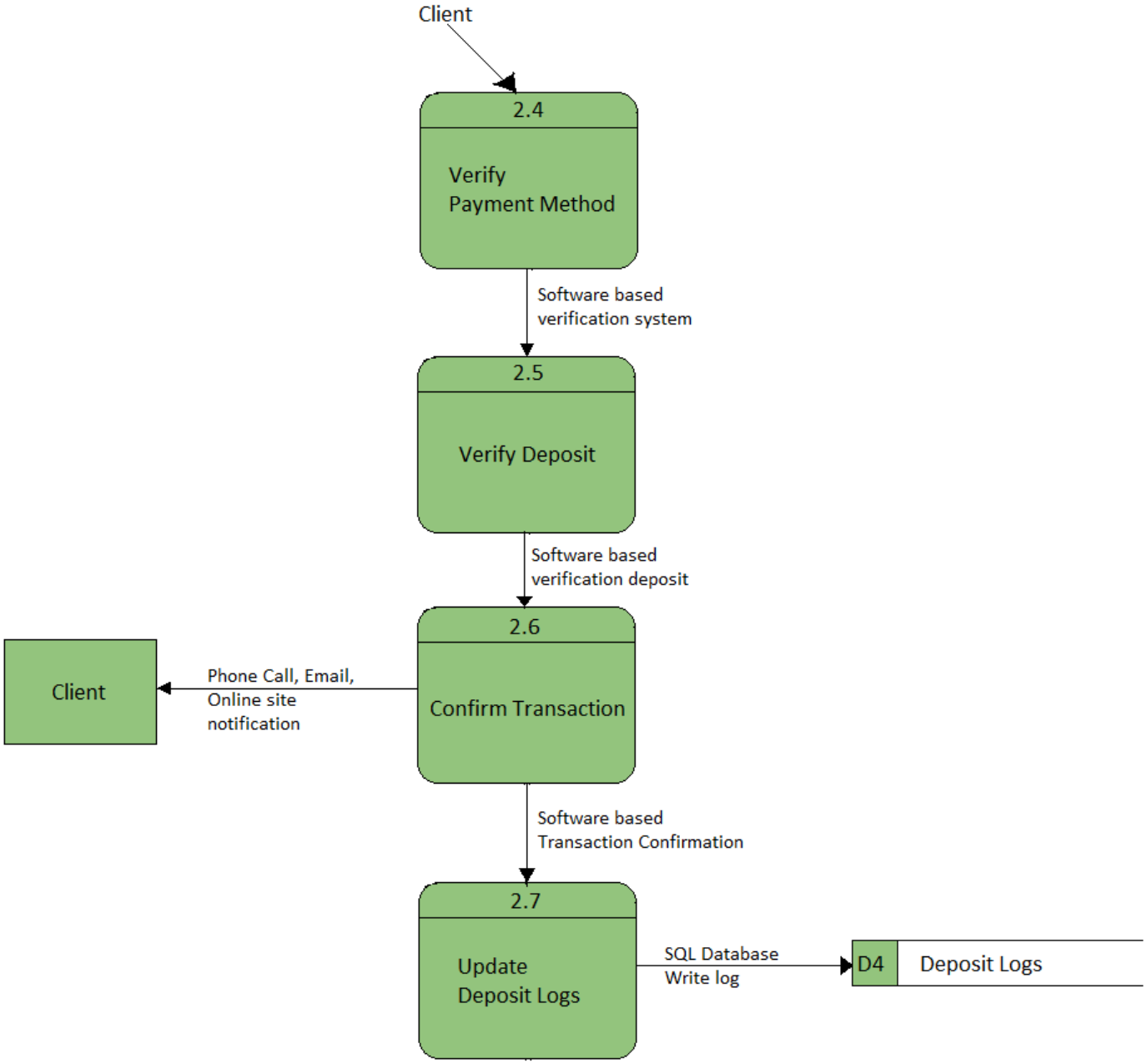
Proposed Level 1 DFD for “1.0 Assess Services” for Client Scheduling @ In Fidelity Recording Studio (*Physical*)



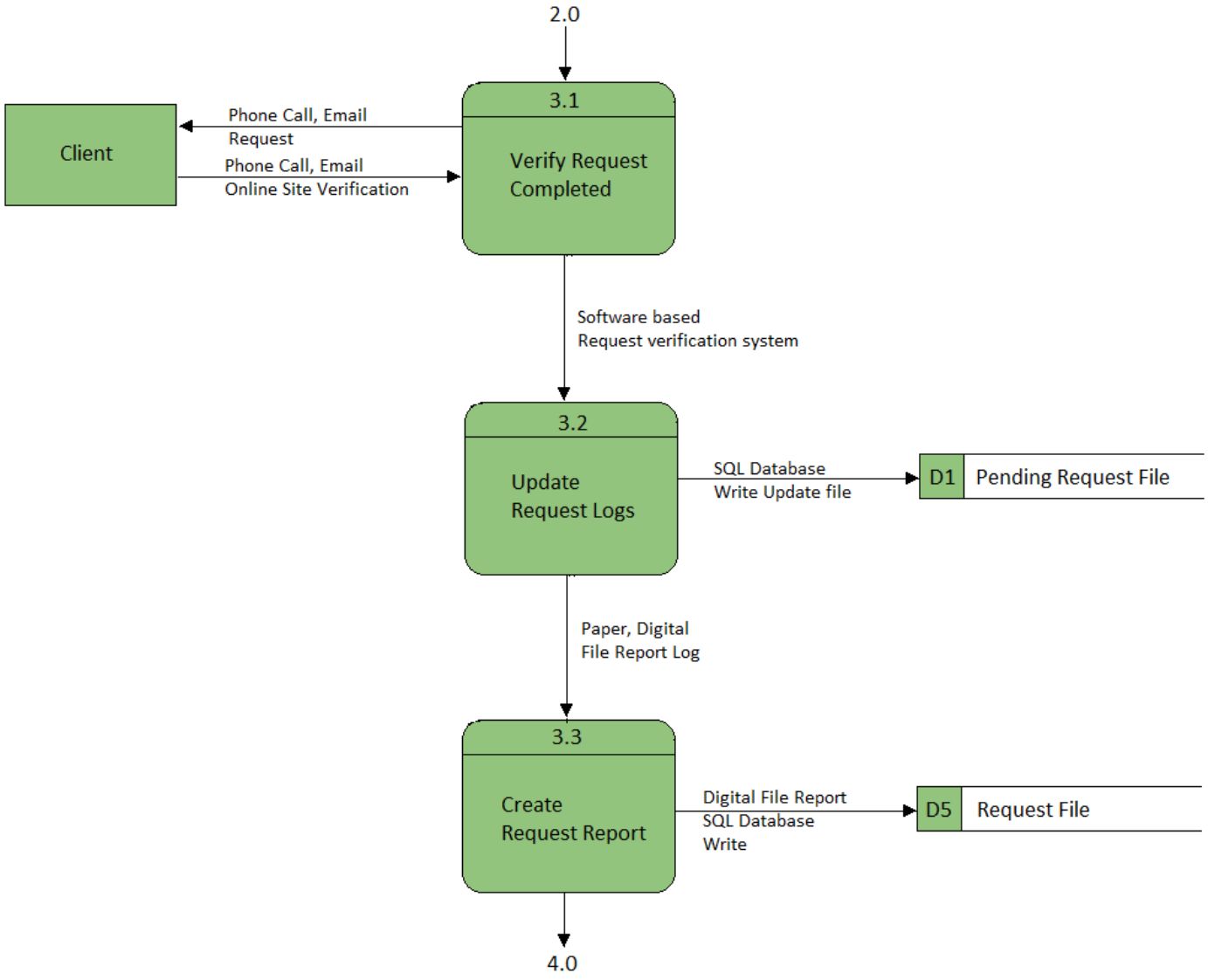

1.5
1.5
1.6
Contact Recording Equipment Contractor
Recording Equipment Contractor
Phone, Email message Request
Phone, Email, Online site
1.7
Notify Client of Approval and Available Dates
Schedule
D3
SQL Database Output dates
Phone Call, Email Fax, Online
Client
Phone call, Email, Online site
1.8
Update Schedule with New Appointment
SQL Database Write
D3
Schedule
1.9
Notify Client of Scheduled Appointment
Client
Phone Call, Email, Online notification
1.10
Update Request Log
SQL Database Write
D1
Pending Request File

Proposed Level 1 DFD for “2.0 Process Deposit” for Client Scheduling @ In Fidelity Recording Studio (*Physical*)

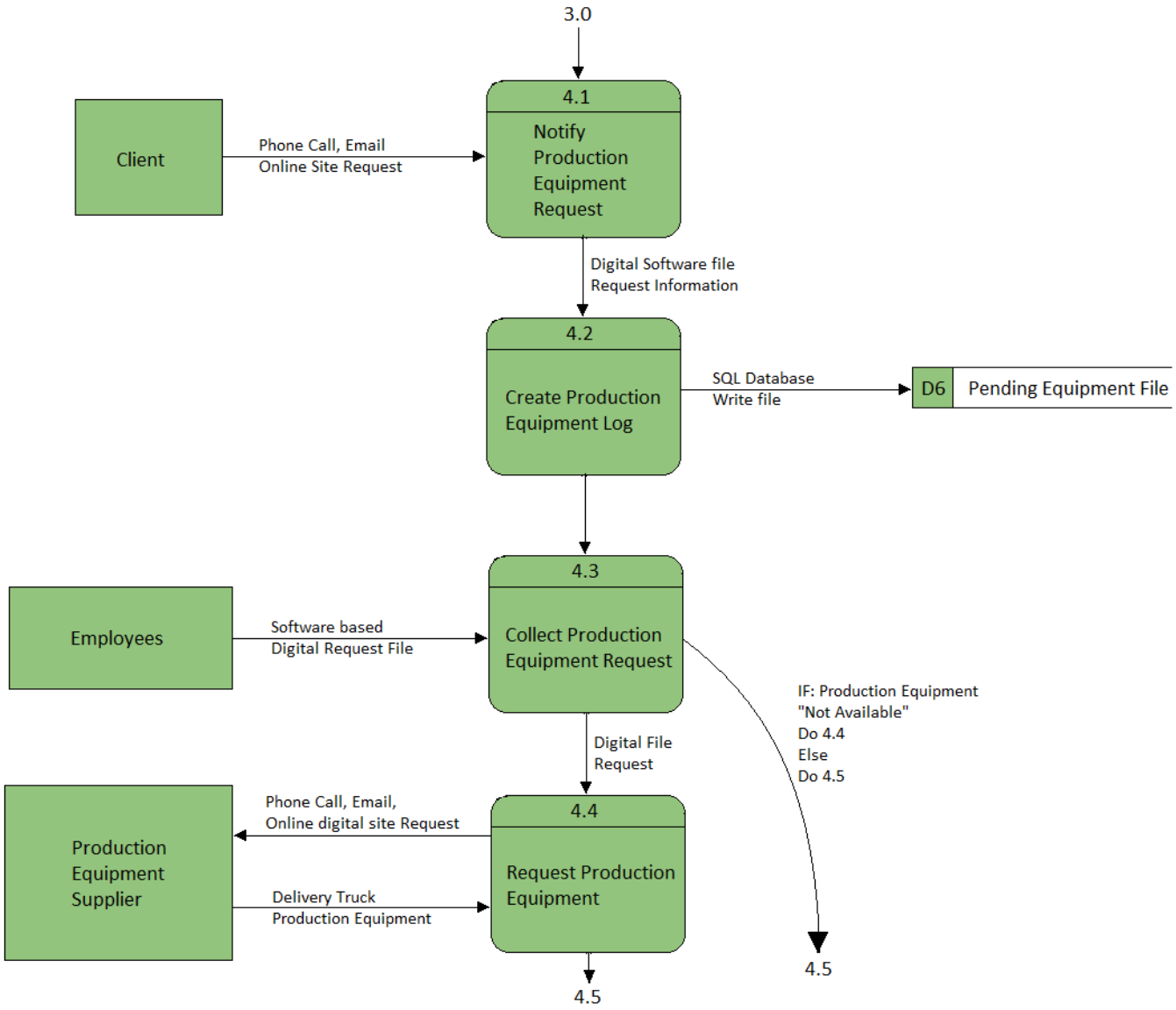


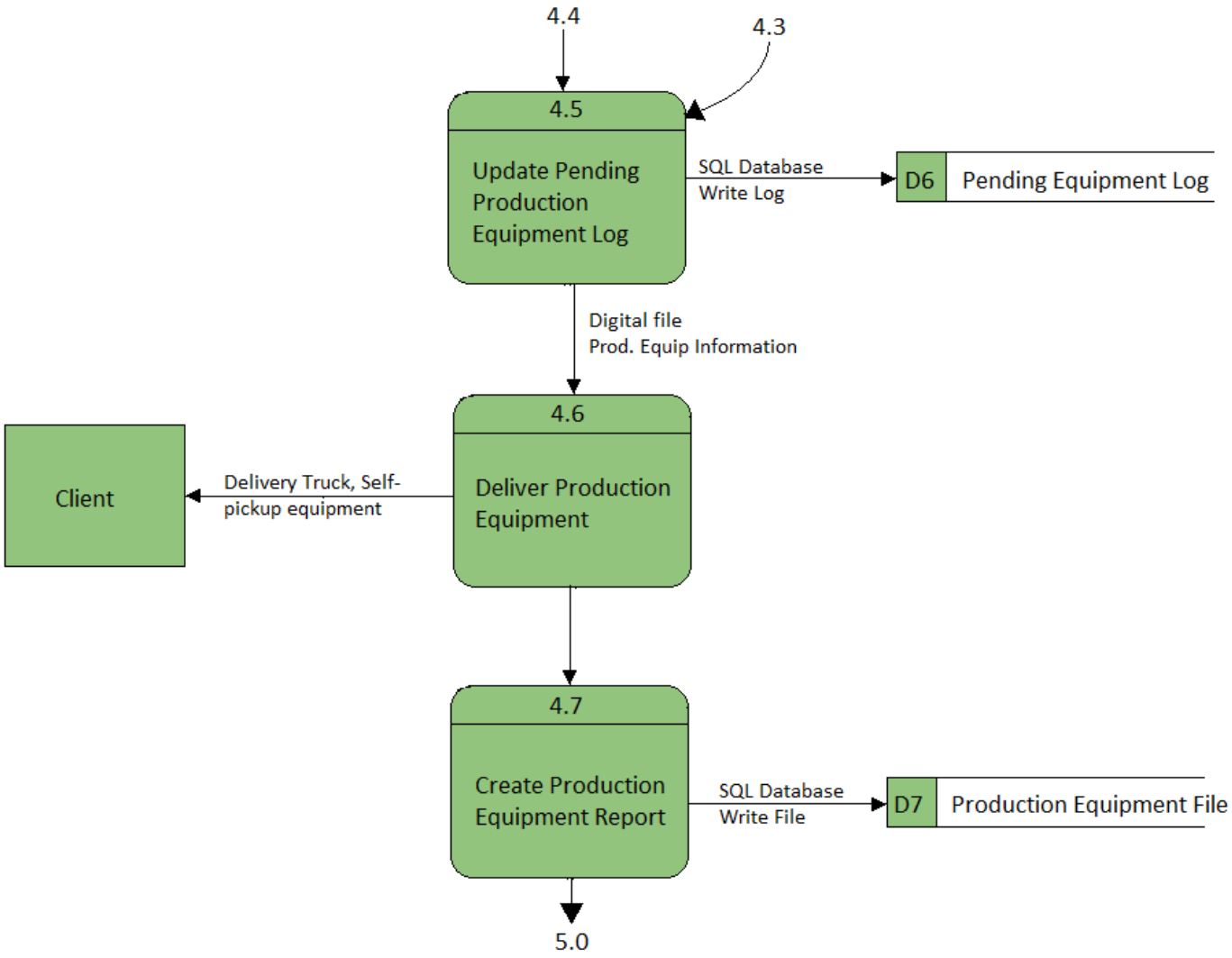



Proposed Level 1 DFD for “3.0 Complete Requests” for Client Scheduling @ In Fidelity Recording Studio (*Physical*)

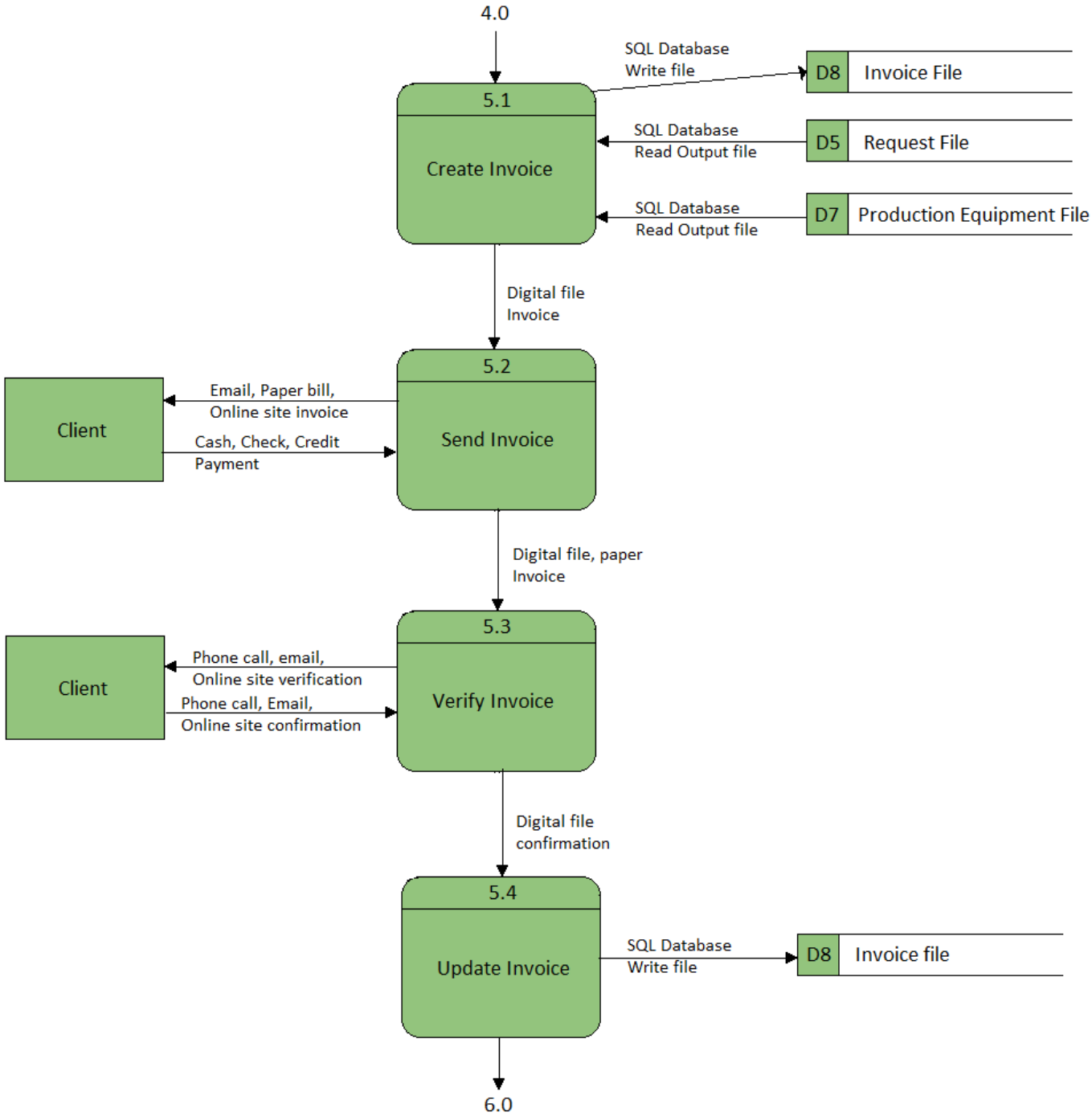

2.0
3.1
Client
Phone Call, Email
Request
Phone Call, Email
Online Site Verification
Verify Request
Completed
Software based
Request verification system
3.2
Update
Request Logs
SQL Database
Write Update file
D1
Pending Request File
Paper, Digital
File Report Log
3.3
Create
Request Report
Digital File Report
SQL Database
Write
D5
Request File
4.0

Proposed Level 1 DFD for “4.0 Manage Production Equipment” for Client Scheduling @ In Fidelity Recording Studio (*Physical*)

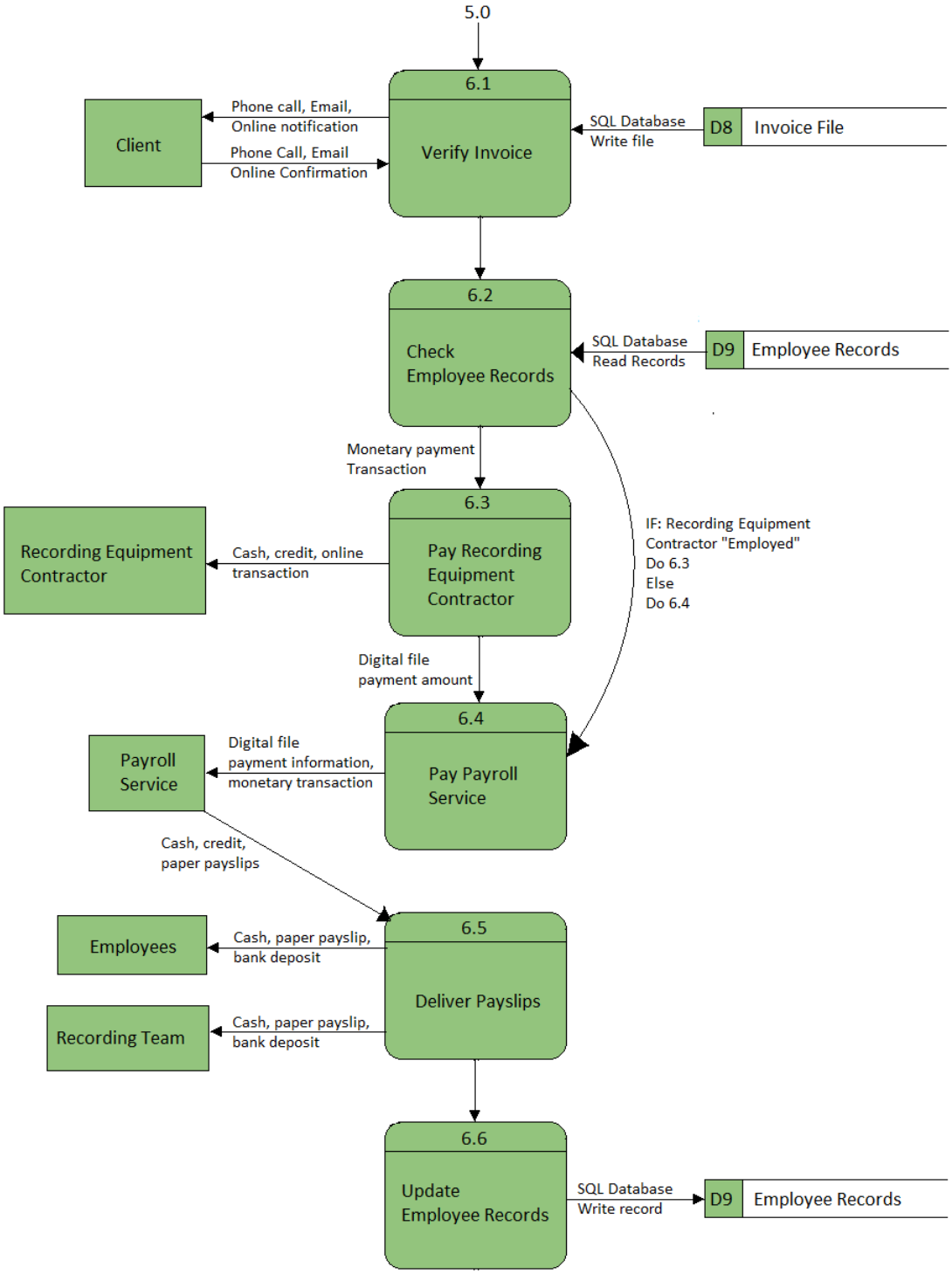



4.4
4.3
4.5
Update Pending Production Equipment Log
SQL Database Write Log
D6
Pending Equipment Log
Digital file
Prod. Equip Information
4.6
Deliver Production Equipment
Client
Delivery Truck, Self-pickup equipment
4.7
Create Production Equipment Report
SQL Database Write File
D7
Production Equipment File
5.0

Proposed Level 1 DFD for “5.0 Process Invoice” for Client Scheduling @ In Fidelity Recording Studio (*Physical*)



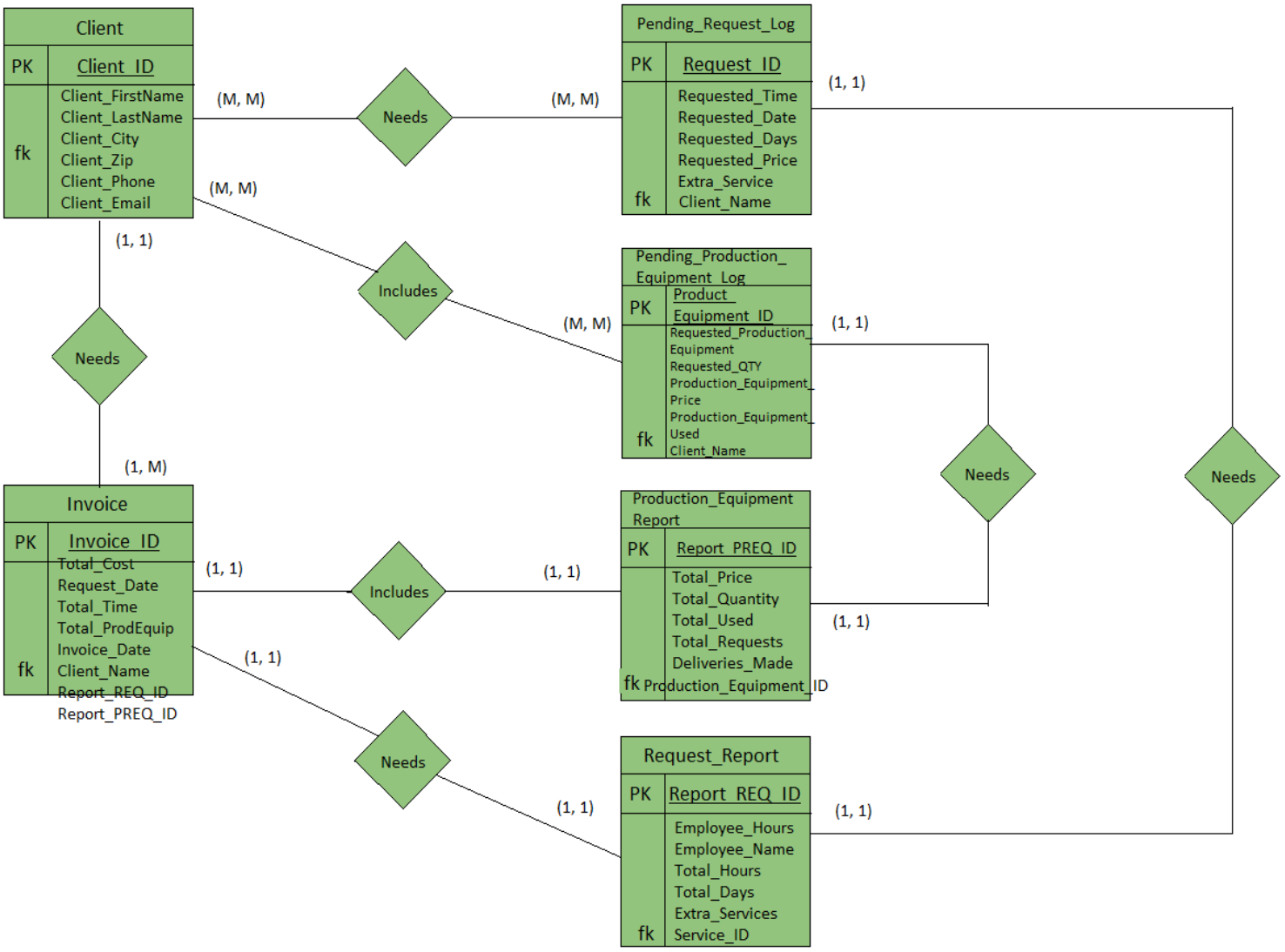
Proposed Level 1 DFD for “6.0 Process Payment” for Client Scheduling @ In Fidelity Recording Studio (*Physical*)



# Data Modeling

## Entity Relationship Diagram

Proposed System ERD for Client Scheduling @ In Fidelity Recording




Studio

# *Relational Data Model*

**For Proposed Client Scheduling System @ In Fidelity Recording Studio**

**Client**(Client_ID, Client_FirstName, Client_LastName, Client_City, Client_Zip, Client_Phone, Client_Email)

**Pending Production Equipment**(Production_Equipment_ID, Requested_Production_Equipment, Requested_QTY, Production_Equipment_Price, Production_Equipment_Used, Client_Name)

**Pending Request Log**(Request_ID, Requested_Time, Requested_Date, Requested_Days, Requested Price, Extra_Service, Client_Name)

**Production Equipment Report**(Report_PREQ_ID, Total_Price, Total_Quantity, Total_Used, Total_Requests, Deliveries_Made, Producation_Equipment_ID)

**Request_Report**(Report_REQ_ID, Employee_Hours, Employee_Name, Total_Hours, total_Days, Extra_Services, Request_ID)

**Invoice**(Invoice_ID, Total_Cost, Request_Date, Total_Time, Total_ProdEquip, Invoice_Date, Client_Name, Report_REQ_ID, Report_PREQ_ID)

# Data Dictionary

**For Proposed Client Scheduling System @ In Fidelity Recording Studio**

## Client

| Name | Type | Description | Size | Permissions |
|---|---|---|---|---|
| Client_ID | Autonumber | Primary Key, incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Client_FirstName | Text | Client's first name | 15 | Owner, Manager, Supervisor |
| Client_Last_Name | Text | Client's last name | 15 | Owner, Manager, Supervisor |
| Client_Zip | Numeric | Client's zip code | 5 | Owner, Manager, Supervisor |
| Client_Phone | Numeric | Client's phone number | 10 | Owner, Manager, Supervisor |
| Client_Email | Text | Client's email address | 25 | Owner, Manager, Supervisor |

**Pending Request Log**

| Name | Type | Description | Size | Permissions |
|---|---|---|---|---|
| Request_ID | Autonumber | Primary Key, incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Requested_Time | Time | Time in which requests are to be completed | 4 | Owner, Manager, Supervisor |
| Requested_Date | Date | Dates in which requests are done | 6 | Owner, Manager, Supervisor |
| Requested_Days | Date | Days in which requests are done | 6 | Owner, Manager, Supervisor |
| Requested_Price | Numeric | Requested price for service | 6 | Owner, Manager, Supervisor |
| Extra_Service | Y/N | Extra request if required | 1 | Owner, Manager, Supervisor |
| Client_ID | Numeric | Foreign Key; incremental fixed number | 6 | Owner, Manager, Supervisor |

**Pending Production Equipment Log**

| Name | Type | Description | Size | Permissions |
|---|---|---|---|---|
| Production_Equipment_ID | Numeric | Primary Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Requested_Production_Equipment | Text | Production Equipment that was requested | 10 | Owner, Manager, Supervisor |
| Requested_QTY | Numeric | The quantity of production equipment requested | 4 | Owner, Manager, Supervisor |
| Production_Equipment_Price | Numeric | Price of production equipment requested | 6 | Owner, Manager, Supervisor |
| Production_Equipment_Used | Text | The specific brands of production equipment employed | 10 | Owner, Manager, Supervisor |
| Client_ID | Numeric | Foreign Key; incremental fixed number | | Owner, Manager, Supervisor |

**Request Report**

| Name | Type | Decription | Size | Permissions |
|---|---|---|---|---|
| Report_REQ_ID | Numeric | Primary Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Employee_Hours | Numeric | Number of hours the employee has worked | 2 | Owner, Manager, Supervisor |
| Employee_Name | Text | Name of the employee | 10 | Owner, Manager, Supervisor |
| Total_Hours | Numeric | The total amount of hours the employee has worked | 2 | Owner, Manager, Supervisor |
| Total_Days | Numeric | The total amount of days the employee has worked | 2 | Owner, Manager, Supervisor |
| Extra_Services | Y/N | Whether extra services were requested or not | Y/N | Owner, Manager, Supervisor |
| Request_ID | Numeric | Foreign key; incrementing fixed number | 6 | Owner, Manager, Supervisor |

**Production Equipment Report**

| Name | Type | Description | Size | Permissions |
|---|---|---|---|---|
| Report_PREQ_ID | Numeric | Primary Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Total_Price | Numeric | Total price for production equipment | 6 | Owner, Manager, Supervisor |
| Total_Quantity | Numeric | Total amount of production equipment | 3 | Owner, Manager, Supervisor |
| Total_Used | Numeric | Total production equipment employed | 4 | Owner, Manager, Supervisor |
| Total_Requests | Numeric | Total number of requests for production equipment | 2 | Owner, Manager, Supervisor |
| Deliveries_Made | Numeric | Number of production equipment deliveries made | 2 | Owner, Manager, Supervisor |
| Production_Equipment_ID | Numeric | Foreign Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |

**Invoice**

| Name | Type | Description | Size | Permissions |
|---|---|---|---|---|
| Invoice_ID | Numeric | Primary Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Total_Cost | Numeric | Total cost of production equipment and requests | 6 | Owner, Manager, Supervisor |
| Request_Date | Date | The date the request was made | 6 | Owner, Manager, Supervisor |
| Total_Time | Numeric | Total amount of time the request took to complete | 4 | Owner, Manager, Supervisor |
| Total_ProdEquip | Numeric | Total amount of supplies used | 3 | Owner, Manager, Supervisor |
| Invoice_Date | Date | Date the invoice was made | 6 | Owner, Manager, Supervisor |
| Client_ID | Numeric | Foreign Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Report_REQ_ID | Numeric | Foreign Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |
| Report_PREQ_ID | Numeric | Foreign Key; incrementing fixed number | 6 | Owner, Manager, Supervisor |

# Candidate Tech

## Solutions

# Candidate Solutions Matrix

| Characteristics | Candidate 1<br>POS system | Candidate 2<br>MS Visual Basic | Candidate 3<br>MS Visual Basic And Microsoft Access |
|---|---|---|---|
| **Portion of of System Computerized**<br>Brief description of that portion of the system that would be computerized in this candidate | purchased and installed with predetermined specifications to fit the company's needs. | Inventory Information, Invoices, and Customer File | Customer Files, invoices, and Data management |
| **Benefits**<br>Brief description of the business benefits that would be realized for this candidate | • Email integration<br>• Customer tracking<br>• Data management in mass scale<br>• Employee schedule<br>• Customer schedule<br>• Cloud Backup<br>• 24/7 support | Share data, Simple<br><br>User Interface | Data that is easily accessible and shared amongst multiple users; all controlled by an user interface |
| **Data Processing Method**<br>Brief description of data is processed in this business | Company to customer and back to company | Company to server | Company to client to server |
| **Workstation and Servers**<br>Brief description of the servers and workstations needed to support this candidate | 1 Mac pro<br>• Cpu: 3.7 ghz quad core<br>• Ram: 12 GB<br>• Gpu: Amd firepro<br>• Storage: 1TB ssd<br>• wifi : 802.11ac | 3 iMacs<br>• Cpu: 2.8 hz<br>• Ram: 8 GB<br>• Cpu: Intel Iris Pro Graphics 6200<br>• Storage: 1 tb hdd<br>• wifi : 802.11ac | 1 Mac pro<br>• Cpu: 3.7 ghz quad core<br>• Ram: 12 GB<br>• Gpu: Amd firepro<br>• Storage: 1TB ssd<br>• wifi : 802.11ac |

| | | | |
|---|---|---|---|
| **Software Tools Needed**<br>Brief description of the software tools that are deed to design and build the candidate/company database management system. Software can vary and range to different aspects | Web browser and 801.11 ac bandwidth.<br><br>System POS<br>NFC devices | MS Visual Basic | MS Visual Basic and objective programming (objective C) |
| **Storage Devices** | WD My Cloud EX4100 WDBWZE0080KBK - NAS server - 16 TB | WD My Cloud EX4100 WDBWZE0080KBK - NAS server - 16 TB | WD My Cloud EX4100 WDBWZE0080KBK - NAS server - 16 TB |
| **Input Devices and Implications** | • Mouse<br>• Keyboard<br>• Music tools | • Mouse<br>• Keyboard | • Mouse<br>• Keyboard |
| **Output Devices and implications** | • Monitor<br>• External hard drive<br>• Networked printer | • Monitor<br>• External hard drive<br>• Networked printer | • Monitor<br>• External hard drive<br>• External music objects |

## *Estimated Costs for Candidate Solution One*

## *Data POS*

## Development Costs

| Personnel | |
|---|---|
| 1 Systems Analyst ( 25 hours at $32 per hour) | $800 |
| **Total Costs:** | **$800** |

| Software & Hardware | |
|---|---|
| 1 Workstations (1 mac pro $2999) | $2999 |
| System POS | $650 |
| Storage Device | $999 |
| **Total Costs:** | **$8,175** |

**Total Development Costs: $8975**

## Projected Annual Operating Costs

| Personnel | |
|---|---|
| System Training (10 hours at $15 per hour) | $150 |
| System Administrator ( 20 hours at $35 per hour) | $700 |
| **Total Costs:** | **$850** |

| Expenses | |
|---|---|
| Maintenance contract (PC) | $200 |
| **Total Costs:** | **$200** |

**Total Projected Annual Operating Costs: $1050**

| | |
|---|---|
| **Total cost for candidate solution one:** | **$10,875** |

## *Estimated Costs for Candidate Solution Two*

## *Visual Basic*

### Development Costs

| Personnel | |
|---|---|
| 1 Programmer (30 hours at $25 per hour) | $750 |
| 1 GUI Designer (10 hours at $25 per hour) | $250 |
| 1 System Architect (10 hours at 28.50 per hour) | $285 |
| 1 Database Specialist (10 hours at at 20 per hour) | $200 |
| **Total Costs:** | 1485 |

| Software & Hardware | |
|---|---|
| 1 Storage Device | $999 |
| 3 Workstations (Macs) | $3,897 |
| Microsoft Offices 2016 | $120 Yearly |
| 1 Server | $650 |
| Microsoft Visual Studio Pro 2012 | $359.99 |
| **Total Costs:** | 6025.99 |

**Total Development Costs: 7510.99**

### Projected Annual Operating Costs

| Personnel | |
|---|---|
| 1 Programmer ( 60 hours at 40 per hour) | $2,400 |
| 1 System Administrator (15 hour at $35 per hour) | $525 |
| **Total Costs:** | 2925 |

| Expenses | |
|---|---|
| Maintenance Contract | $200 |
| **Total Costs:** | 200 |

**Total Projected Annual Operating Costs: $3125**

| | |
|---|---|
| **Total Cost for Candidate Solution Two:** | **$10,635.99** |

## *Estimated Costs for Candidate Solution Three*
## *MS Visual Basic And Microsoft Access*

**Development Costs**

| Personnel | |
|---|---|
| 1 Programmer (20 Hours at $25 per hour) | $500 |
| 1 GUI Designer (10 hours at $20 per hour) | $200 |
| 1 Database Specialist (15 hours at $20 per hour) | $300 |
| 1 System Architect (20 hours at $30 per hour) | $600 |
| **Total Costs:** | $1600 |

| Software & Hardware | |
|---|---|
| 1 Server | $670 |
| 1 Workstation (iMac) | $1299 |
| 2 Visual basic software | $205 |
| 1 Storage Device | $999 |
| **Total Costs:** | $3173 |

**Total Development Costs: $4773**

**Projected Annual Operating Costs**

| Personnel | |
|---|---|
| 1 Programmer (30 hours at $25 per hour) | $750 |
| 1 System Administrator (25 hours at $25 per hour) | $625 |
| **Total Costs:** | 1375 |

| Expenses | |
|---|---|
| Maintenance Contract | $200 |
| **Total Costs:** | $200 |

**Total Projected Annual Operating Costs: $1575**

| **Total Cost for Candidate Solution Three:** | **$6,348** |
|---|---|

| Net Present Value Analysis for Candidate Solution 1 | | | | | | |
|---|---|---|---|---|---|---|
| **Cost** | **Year** | | | | | |
| | **0** | **1** | **2** | **3** | **4** | **5** |
| Development costs | $8,975 | | | | | |
| Operating costs | | $1650 | $1650 | $1650 | $1650 | $1650 |
| **Total Costs** | **$8,975** | **$1650** | **$1650** | **$1650** | **$1650** | **$1650** |
| Discount Factor | 0% | 5% | 5% | 5% | 5% | 5% |
| Present Value of Costs | $8975 | $9825 | $9825 | $9825 | $9825 | $9825 |
| Cumulative PV Costs | $8975 | $8842.50 | $8842.50 | $8842.50 | $8842.50 | $8842.50 |
| **Benefits** | | | | | | |
| Present Value of Benefits | 0 | $982. 50 | $982. 50 | $982. 50 | $982. 50 | $982. 50 |
| Cumulative PV Benefits | 0 | $982. 50 | $1965 | $2947.50 | $2947.50 | $2947.50 |

**Return of Investment for Candidate Solution 1**

| Performance Measure Used | Frequency |
|---|---|
| Net Present Value | $10,875 |
| Payback Period (5 Years) | $ 4912.50 |
| Return on Equity | $982. 50 |
| Total ROI | 25% |
| Average Annual ROI | 5% |

| | |
|---|---|
| **Total Benefits over 5 Years:** | $ 4912.50 |

| Net Present Value Analysis for Candidate Solution 2 | | | | | | |
|---|---|---|---|---|---|---|
| **Cost** | **Year** | | | | | |
| | **0** | **1** | **2** | **3** | **4** | **5** |
| Development costs | $7510.99 | | | | | |
| Operating costs | | $3125 | $3125 | $3125 | $3125 | $3125 |
| **Total Costs** | **$7510.99** | **$3125** | **$3125** | **$3125** | **$3125** | **$3125** |
| Discount Factor | 0% | 10% | 15% | 15% | 20% | 25% |
| Present Value of Costs | $7510.99 | $9572.39 | $9040.59 | $9040.59 | $8508.79 | $9040.59 |
| Cumulative PV Costs | $7510.99 | $2812.50 | $2656.25 | $2656.25 | $2500 | $2343.75 |
| **Benefits** | | | | | | |
| Present Value of Benefits | | $312.50 | $468.75 | $468.75 | $625 | $781.25 |
| Cumulative PV Benefits | | $312.50 | $781.25 | $1268 | $1893 | $2674.25 |

**Return of Investment for Candidate Solution 2**

| Performance Measure Used | Frequency |
|---|---|
| Net Present Value | $10,635.99 |
| Payback Period (5 Years) | $ 2674.25 |
| Return on Equity | $326 |
| Total ROI | 85% |
| Average Annual ROI | 17% |

| | |
|---|---|
| **Total Benefits over 5 Years:** | $2674.25 |

| Net Present Value Analysis for Candidate Solution 3 | | | | | | |
|---|---|---|---|---|---|---|
| **Cost** | **Year** | | | | | |
| | **0** | **1** | **2** | **3** | **4** | **5** |
| Development costs | $4773 | | | | | |
| Operating costs | | $1575 | $1575 | $1575 | $1575 | $1575 |
| **Total Costs** | **$4773** | **$1575** | **$1575** | **$1575** | **$1575** | **$1575** |
| Discount Factor | 0% | 10% | 10% | 10% | 10% | 10% |
| Present Value of Costs | $4773 | $6348 | $6348 | $6348 | $6348 | $6348 |
| Cumulative PV Costs | $4773 | $6030.60 | $6030.60 | $6030.60 | $6030.60 | $6030.60 |
| **Benefits** | | | | | | |
| Present Value of Benefits | | $317.40 | $317.40 | $317.40 | $317.40 | $317.40 |
| Cumulative PV Benefits | | $317.40 | $634.80 | $952.20 | $1269.6 | $1587 |

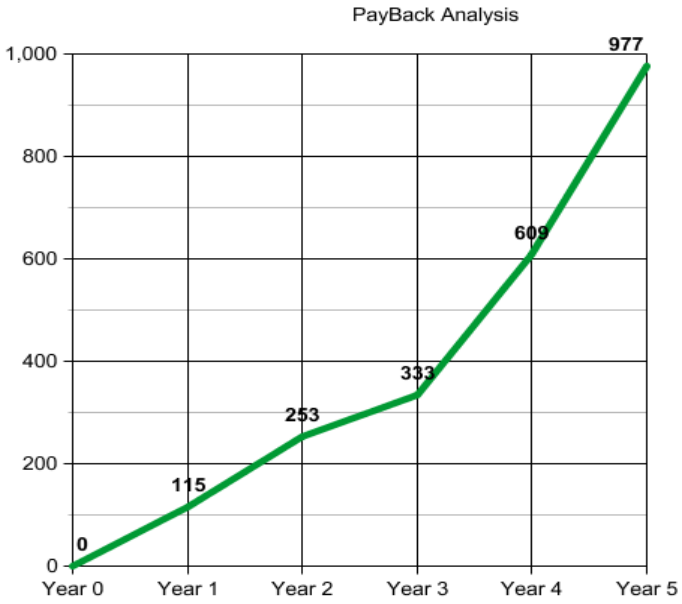
**Return of Investment for Candidate Solution 3**

| Performance Measure Used | Frequency |
|---|---|
| Net Present Value | $6,348 |
| Payback Period (5 Years) | $ 1587 |
| Return on Equity | $317.40 |
| Total ROI | 50% |
| Average Annual ROI | 10% |

| | |
|---|---|
| **Total Benefits over 5 Years:** | **$1587** |

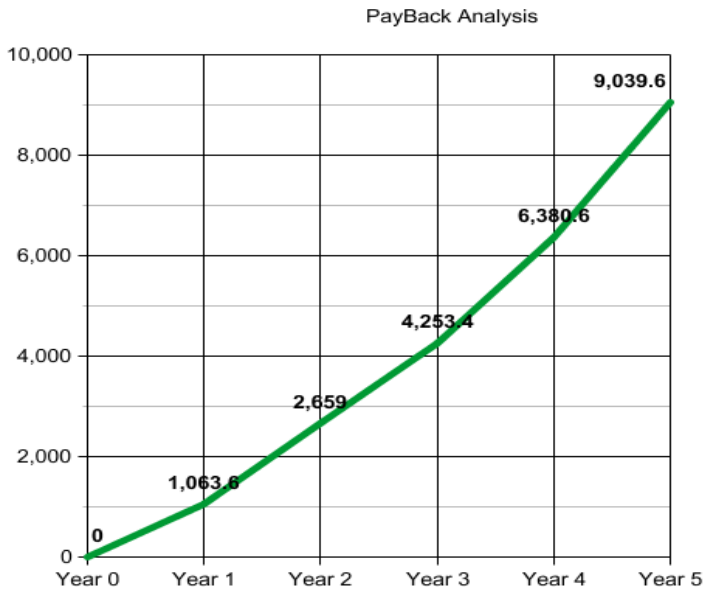
| Payback Analysis for Candidate Solution 1 | | | | | | |
|---|---|---|---|---|---|---|
| **Cost** | **Year** | | | | | |
| | **0** | **1** | **2** | **3** | **4** | **5** |
| Development costs | ($8,175) | | | | | |
| Operating costs | | ($1650) | ($1650) | ($1650) | ($1650) | ($1650) |
| Total Cost | -8,175 | -9825 | -9825 | -9825 | -9825 | -9825 |
| **Discount Factor** | **0%** | **5%** | **6%** | **8%** | **12%** | **16%** |
| Present Value Annual Cost | ($8175) | ($1,567.50) | ($1551) | ($1518) | ($1452) | ($1386) |
| **System Benefits** | 0 | $2300 | $2300 | $2300 | $2300 | $2300 |
| Discount Factor | 0% | 5% | 6% | 8% | 12% | 16% |
| Present Value of Benefits | $0 | $2185 | $2162 | $2116 | $2024 | $1932 |
| Total PV Benefit | $0 | $115 | $253 | $333 | $609 | $977 |

**Graphical Representation**



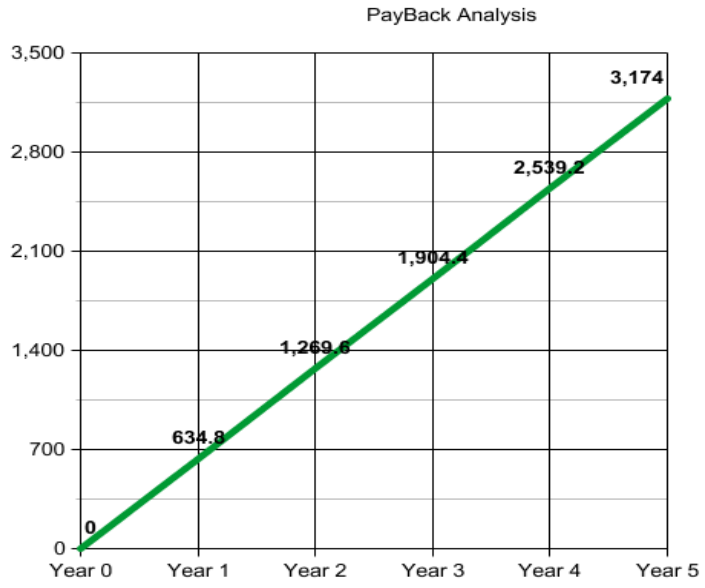
| Payback Analysis for Candidate Solution 2 | | | | | | |
|---|---|---|---|---|---|---|
| **Cost** | **Year** | | | | | |
| | **0** | **1** | **2** | **3** | **4** | **5** |
| Development costs | ($7510.99) | | | | | |
| Operating costs | | ($3125) | ($3125) | ($3125) | ($3125) | ($3125) |
| Total Cost | -7510.99) | -10,635.99 | -10,635.99 | -10,635.99 | -10,635.99 | -10,635.99 |
| **Discount Factor** | **0%** | **10%** | **15%** | **15%** | **20%** | **25%** |
| Present Value Annual Cost | ($8175) | $9572.39 | $9040.59 | $9040.59 | $8508.79 | 7976.99 |
| **System Benefits** | 0 | $1063.60 | $1595.40 | $1595.40 | $2127.20 | $2659 |
| Discount Factor | 0% | 10% | 15% | 15% | 20% | 25% |
| Present Value of Benefits | $0 | $9572.39 | $79766.99 | $6381.59 | $4254.39 | $1595.39 |
| Total PV Benefit | $0 | $1063.60 | $2659 | $4253.40 | $6380.60 | $9039.60 |

**Graphical Representation**



| Payback Analysis for Candidate Solution 3 | | | | | | |
|---|---|---|---|---|---|---|
| **Cost** | **Year** | | | | | |
| | **0** | **1** | **2** | **3** | **4** | **5** |
| Development costs | ($4773) | | | | | |
| Operating costs | | ($1575) | ($1575) | ($1575) | ($1575) | ($1575) |
| Total Cost Budget | -4773 | -6,348 | -6,348 | -6,348 | -6,348 | -6,348 |
| **Discount Factor** | **0%** | **10%** | **10%** | **10%** | **10%** | **10%** |
| Present Value of Costs | (-$8175) | -5,713.20 | -5,713.20 | -5,713.20 | -5,713.20 | -5,713.20 |
| **System Benefits** | 0 | $634.80 | $634.80 | $634.80 | $634.80 | $634.80 |
| Discount Factor | 0% | 10% | 10% | 10% | 10% | 10% |
| Present Value of Benefits | $0 | $5713.20 | $5078.4 | $4443.60 | $3808.80 | $3174 |
| Total PV Benefit | $0 | $634.80 | $1269.60 | $1904.40 | $2539.20 | **$3174** |

**Graphical Representation**



## Candidate Solution 1

**Technical Feasibility -** Everything with its complexity, the solution will fuse all business cores and will be the main branch of the system. Our system will manage almost everything, to the smallest to the biggest task. Task will be deployable in a matter of seconds, with the guarantee of reliable and secured.

**Operational Feasibility -** The new POS System has been particularly designed to record simplified data in a small business or even at home. The business owner or/and any user in particular, will be able to record which supplies are used and in what amount by creating an easily functional table. Operating Excel will be the easiest of all proposed solutions and requires minimal training. Additionally, this solution will require the least amount of resources.

**Economic Feasibility -** Due to the heavy usage and is the heart of the system, we will spend most of the fund on this POS. We will have many contract employees, that are qualified in their skill, which demand a hefty sum of money. But the money is well spent in the rather of productivity.

**Schedule Feasibility -** Will the management of the system this itself is the hardest part of the cooperation of implication. This solution will take the greatest amount of time due to the complexity and well will focus of the time in the implication. We estimate 2 ½ month in order to build and test the system, which follows another month for the incorporation, so it full function the way we want it to do.

## Candidate Solution 2

**Technical Feasibility -** Our solution for candidate 2 will require a programmer and a system administrator to create an effective, reliable and easy to use interface for its clients. The system will be designed in the mention of is users, the incorporation of feature will keep in the mind of our users and the interest in the matter.

**Operational Feasibility -** Visual basics is the better option compared to other thing in the market. An GUI interface that is programmed in Visual basic, will provide a more accessibility and an ease to use for all employees and clients that use the GUI interface. With an GUI interface, it will become a tool that is easy and accessible to many.

**Economic Feasibility -** With the establishment of an GUI interface, programmed a programmer; i would cost a hefty price. But the cost is well worth taking in the consideration of the client control. We as a group did our best to find the best possible prices and didn't cut any corners in the regard of quality.

**Schedule Feasibility -** With all the programming and planning is recommended that the solution will take as much as 2 months to prepare the program and acquire all the necessary software and hardware that is needed. We want to have a first launch with little to no problems on our launch. In Addition, the system deployment will take an additional week for implementation and installation for all business operations.

## Candidate Solution 3

**Technical Feasibility -** For our Candidate Solution number 3, we utilized Microsoft Access as well as Visual Basic. Due to the complexity of the solution, technical expertise is needed at a higher level than the previously suggested solutions. Microsoft Access will serve as a database repository that is capable of capturing important data and storing them in an accessible location. Visual Basic will be used to allow users to customize their user experience simplifying creating invoices. This solution will connect all three solutions into one.

**Operational Feasibility -** The solution on hand will be an alternative because In Fieldly Records employees can monitor changes without having to interact with others. This will make the one in charge job much easier, therefore increasing productivity. Employees will be able to create and manage invoices with an greater ease compared to the old system.

**Economic Feasibility -** This solution is not the most expensive out of all the three solutions, it is the less expensive. Everything that is need already is purposes and acquired for other solutions. All that was need, that was costly, what a qualified programmer that routinely maintains the system and a network administrator to optimize the network performance is required.

**Schedule Feasibility -** This solution will take the longest due to the amount of work that that need to create and configure to the company specific task. We estimate that this will be done in a 3-month time windows, follow by an another 2 weeks to conduct test and integration with the company system of data flow.

## Critical Success Factors

Our main success factors of the fully new proposed system is to integrate and apply data to all three systems so that they can coexist with each other. We want data to be secured and placed in an shared locations, so members, who have permissions will be able to access to the data. This is key, for the success of the business, because it allows access to the store data or information to anyone who has access powers over the data. Employees will be able to get data out and in, in the matters of seconds. Data will all be stored in the selective location and will be centralized for security measures.

With being all the data and information be stored in one location, rather than be distributed amongst multiple locations, data can be access at any time in a securely matter. This success factor is a happening, due to the ability for an employee to create an appointment and record finer details based on what services the client wants or doesn't want. Another success factor to our fondly new system is the ability to assign users roles. The users within the system can view all information that is available to them, keep in regarded of restriction the administrator places. This can add extra security in the updating process to eliminate unnecessary and redundant data. Therefor keep data in a consistent stream of reliability.

## Risk Management

With a great system in place there is little to no room for risk. But with the best system in the market there is always a chance of risk. There is a great emphasis on risk management during implementation as well as after completion of the proposed solution. S&L has identified a few issues that we will address to minimize and control these risks, and possibly remove them completely. We must take a hard approach before any vulnerability can be localized and exposed before moving on.

The first step in our risk management that will be enforced and implemented is in the rollout phases. We will test everything before putting our system in a live environment. It is emphasized to every user of the new system to have their own unique identification along with a strong password with heavy encryption. Password will be defined in the policy management, and the this certain criteria's, has 12 characters' minimum, includes numbers, symbols, capital letters, lowercase letters, isn't a dictionary word or combination of dictionary words and doesn't rely on obvious substitutions. With all guideline in place, this will limit access to the system for all the employees who are permitted. Sharing passwords is strictly prohibited and will be addressed if there is a breach in security due to this mistake. User must not share password at any cost.

The second step to our risk management is to deactivate employees and client accounts for those who do not utilize the facilities or work at In Fidelity Recordings. Our guidelines for the system are extremely important because this can drastically limit and eliminate the risk of having precious data robbed or sabotaged by employees or client who are looking to get payback. All of the following risk managements will be addressed in an orderly timeline, before we put the system live.

# Feasibility Matrix

| Criteria | Candidate 1 | Candidate 2 | Candidate 3 | Weight |
|---|---|---|---|---|
| Description | New Pos System | Visual Basic | MS Visual Basic and Microsoft Access | |
| Technical Feasibility | A complex solution that requires maintenance over a certain amount of time. The pos will connect everything together. | Requires hiring a programmer that will design and maintain the new system. Requires client/server system. | Requires hiring a programmer that will routinely maintain the system. Requires client/server system. | |
| **Score** | **95** | **70** | **70** | **25%** |
| Operational Feasibility | Satisfy partial Business Needs | Satisfy Most Business Needs | Satisfy All Business Needs | |
| **Score** | **80** | **80** | **90** | **35%** |
| Economic Feasibility | Development Costs: $8975<br>Payback 5 years: $4912.50<br>ROI: 25% | Development Costs: $7510.99<br>Payback 5 years: $2674.25<br>ROI: 85% | Development Costs: $4473<br>Payback 5 years: $1587<br>ROI: 50% | |
| **Score** | **60** | **75** | **90** | **35%** |
| Schedule Feasibility | 2 ½ Months | 2 Months | 3 and ½ Months | |
| **Score** | **70** | **95** | **85** | **5%** |
| Weight Average | **76.25%** | **80%** | **83.75%** | **100%** |

# System Design

## Plan

## Proposed solution

We have carefully analyzed the day-to-day operations of In Fidelity Recordings, in order to obtain the necessary detailed information. We have proposed three candidate's solutions for properly addressing the problems at In Fidelity Recordings. After carefully weighing each proposed solution using a technique known as feasibility analysis, we have concluded that solution three is the optimal choice. Solution three will actively use a blend of Visual Basic as the user interface and Microsoft Access as the repository for all business processes. In order to successfully use and implement the third candidate solution, we will need at least $6,348 for the initial development costs; this includes the hardware and extra personnel needed to develop the functional components of this solution.

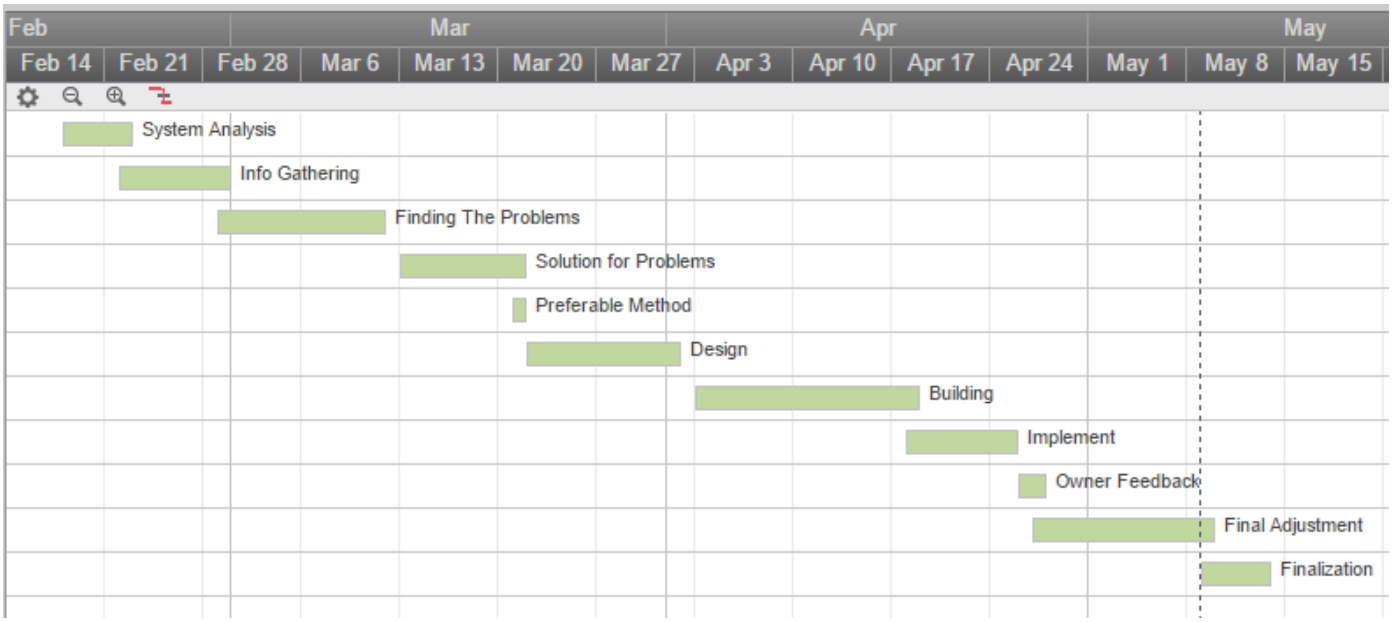
This solution is the best of all three proposed solutions, because it will allow all end-users to interchange useful information, like client scheduling bookings, and other relevant information in real-time. Employees will be able to contact suppliers directly to streamline the delivery process of production equipment or extra recording technology that may be necessary during some client requests. It will also allow the owner, David Sharf, to easily contact recording labels or inquisitive producers, further improving the business-to-client motif and allowing the right people to connect directly to the studio in an efficient manner. As shown on the GUI example we've provided, the forms all have predefined fields designed with Visual Basic to input necessary data which will then be stored in the Access-driven database. Visual Basic provides an easy to use interface that is simple and easy to understand, and it helps streamline electronic data into the Access databases.

Despite having the highest development costs of all the solutions we've proposed, candidate solution three has the best payback period. When employees and management commit to this proposal, operations will be made easier, more reliable, and overall more profitable. Best of all, this solution yields the highest return to its end users and favors future growth for the company if they ever decide to expand.

# Our Schedule for Project Development

| | Task Name | Start Date | End Date | Duration |
|---|---|---|---|---|
| 1 | System Analysis | 02/18/16 | 02/22/16 | 3d |
| 2 | Info Gathering | 02/22/16 | 02/29/16 | 6d |
| 3 | Finding The Problems | 02/29/16 | 03/11/16 | 10d |
| 4 | Solution for Problems | 03/13/16 | 03/21/16 | 7d |
| 5 | Preferable Method | 03/21/16 | 03/21/16 | 1d |
| 6 | Design | 03/22/16 | 04/01/16 | 9d |
| 7 | Building | 04/03/16 | 04/18/16 | 12d |
| 8 | Implement | 04/18/16 | 04/25/16 | 6d |
| 9 | Owner Feedback | 04/26/16 | 04/27/16 | 2d |
| 10 | Final Adjustment | 04/27/16 | 05/09/16 | 9d |
| 11 | Finalization | 05/09/16 | 05/13/16 | 5d |
| 12 | | | | |

***Gantt Chart***


Feb
Mar
Apr
May
Feb 14
Feb 21
Feb 28
Mar 6
Mar 13
Mar 20
Mar 27
Apr 3
Apr 10
Apr 17
Apr 24
May 1
May 8
May 15
System Analysis
Info Gathering
Finding The Problems
Solution for Problems
Preferable Method
Design
Building
Implement
Owner Feedback
Final Adjustment
Finalization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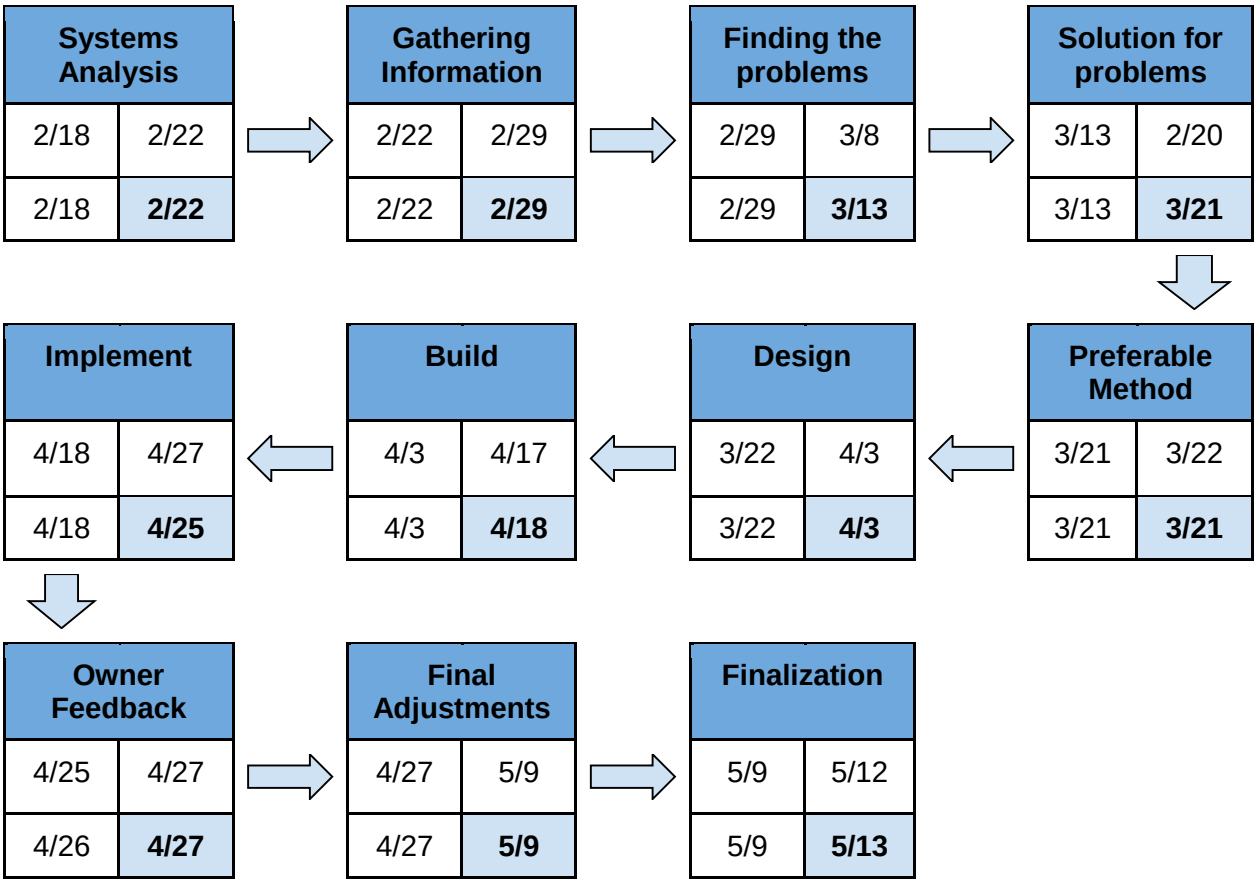
***Pert Chart***

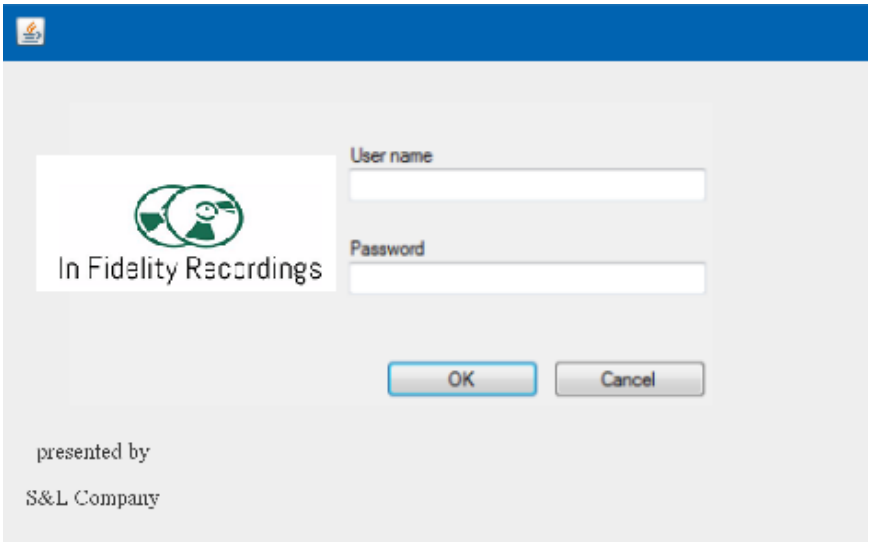



| LEGEND - PERT | |
|---|---|
| **Task Assigned** | |
| Scheduled Start | Scheduled Finish |
| Actual Start | Actual Finish |

# Proposed GUI INTERFACE (MS Visual Basic) Solution

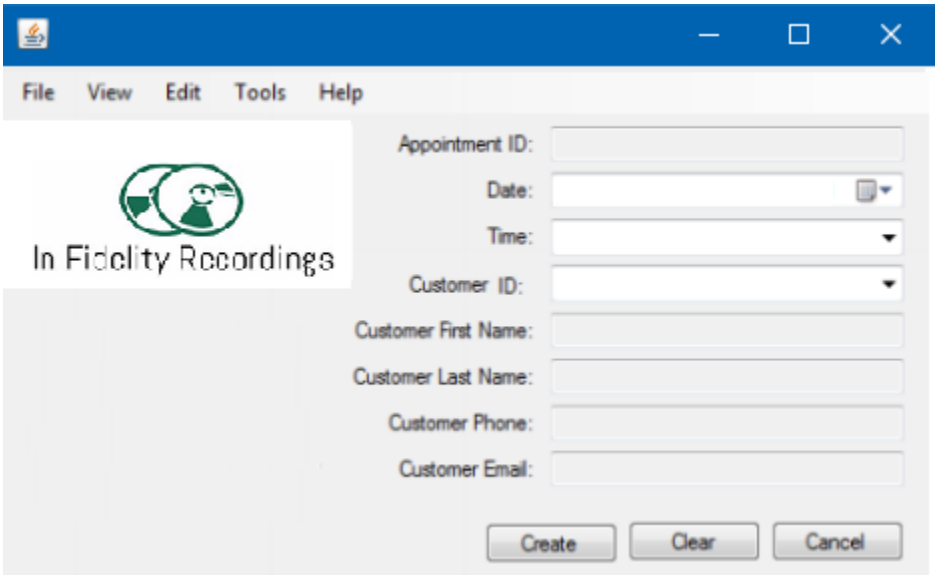
Welcome Screen


Login Screen

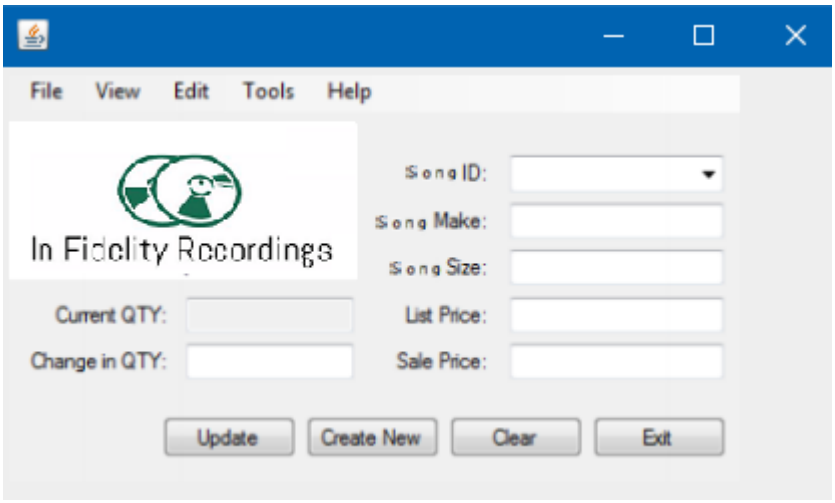


Main Menu

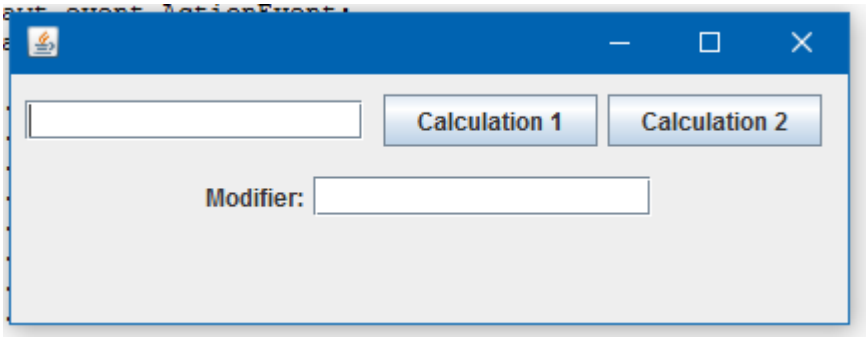

Create Appointment



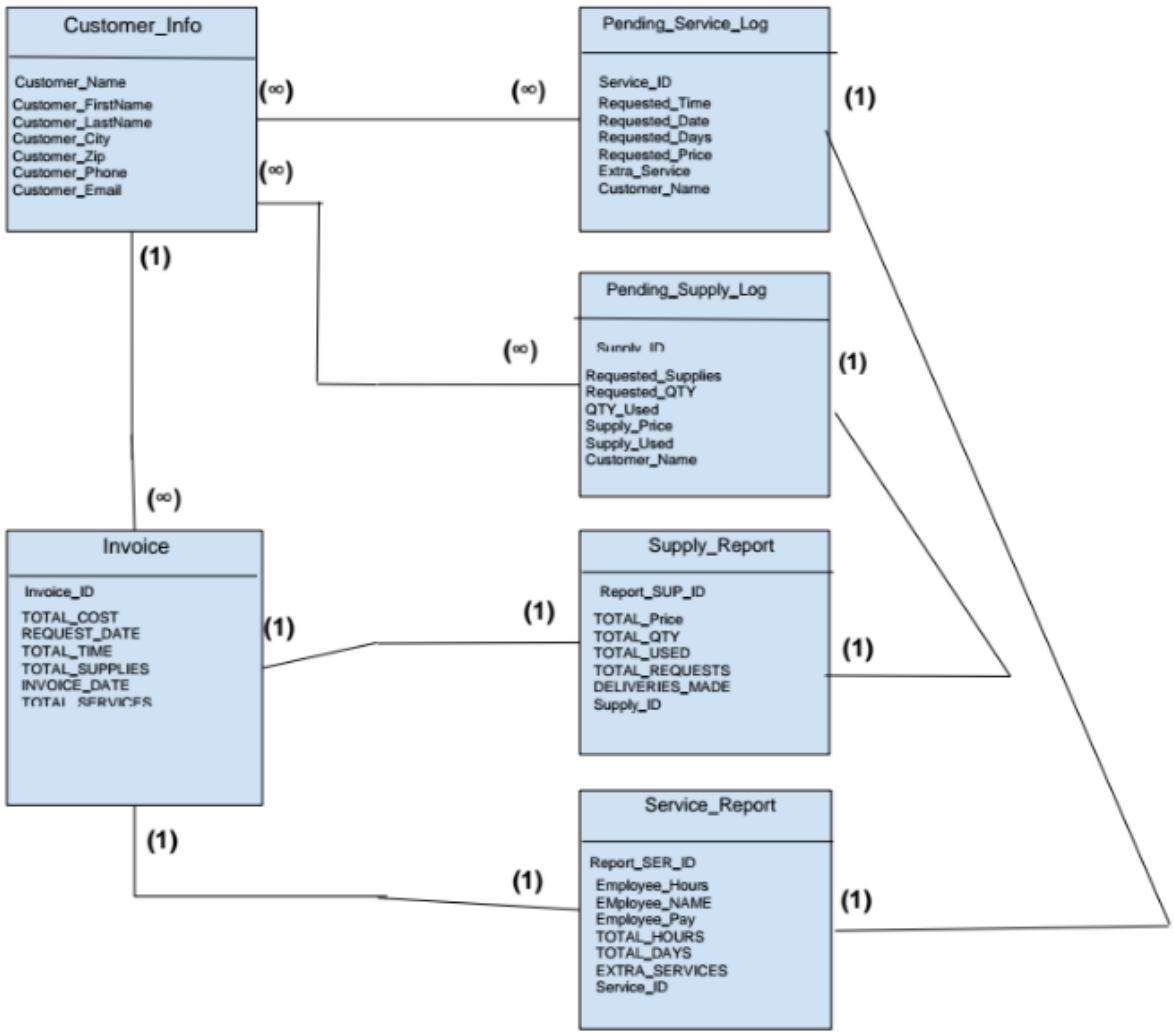
Create Invoice




Calculate Estimated Price



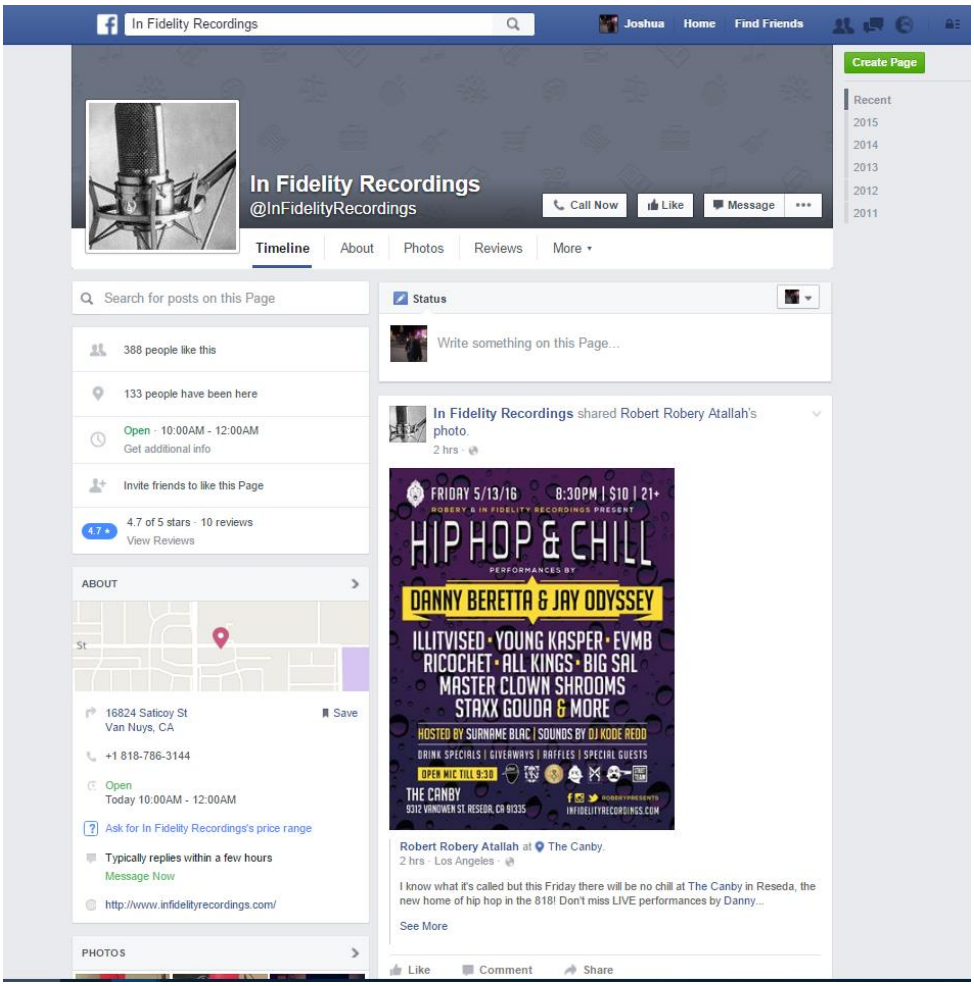
# Database Software Relationships



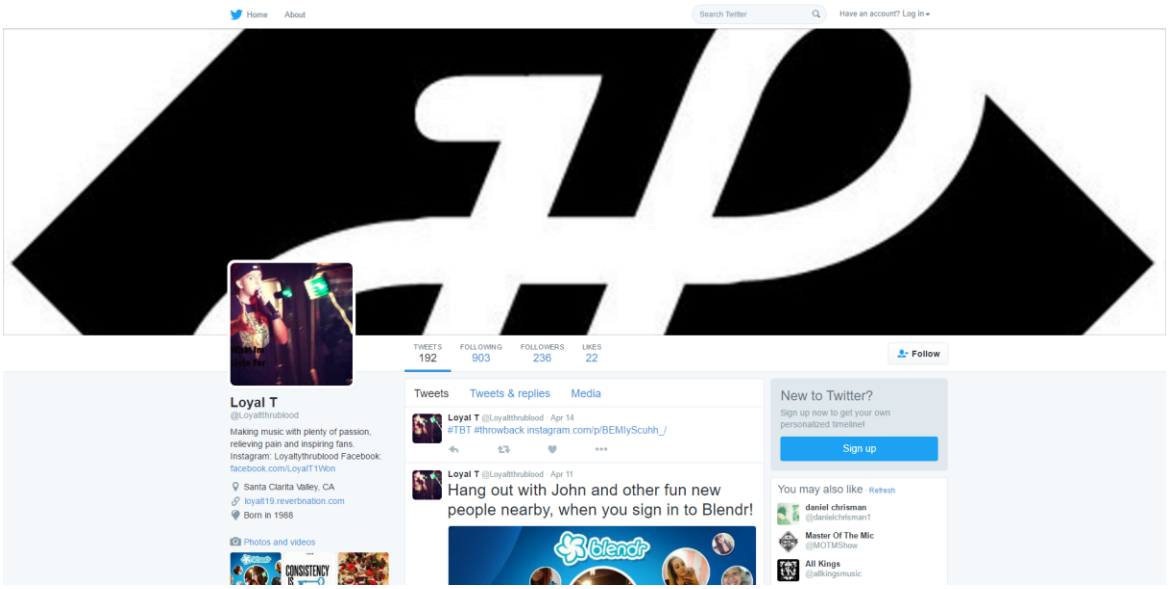
# Social Media Solution

We as a group to the time and set up social media pages for the company to spread brand awareness. We create or customize the company page to the modern age. We created a Facebook and Twitter page to spread brand awareness. And then we created a Sound cloud, Datpiff and Live Mixtapes to distribute music to listeners.

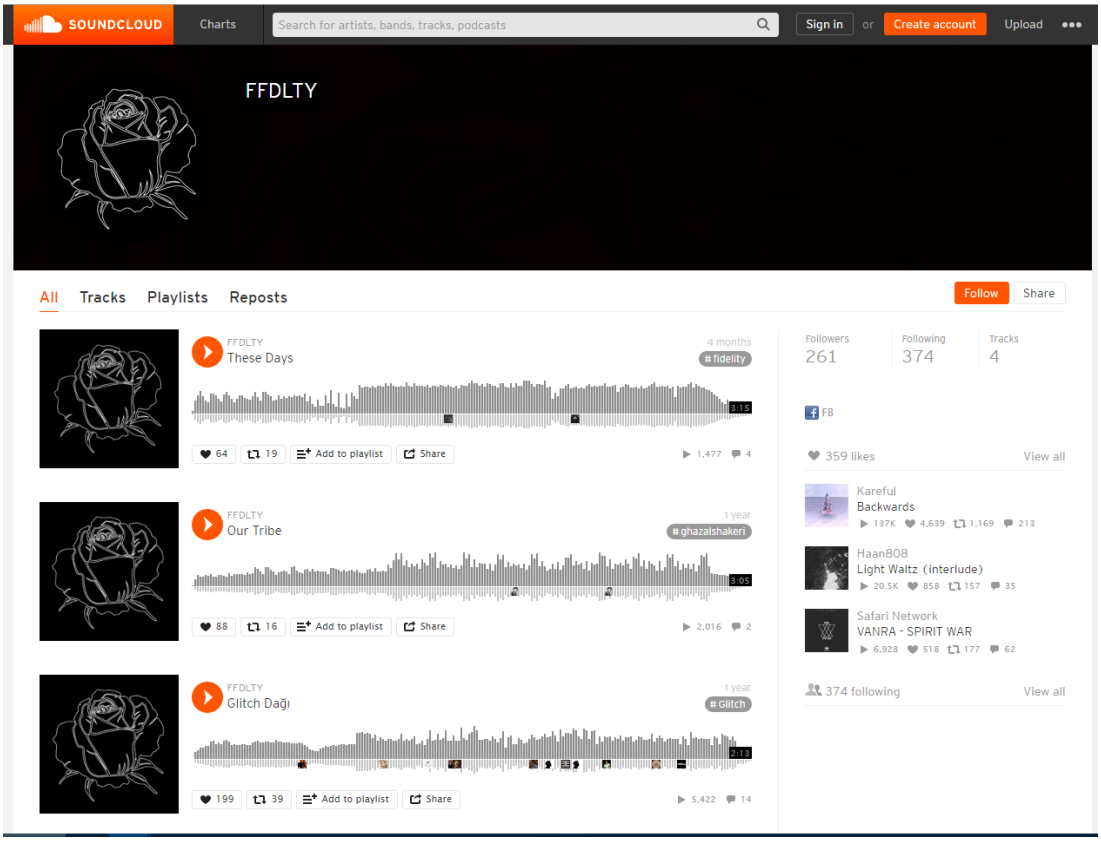
*Facebook:*



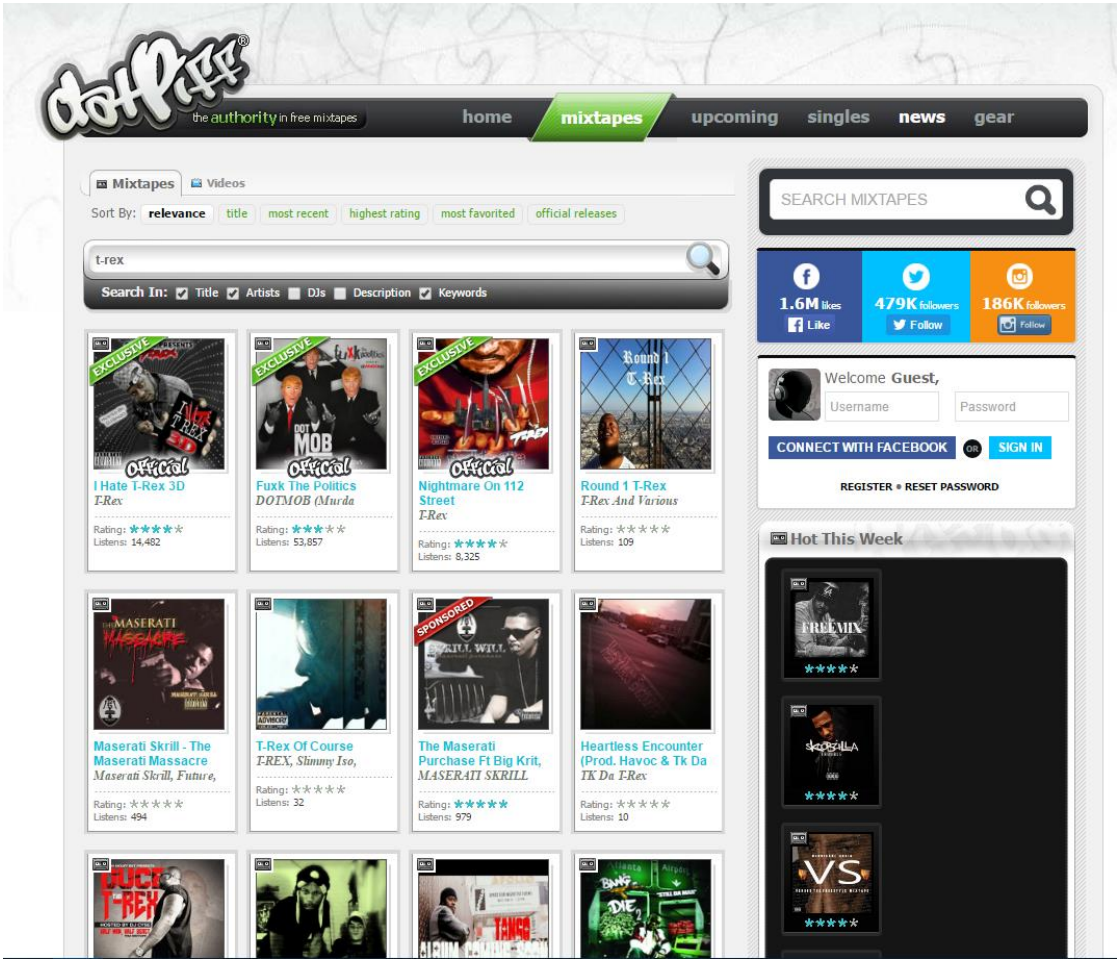
*Twitter:*




*SoundCloud:*



*Datpiff*: (T-REX is there main Artist)

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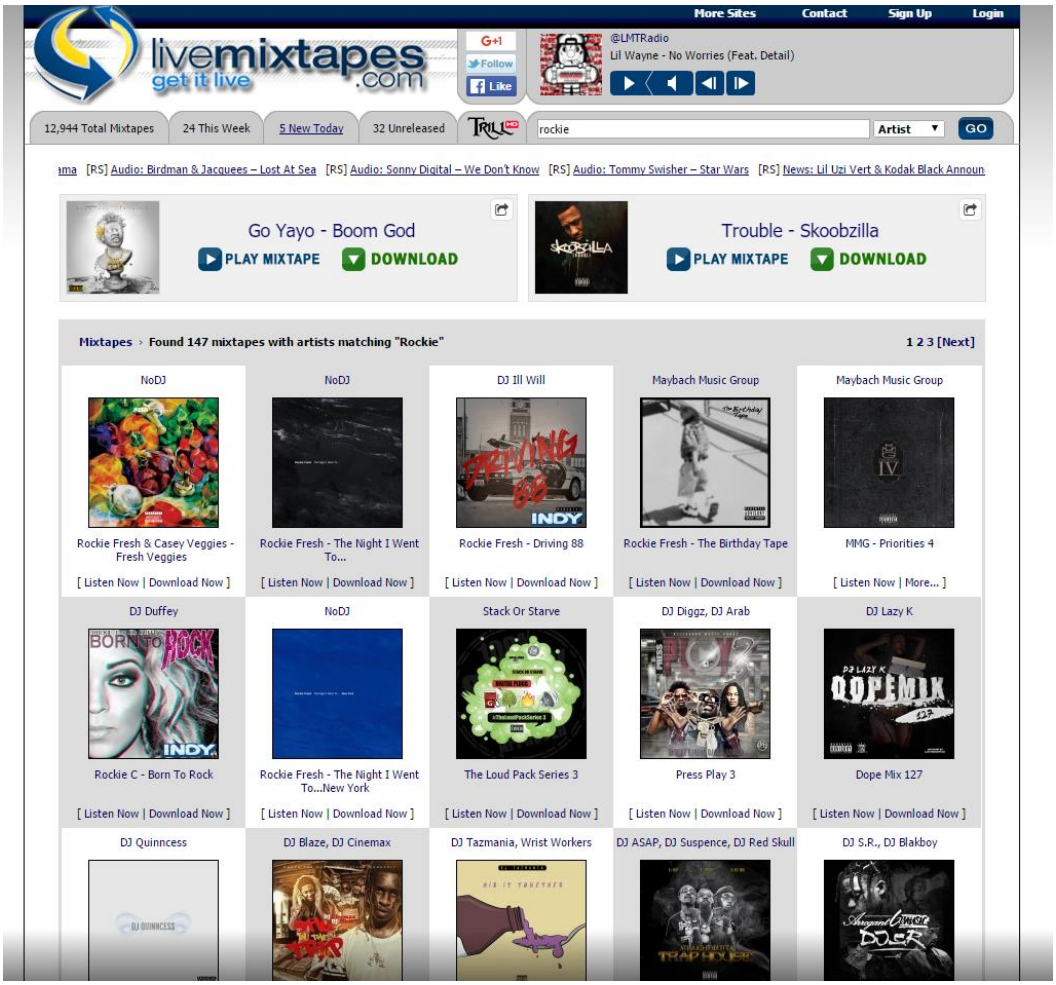
*LiveMixTapes:*

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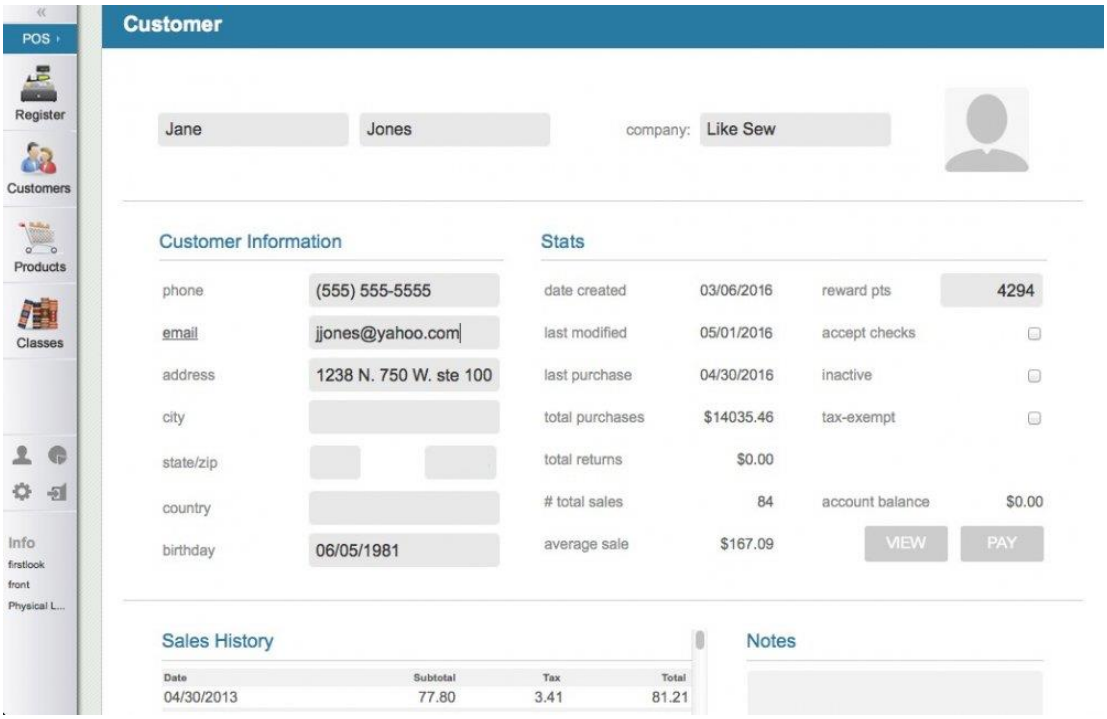
# The New Pos System Solution




Pos System is fully automated and manually inputted. The POS system basically takes care of itself, in regard of updates and storing data to the main host hard drive. All that is need is the clerk in front type in the data, and the pos system handles the rest.

## Storage Solution

Our suggestive on the hand of storage is an hard drive that has nas server capabilities on hand. This server as wireless hard drive that can connect all company in one, which make data more accessible to all.

### WD My Cloud EX4100 WDBWZE0080KBK - NAS server - 16 TB

Specifications and features

- NAS servers
- 8 TB
- HDD 4 TB x 4
- Supports RAID levels 1, 5 and 10
- JBOD
- 5 hot spare
- Gigabit Ethernet
- iSCSI

## Other Recommendations

1. We recommend to backup data in case of failure due to a miss in something. We want to prevent a possible unwanted loss of data or an error that may occur at any time in the implementation of our purpose solution.
2. We recommend the owner should have full administrator rights in order to presides over they system management
3. Please contact us immediately regarding any issues or concerns about our full installed system, we will reach back ASAP.