

FLIX2YOU- SUPER SIX PROBLEM SOLUTION

*IST 210
Fred Aebli
April 26, 2014*

*Super Six Development, Inc.
111 Nittany Lion Pkwy
State College, PA 16803*

*Super Six Problem
Solution*

Super Six Development Team

Project Manager:	Leo Wentline	leoaxp@gmail.com
Data Analyst:	Ben Miller	benmiller2342@gmail.com
Database Administrator:	Shane Haase	shane_haase@yahoo.com
Quality Assurance:	Jessica Vinson	jmv5282@psu.edu
Quality Assurance:	William Cho	wvc5185@psu.edu
Lead Programmer:	Tonya King	tfk5037@psu.edu

Table of Contents

Executive Summary	3
Project Summary	4
Scope of Work.....	4
Project Management.....	5
Project Plan	5
Project Resources and Budget	11
User Analysis	12
Users	12
Organization of Data	15
Identifying Relationships.....	15
Normalization.....	16
Database Administration	18
Database Implementation, Installation and Migration.....	18
Database Backup and Recovery	19
Database Dashboard and Analytics	22
Legal Issues	25
List of References	31
Appendix A: Create Tables	32

I. Executive Summary

Flix2You currently operates in an extremely competitive industry, where technology is constantly changing and, where information is often the key to success. Unfortunately the technology and data handling operations currently in use within the Flix2You organization are horribly outdated and do not provide adequate information to guide business decisions. In order to maximize the information available to the company, and level the playing field with Flix2You's competitors, the Super Six development team has created a highly organized database system utilizing the data already possessed by Flix2You.

Our team has extensive experience with integrating legacy and custom systems into efficient, secure, and robust revenue generators. Super Six has dedicated professionals who have worked on numerous projects from large to small and has a reputation in the industry for delivering instant results. Our team encompasses a diverse mix of administration experience, design experience, programming, security, support, training business management.

Super Six is excited to share our proposal to Flix2You's management team and key stakeholders. We feel it is innovative, aggressive, cost effective and, after implementation, will position Flix2You as the leader in streaming media services because of the scalability, flexibility, low maintenance and most importantly low cost of our solution. This will provide high return on investment for the company and higher quality services to the consumer for years to come.

II. Scope of Work

Competition is on the rise with competing services, and Flix2You is currently floundering due to these new companies. Media and market transitions are indicating a trend of the DVD becoming an obsolete media delivery, and Flix2You management needs to bring its services up to speed. Flix2You currently has a database with no database administration. In the past, Flix2You has hired ad hoc consultants for data analysis and retrieval, however there are no employees who know how to retrieve the data from the current database in order for management to view it. In essence, Flix2You has no way of knowing who their customers are or what their customers want. As such, management are unable to make business decisions regarding the offering of new products or knowing why people subscribe or unsubscribe from their provided services. Additionally, end users need to be able to access the data in an efficient and intuitive way. It is the Super Six consulting team's priority to ensure that these, among other issues, are not a problem.

The Super Six team has developed a plan that will allow efficient querying through dynamic dashboards, thereby enabling all users to better retrieve and ultimately analyze customer data. These dashboards will allow management and other users to see what age groups are viewing what genre of movie, who popular actors and actresses are, and how most movies are being viewed (by download or by mailed DVDs). All data will have the capability of being generated into a hard copy report.

This team also recommends the implementation of a full time Database Administrator from the onset of this project for reasons outlined later in this proposal. The Database Administrator will need to be trained in or already possess the following skills: Oracle, MySQL, DB2 proficiency, be able to follow all phases of the project, maintain privacy and security standards, perform server backups and prepare updated documentation and provide training as needed.

Additionally, the website will be updated to provide an administrative portal for data viewing for some employees, as well as an e-commerce site for customers. User analysis is further outlined later in this proposal.

The above will all be accomplished by installing two new servers and implementing a new database management software package. This software will meet the requirements of internal reporting and analysis, user friendly dashboards, and will support ad hoc queries. The hardware will support increased traffic load resulting from increased customers and website hits. Backup of data will be maintained on the cloud by the Database Administrator through Amazon EC2 with scheduling through MS SQL Server Management 2008.

III. Project Management

Project Timeline

The timeline set forth in this proposal is built to be flexible, to allow for implementation, testing, debugging, re-testing and modification if necessary. The timeline will be followed strictly to ensure the project is finished on time. Time has been built into the timeline for testing, generating reports to test the system and for training management and employees.

Phase One: Analysis - 2 Weeks

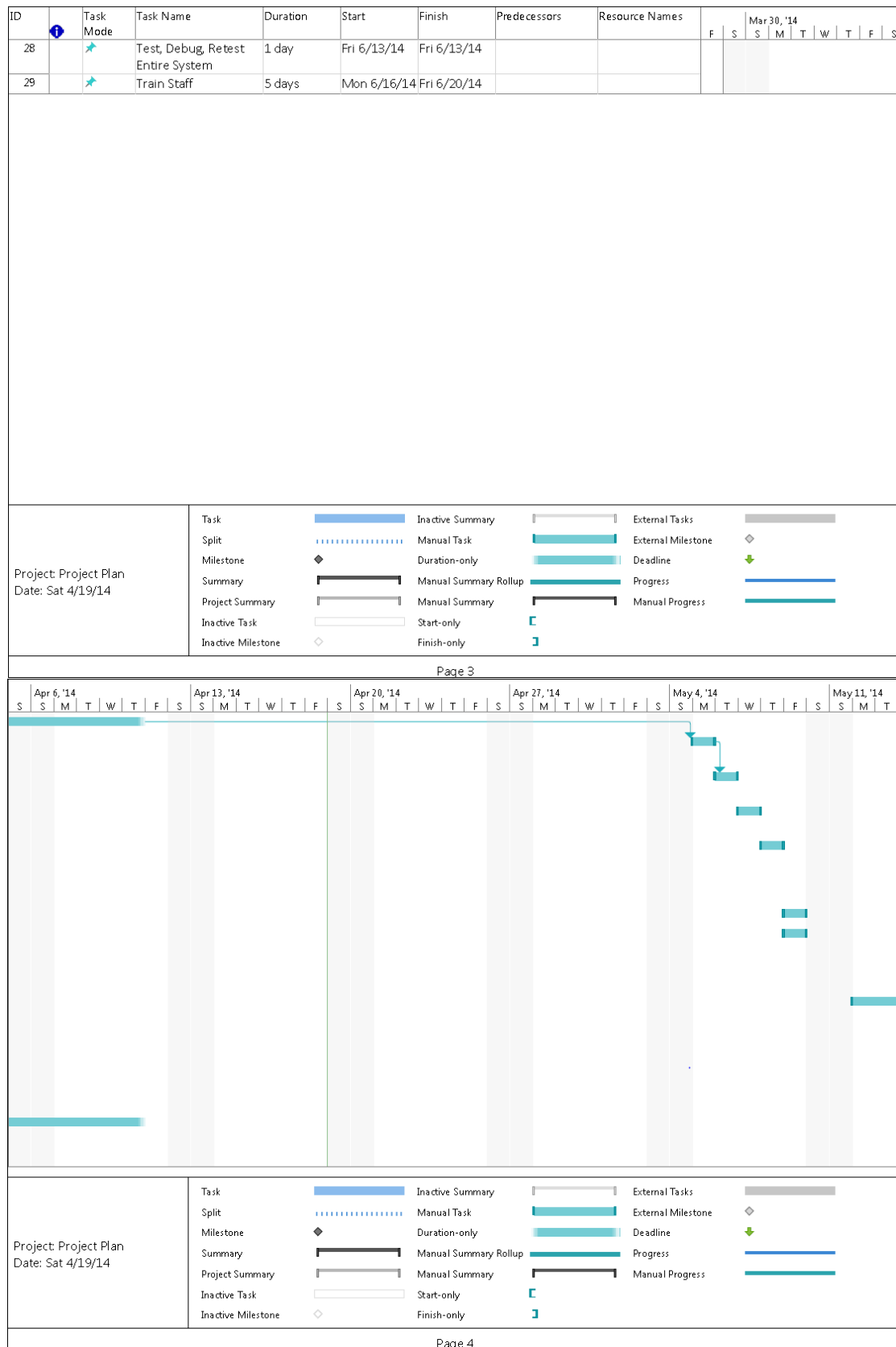
During the analysis phase, our team will meet with Flix2You executives and employees to determine operational information about the business and determine business rules. Our team will then meet to review the information gathered and revise our plan if needed to meet goals given to us by the executives. We will order hardware and software during this time. The database design, website and dashboard will be redesigned during this phase.

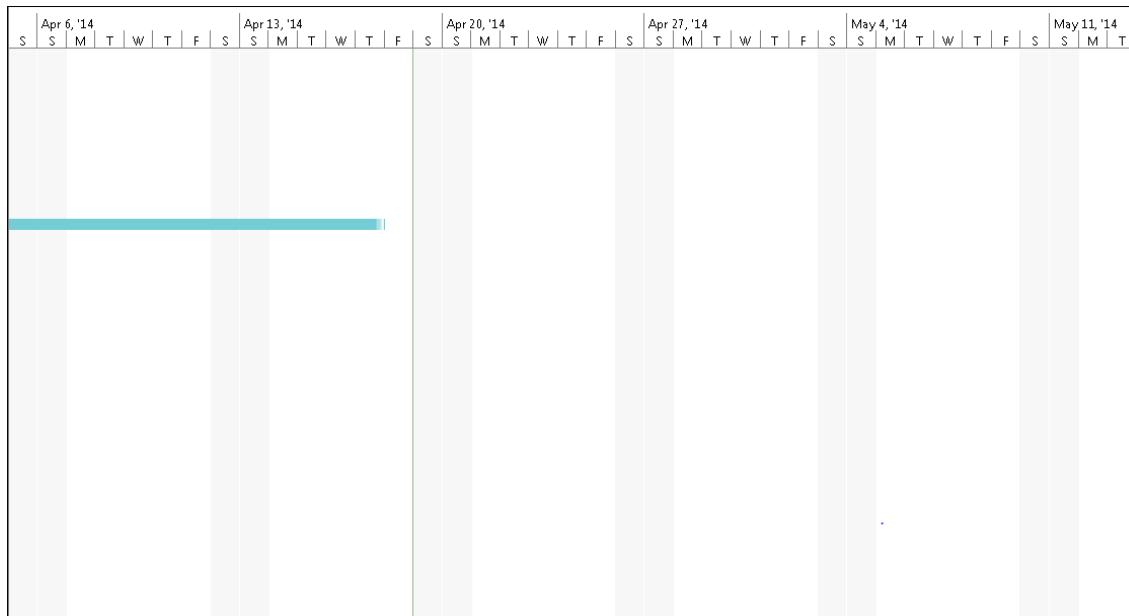
Phase Two: Development - 2 Weeks

During the development phase, we will rebuild and redesign the database tables. Code will also be written and test data will be loaded. Queries will be written to test the new system and data loaded and test reports will be generated from these queries. We have build in extra days to run tests on the new system, make changes if needed, re-configure, debug and re-test the system to ensure reliability and production.

Phase Three: Implementation - 3 Weeks

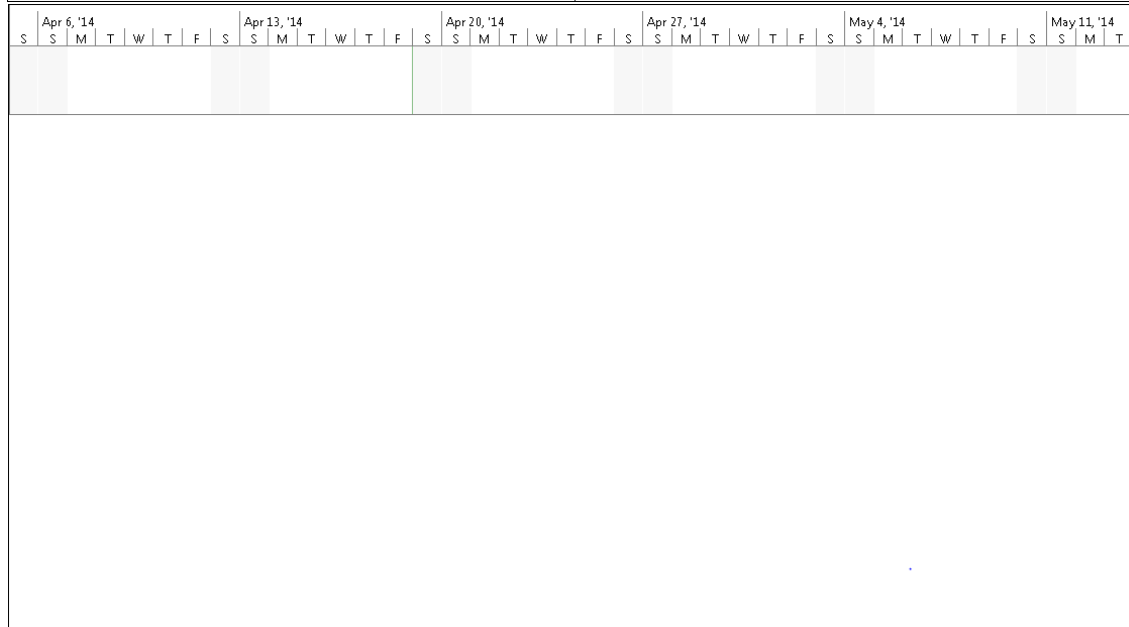
During the implementation phase, the new hardware and software will be installed. The Flix2You accounts will be set up with Amazon and Barracuda. Flix2You data will be loaded into the new system and it will be configured and inspected. Test queries will be run on data load to ensure proper reports are generated. Backup services through Barracuda will be set up and a schedule will be created and tested. The entire system will be tested on last time to ensure smooth implementation. Our team will spend the last week holding training sessions for all Flix2You executives and employees. We have set aside five days to sufficiently train every member of the staff, depending on their role in the company. We will train on data entry, creating reports, system backup and maintenance and support.





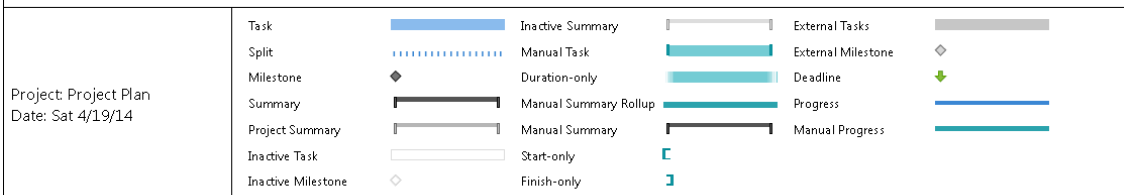
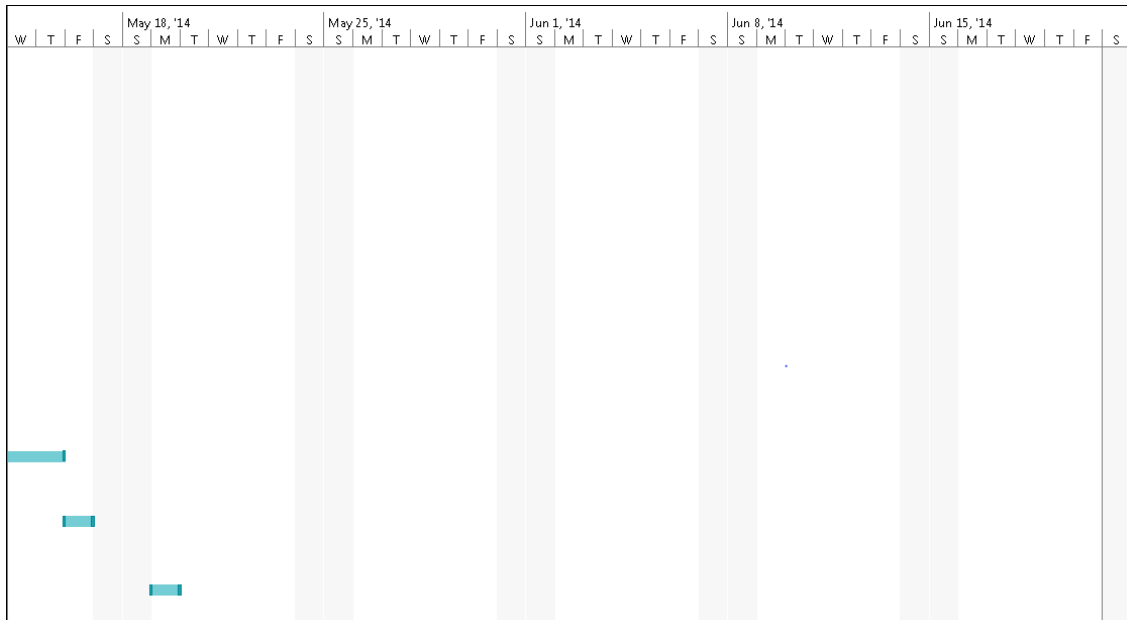
Project: Project Plan Date: Sat 4/19/14	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

Page 5

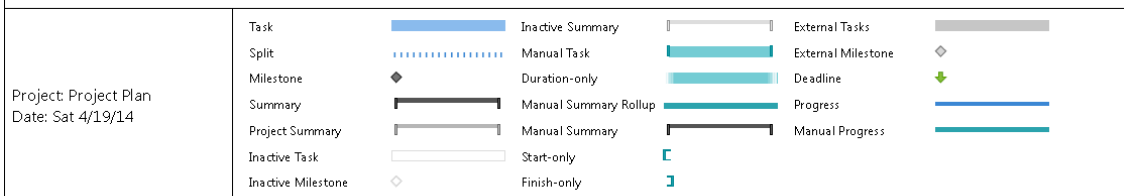
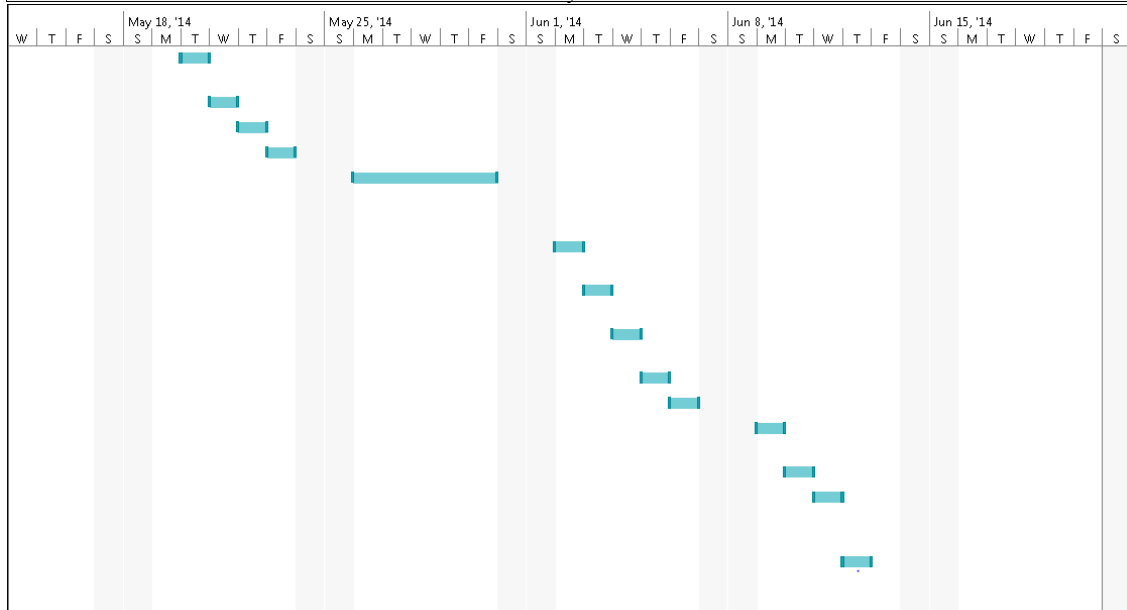


Project: Project Plan Date: Sat 4/19/14	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

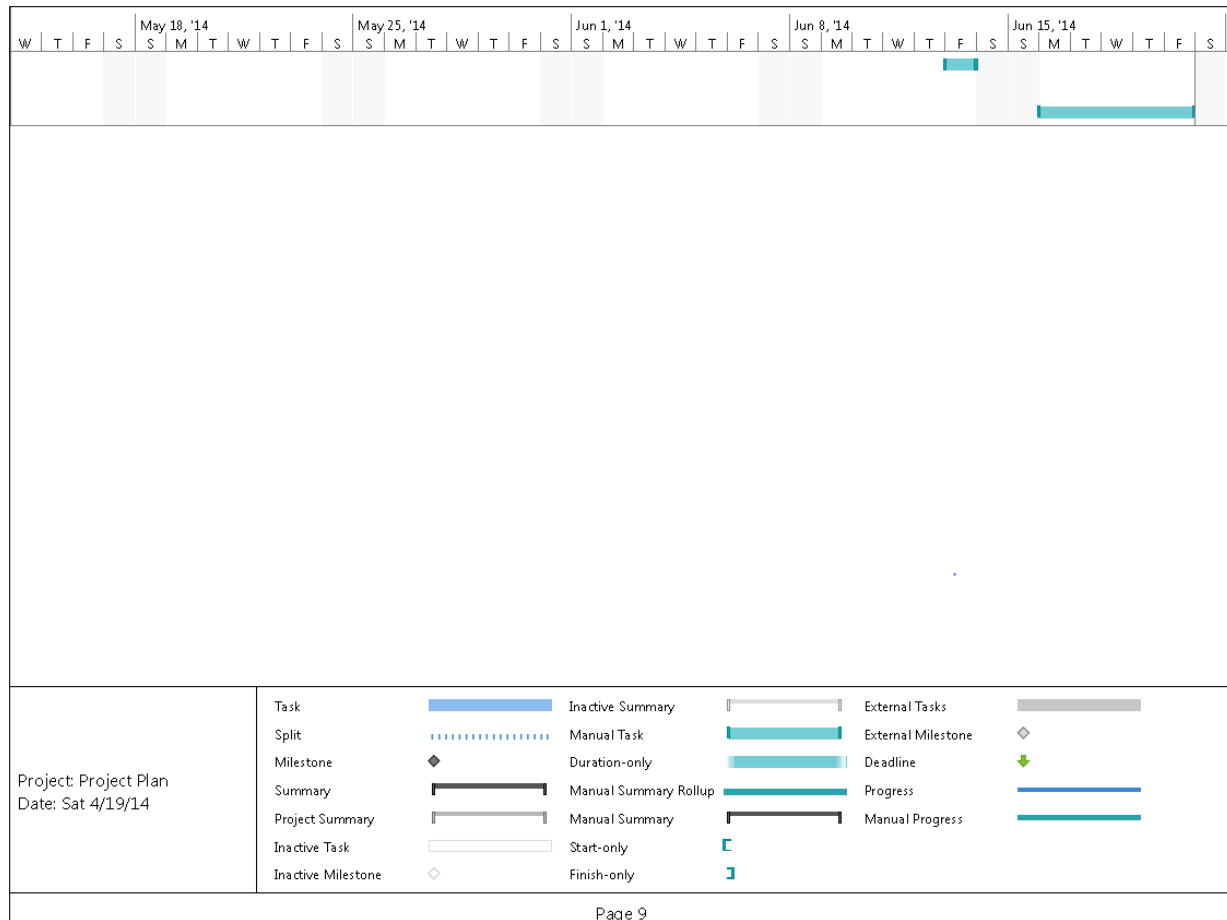
Page 6



Page 7



Page 8



LABOR BUDGET

Name	Role	Cost	Projected Hours	Total Cost
Leo Wentline	Project Manager	\$80/hour	280 hours	\$22,400.00
Jessica Vinson	Quality Assurance	\$60/hour	280 hours	\$16,800.00
Shane Haase	Database Administrator	\$70/hour	280 hours	\$19,600.00
William Cho	Quality Assurance	\$60/hour	280 hours	\$16,800.00
Benjamin Miller	Data Analyst	\$60/hour	280 hours	\$16,800.00
Tonya King	Programmer	\$65/hour	280 hours	\$18,200.00
Total Labor Cost				\$110,600.00

SUPPLY BUDGET

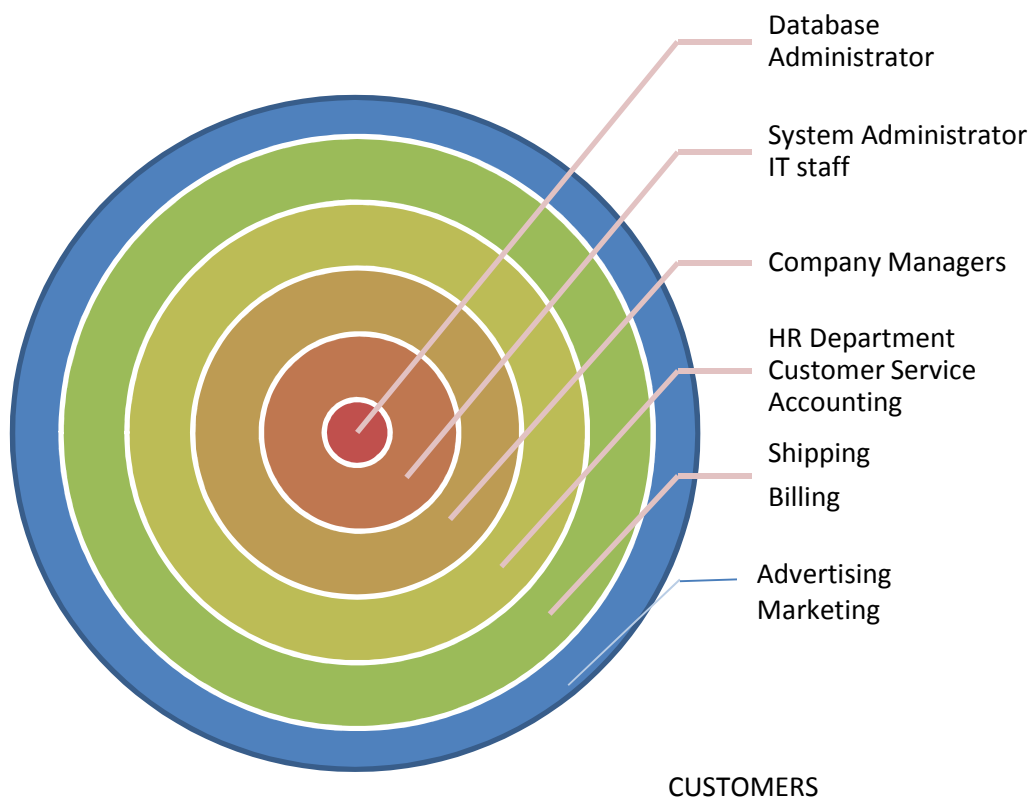
Component/Service	Details	Cost	Quantity	Total Cost
Amazon Machine Image (AMI) Memory Optimized Instance	(m2.4xlarge) with 68.4 GiB of memory, 8vCPU's, 1690 GB of local instance storage, and 64-bit platform	\$0.980 per Hour	8,760 hours (one year)	\$8,584.80 Per Year
Amazon EC2 "Storage Optimized Instance"	i2.4xlarge, with 122 GiB of memory, 16 vCPU's, 4 x 800 GB of SSD-based instance storage, on a 64-bit platform as additional storage	\$3.410 per Hour	8,760 hours (one year)	\$29,871.60 Per Year
Amazon EC2	Hosted Storage Solution			Total Cost: \$38,456.40 Per Year
Computer Workstations	HP ZBook 14 Mobile Workstation	\$1,399.00	10	\$13,990.00
Software License Transfer	SQL 2008 transfer to Amazon EC2		1	No Cost
Barracuda Backup Service	Backup Service	\$1,417.00	1	\$1,417.00 Per Year
TM1 Admin Server	Dedicated Computer running Windows		1	
TM1 Server	32 bit or 64 Bit Computer running UNIX		1	
Business Intelligence	Upfront Costs for BI, dashboard and analytics			\$41,694
Total Supply Cost				\$134,013.80
Total Project Cost		Labor + Supplies		\$244,613.80

IV. User Analysis

FLIX2YOU is comprised of several different departments that make up the company as a whole. Within each department there are different sets of users who will interact with the database to access necessary information in order to perform their duties. Each set of users has its own specific data needs based on those duties and therefore must be given access to the appropriate tables or entities within the database system. Access to the database will be restricted to only the appropriate necessary tables or entities for most user groups. This is meant to insure security of the data contained within and prevent unapproved access.

The users and user groups include the Database Administrator, System Administrator, IT staff, Company Managers, HR department, Customer Service, Shipping, Billing, Accounting, and the Advertising/Marketing department.

These user groups are illustrated in the diagram below. The highest level of access and privileges are concentrated at the center of the diagram with each subsequent ring having fewer privileges as you move to the outer-most ring which has the least access and privileges. A more detailed description of each set of users follows.



Database Administrator

The Database administrator occupies the inner circle of the diagram signifying that he or she has the highest level of access and privileges. There is no portion of the database that they are restricted from viewing, manipulating or creating. This will allow the administrator to create new entities, make changes to existing entities and data structures, drop existing entities and grant additional privileges to those outside the inner circle whenever necessary.

Only the Administrator has the highest level of access, this will help to insure consistency in the database and provide security and stability for the system by limiting the ability of other users to create and change tables and data structures.

System Administrator & IT staff

The System Administrator and IT staff members occupy the ring just outside of the inner circle in the diagram. The duties of this user group will require system wide access similar to the level of access the DBA possesses. Therefore this set of users has many of the same privileges that the Database Administrator does, including the ability to view and manipulate all entities and data. This set of users will not be able create or eliminate entities however, in an effort to maintain consistency and system integrity only the DBA will have these privileges.

Company Managers

The next user group ring is comprised of company managers. This set of users has many of the same privileges as the previous System Administrator and IT staff user group with a few exceptions. The manager user group will have access to all tables in the sense that they can view, insert, and change data in the database tables but will be unable to create new entities or change the overall structure of the existing entities. This will allow managers to execute all of their duties and responsibilities without possibly endangering overall system functionality, as most managers will not have a database background and should not be responsible for changes to database structure.

HR Department / Customer Service/ Accounting

Outside of the management user group ring, there exists a ring of users who deal with customer and employee data. This ring is comprised of the HR, Customer Service, and Accounting Departments. Similar to the management user group the users within this ring are restricted from creating or eliminating entities and changing data structures. Unlike the management user group however, the departments that make up this ring will also have a restricted access to viewing and manipulating tables. The HR and Accounting department will only have access to employee data and will only be able to view and manipulate the data contained within employee tables, such as employee pay rate and terminations/ new employee hires.

Similarly the Customer Service Department will only have access to Customer related entities and data made up of the following tables:

CUSTOMER, CUSTOMER_RENTALS, and ACCOUNTS

Shipping & Billing

The next ring of users as we move towards the outer edge of the user diagram is made up of the Shipping and Billing Departments. Similar to the last ring, these user groups do not have the ability to create or eliminate tables from the data base and their views are restricted to specific tables that are of concern to each department. The Shipping department will have its views and editing privileges restricted to the following tables:

CUSTOMER, CUSTOMER_RENTALS

The Billing department will have its views and editing privileges restricted to the following tables:

CUSTOMERS, FINANCIAL_TRANSACTIONS, ACCOUNTS

Advertising & Marketing Departments

The outer ring of the user diagram is made up of the Marketing and Advertising departments. Similar to the last two rings this group of users is restricted from creating or eliminating tables and may not alter data structure. Unlike the other user groups these users are also restricted from editing any tables leaving them with simple viewing privileges and only for a few select tables. This should be sufficient for the purposes of these departments though, as their role is concerned more with interpreting data to use strategically for marketing and advertising to attract new customers. This user group will have viewing privileges only for the following tables:

MOVIES, CUSTOMER_RENTALS, CUSTOMERS

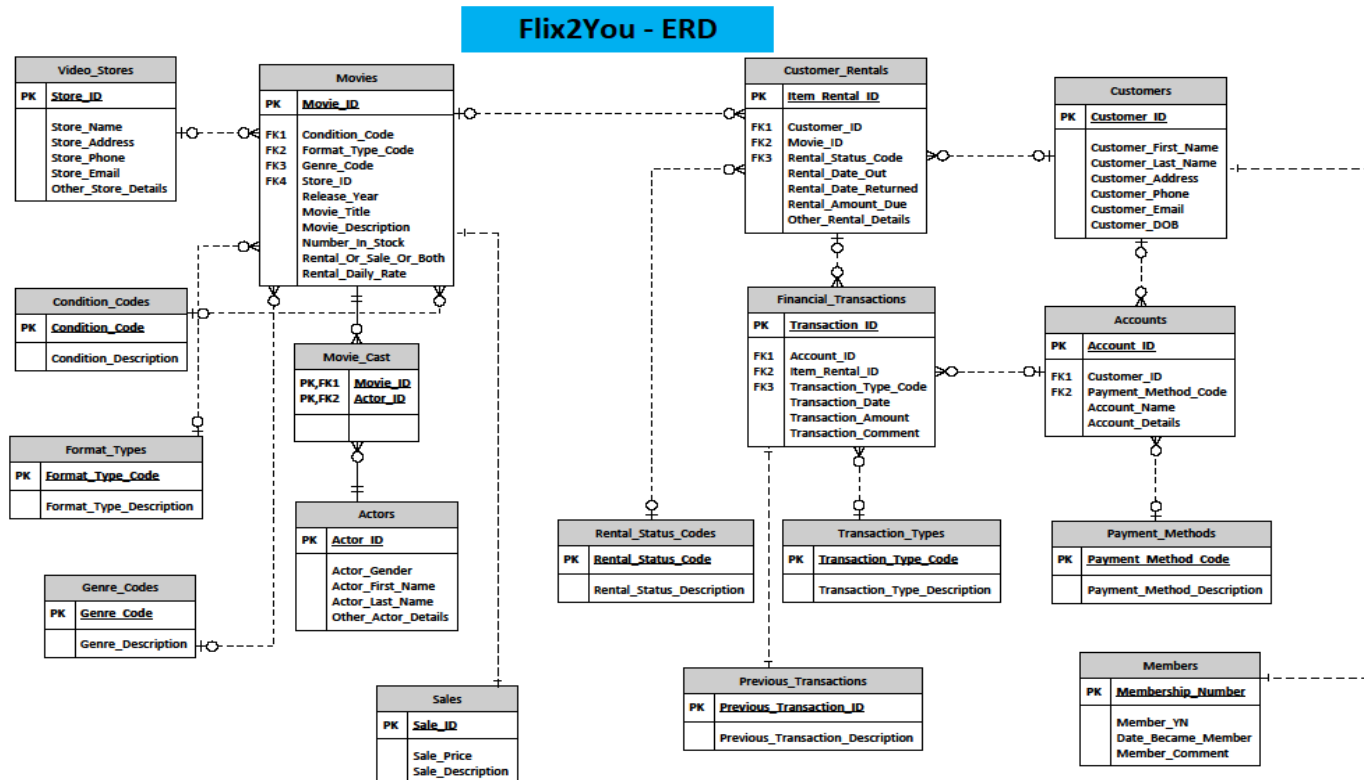
Customers

Customers, pictured just outside of the outer ring of the user diagram, are not truly a set of database users because they have no privileges of any kind. They are included in the diagram however because they do interact with the database in a limited way through the FLIX2YOU website by creating an account, entering personal information, and selecting movies from the available titles held in the database.

V. Organization of Data

Existing Database Analysis- Identifying Relationships

New ERD



A few tables in the existing Flix2You database produce unnecessary results. Team Super Six developed a revised table structure in order to eliminate anomalies and redundancies. We suggest updating the Flix2You table structure to third normal form (3NF), which will produce much more desirable results.

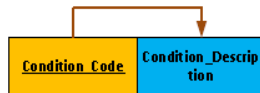
Initially, the tables are in first normal form (1NF). After removing all partial dependencies, the tables are said to be in second normal form (2NF). Super Six took the Flix2You table structure a step further from the second normal form to third normal form, by deleting all transitive dependencies within the tables.

The final design will void insertion, update, or deletion anomalies, which in the end guarantees the integrity and consistency of the data. Flix2You will have a much more reliable and effective way to interact with their database.

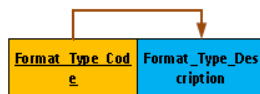
Flix2You Normalization



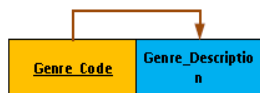
Video_Stores (Store_ID, Store_Name, Store_Address, Store_Phone, Store_Email, Other_Store_Details)



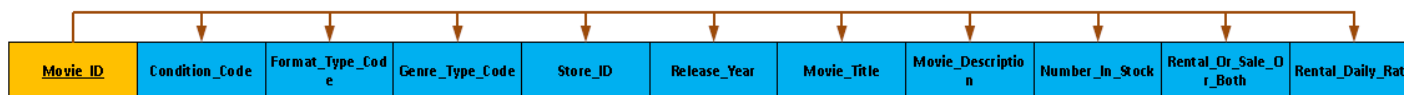
Condition_Codes (Condition_Code, Condition_Description)



Format_Types (Format_Type_Code, Format_Type_Description)



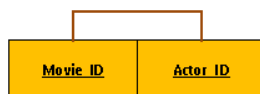
Genre_Codes (Genre_Code, Genre_Description)



Movies (Movie_ID, Condition_Code, Format_Type_Code, Genre_Type_Code, Store_ID, Release_Year, Movie_Title, Movie_Description, Number_In_Stock, Rental_Or_Sale_Or_Both, Rental_Daily_Rate)



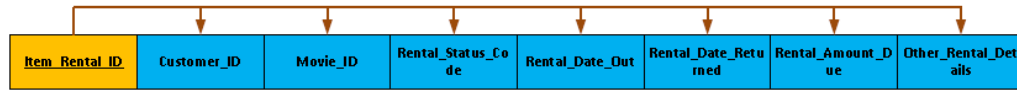
Sales (Sale_ID, Sale_Price, Sale_Description)



Movie_Cast (Movie_ID, Actor_ID)



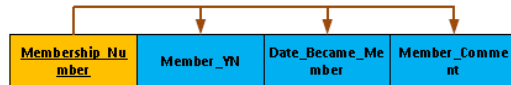
Actors (**Actor_ID**, Actor_Gender, Actor_First_Name, Actor_Last_Name, Other_Actor_Details)



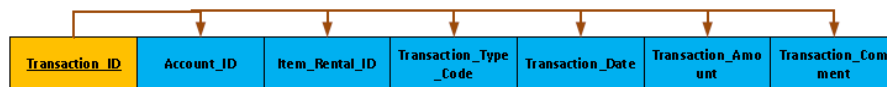
Customer_Rentals (**Item_Rental_ID**, Customer_ID, Movie_ID, Rental_Status_Code, Rental_Date_Out, Rental_Date_Returned, Rental_Amount_Due, Other_Rental_Details)



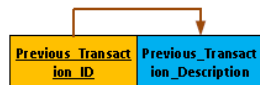
Customers (**Customer_ID**, Customer_First_Name, Customer_Last_Name, Customer_Address, Customer_Phone, Customer_Email, Customer_DOB)



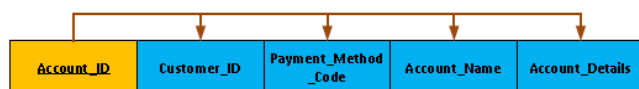
Members (**Membership_Number**, Member_YN, Date_Became_Member, Member_Comment)



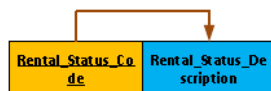
Financial_Transactions (**Transaction_ID**, Account_ID, Item_Rental_ID, Transaction_Type_Code, Transaction_Date, Transaction_Amount, Transaction_Comment)



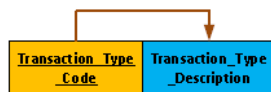
Previous_Transactions (**Previous_Transaction_ID**, Previous_Transaction_Description)



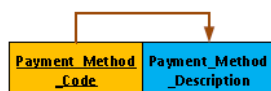
Accounts (**Account_ID**, Customer_ID, Payment_Method_Code, Account_Name, Account_Details)



Rental_Status_Codes (**Rental_Status_Code**, Rental_Status_Description)



Transaction_Types (**Transaction_Type_Code**, Transaction_Type_Description)



Payment_Methods (**Payment_Method_Code**, Payment_Method_Description)

VI. Database Administration

Flix2You's Database Administrator (DBA) roles and responsibilities are distributed into two major sections within our proposal. The DBA serves a major role during the implementation stage of the project with key decisions surrounding the database. Additionally, the DBA will have daily roles and responsibilities once Flix2You is running within the new Amazon EC2 platform. The following details the knowledge and duties that the assigned DBA(s) will provide to successfully administer Flix2You's database system and ensure a successful transition to the new platform.

Database Implementation, Installation and Migration

The DBA has worked closely with the system administration team to help determine the database management system that will be used to manage and store Flix2You's database(s). The DBA has strong knowledge of the hardware and software that will be needed for an efficient database server and validated that Amazon's EC2 will be able to deliver the resources and storage needed during the deployment and implementation phases.

As detailed in the budget section of our proposal, the database will be installed and managed on a cloud server stored through Amazon EC2. The database server will be installed on an Amazon Machine Image (AMI) Memory Optimized Instance (m2.4xlarge) with 68.4 GiB of memory, 8vCPU's, 1690 GB of local instance storage, and 64-bit platform. The Microsoft Server 2008 R2 Standard operating system will continued to be used and we have determined that we are going to continue to also use Microsoft SQL Server 2008 R2 as the RDBMS. Since Flix2You purchased a VL license with Microsoft originally and were enrolled in Microsoft's License Mobility Program, Amazon allows us to BYOL (Bring Your Own License). Microsoft SQL Server 2008 R2 will allow us the opportunity to use the existing licenses that Flix2You previously purchased and save time with the migration from the existing database server and implementation to the new Amazon AMI within the cloud.

We have comprised a schedule that will have minimal impact to Flix2You's current operation with along minimal downtime. The DBA will install a new instance of MSSQL Server 2008 R2 on the AMI and then make a backup of the existing database on the Friday night before the scheduled cut-over from the old system\platform and copy them to the new database server. On Saturday morning, the DBA will load the copied full backup (SQL files) taken Friday night (existing Flix2You database) and then restore the database on the new instance within the AMI on the Amazon EC2 cloud. After the database(s) have been restored onto the new platform, the DBA will test the integrity of the data and ensure that the data (entities, constraints, indexes, users etc.) were successfully restored. The DBA will troubleshoot and resolve any issues in regard to the restoration of Flix2You's existing data on the new platform and ensure that the database is ready for go-live.

Database Backup and Recovery

Flix2You's database backup and recovery plan will be designed with a three prong approach.

First, we address Flix2You's backup and recovery plan by ensuring that we have a capable and secure storage location to place our database backups. By utilizing Amazon EC2, we are able to purchase only the storage that we need at any given time, which provides us with a cost savings and the scalability tools to meet a growing business. As Flix2You's business and customer's begin to grow and expand, we are able to expand and grow our database storage and backup locations to compensate for the growth. Once again, while working with our system administrators, we have identified Amazon EC2 "Storage Optimized Instance" i2.4xlarge, with 122 GiB of memory, 16 vCPU's, 4 x 800 GB of SSD-based instance storage, on a 64-bit platform as additional storage. Amazon EC2 AMI's also provide our system with an extra layer of software, physical and environmental security. The DBA will also monitor the storage situation as part of their daily, weekly, and monthly role.

Secondly, within MSSQL Server 2008 R2's Management Studio's "SQL Server Maintenance Plan Wizard", we are able to configure and schedule hourly, daily, weekly or monthly database backup and maintenance jobs. We will schedule a full-backup job to run every morning at 2:00 AM ET, with the output being stored on the storage server. We have chosen to initiate the full daily database backup at 2:00 AM ET, due to it being a low usage time for our system. Backup processes use a large amount of memory to complete and are more efficiently ran during off peak times. Flix2You's business units will mainly access the database during a 9 AM to 5 PM work day and our peak usage for our customer's is between 6:00 PM to 11:00 PM ET, CT, MT and PT. In addition to a full daily backup of the database, we will create a daily transaction log backup job to run every two hours starting at 6:00 AM ET ending at 12:00 midnight ET.

Our last phase in our database backup and recovery plan is the recovery plan. In addition to taking backups of our database, we will take daily backups of our MSSQL storage file location(s) and copies of our Amazon EC2 database server (AMI). These locations are where our database backup files and logs are stored and having a copy of the actual AMI of the database server allows us the option to quickly restore the whole database server along with the database at a moment's time. This will allow us to essentially have a backup of our backup. This provides us with a second layer of security and redundancy. If something only happens to a component of the database itself, we can easily recover it by using our last known "good" full-backup and then restoring the last "good" known transaction log backup that was taken before the anomaly or issue occurred. Again, we can restore using the wizard within our MSSQL Server 2008 R2 Management Studio.

The backup and recovery plan is part of the DBA's daily job duties. They will monitor the maintenance and backup jobs throughout the day to ensure that maintenance and backup jobs are executing as expected without errors. The DBA will also validate first thing in the morning that the 2:00 AM ET backup job executed as scheduled. If a recovery of the database or database server is ever required, the DBA will work closely

with the system administrator to ensure full operation recovery of the database and system.

Data Access and Security, Privacy Statement

Flix2You's assets will be secured by a team approach divided into three different levels of access, managed by four different teams. Since Flix2You's business is web based and accessed through the internet and mobile devices; the database administrator has to work with the system administrator, network administrator and webmaster to ensure that the integrity of the database is not compromised. Therefore, the database administrator has worked closely with these teams to ensure that we have website\network security, system security and database security. The following is a brief description of each of the levels of security provided, with the database being the core system that we want to insulate from potential threats. It all starts with website\network security, and then system security and ends with database security.

Website\Network Security- Flix2You's website is what drives revenues for the company and allows customers the opportunity to use its services. Since the website is essentially the "face" of Flix2You, it needs to be accommodating, inviting and welcoming for new customers. With making Flix2You's web servers accessible to the entire world via the world wide web; the webmaster, network administrator and system administrator have taken care of this level of security with tight customer user permissions (unique customer ID's\usernames and password requirements), ensuring that the website is coded with advanced and highly secured standards, and ensuring that the web servers, web applications, and network components are frequently updated with the most recent security patches. We will employ strategically placed Firewalls within the network infrastructure, use intrusion detection software and use encryption where applicable. The main purpose of these policies and actions is to secure Flix2You's website, limiting the potential for the website from being hacked, which would then cause the data in the database to be compromised. These policies also help protect our internal users and employees from allowing an attack from happening internally within Flix2You. Assets are projected from outside and inside the organization.

System Security- Flix2You's web servers, storage servers, database servers and workstations run on Windows based operating systems. Flix2You utilizes a domain controller and uses Microsoft Windows Active Directory with Group Policies to manage internal access to the applications and the systems used by employees, IT personnel and management. Referencing our "user analysis" section of this proposal, direct access to our database server, web server, storage server and the database itself will be limited to the administrators group. Customers do not have any direct access or credentials to access any of the above systems.

Database Security – As outlined in our “user analysis” section of this proposal and diagram, only a select group of users will have direct access with read\write capability to our database. Customers will have no direct access to the database or database server. This is also true for various internal groups of employees\users. In addition, only the Database Administrators, Database Analyst and System Administrators will have a username and password to login to the database server. The database administrators, along with the system administrator will monitor the logs of the database server on a daily basis to ensure that that critical patches and updates are made to the RDBMS (MSSQL Server 2008 R2) and to the operating system of the database server. Windows Updates run daily on the database server, so it should be updated frequently with any security patches released by Microsoft. This along with limiting permission and rights access to the database will help keep it insulated from outside attacks, and from being viewed or updated by unintended users.

Privacy statement – Flix2you has always taken customer privacy seriously and will continue this policy as we switch to our new platform. Our detailed customer privacy statement is located on our website and can easily be accessed from any page on the website. The full privacy statement is also located and detailed under appendix A. In addition, our website contains legal and copyright information that explains to our customers that our employees have access to their personal information, including name, address, date of birth, and credit card information. For the employees that have access to customer information, we perform background checks, fingerprint them, and require them to sign disclosures stating that they will not use customer or company data inappropriately. Employees are also held to Federal, State, and local laws and regulations as well.

Data Load

Our migration plan is outlined above and has been scheduled to take place during a time that will have minimal impact to Flix2You customers and employees.

We will use the built in bcp utility within SQL Server 2008 if the need arises to import or export large amounts of data into or out of our operational database. We can also utilize the SQL Server Import and Export Wizard to import or export various data sources; including Oracle, Access an Excel spreadsheet, etc.

VII. Database Dashboard and Analytics

To meet the needs of internal reporting and analysis the Super Six Team would like to propose the installation and implementation of the Cognos Enterprise Business Intelligence package. With Cognos you will be able to create dynamic interactive dashboards for quick business analytics. Cognos will also be able to support ad hoc reporting requests using their Query Studio reporting tools (Du, 2013).

To Implement Cognos Business Intelligence for Flix2You the Super Six team will be creating a Data Mart with new tables with specific entities and attributes designed to report the data needed for the Cognos Business dashboards and Query Studio (Chung & Chung, 2013). We will run a nightly ETL process that will pull data from our Operational Database into the Data Mart staging tables. Once the nightly ETL processing has been completed a Cognos Refresh job will run to pull in the new transactional data into the Cognos Dashboards and Query Studio (IBM, 2014). We will also work on creating meaningful mobile reporting tools.

By going with the Cognos tool you can eradicate the need to buy and house server's onsite. Cognos will host your servers for you using their VM ware and Flix2You will only need to pay the licensing and maintenance fees as outlined in the overall budget.

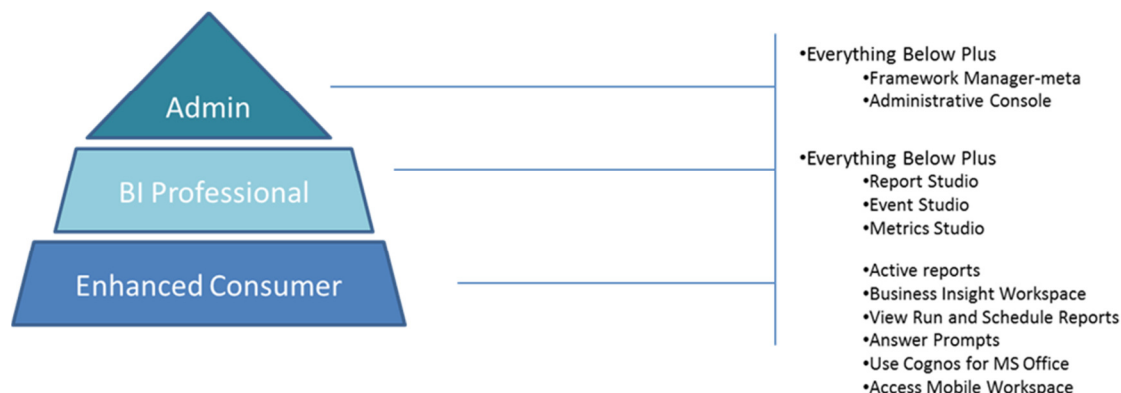
In order to have a successful on time launch of Cognos the BI team will work in concurrently with the DBA teams with the following time line:

2 Weeks: Analyze Gathering business rules and data requirement from management and SMEs. Establish timeline for full implementation.

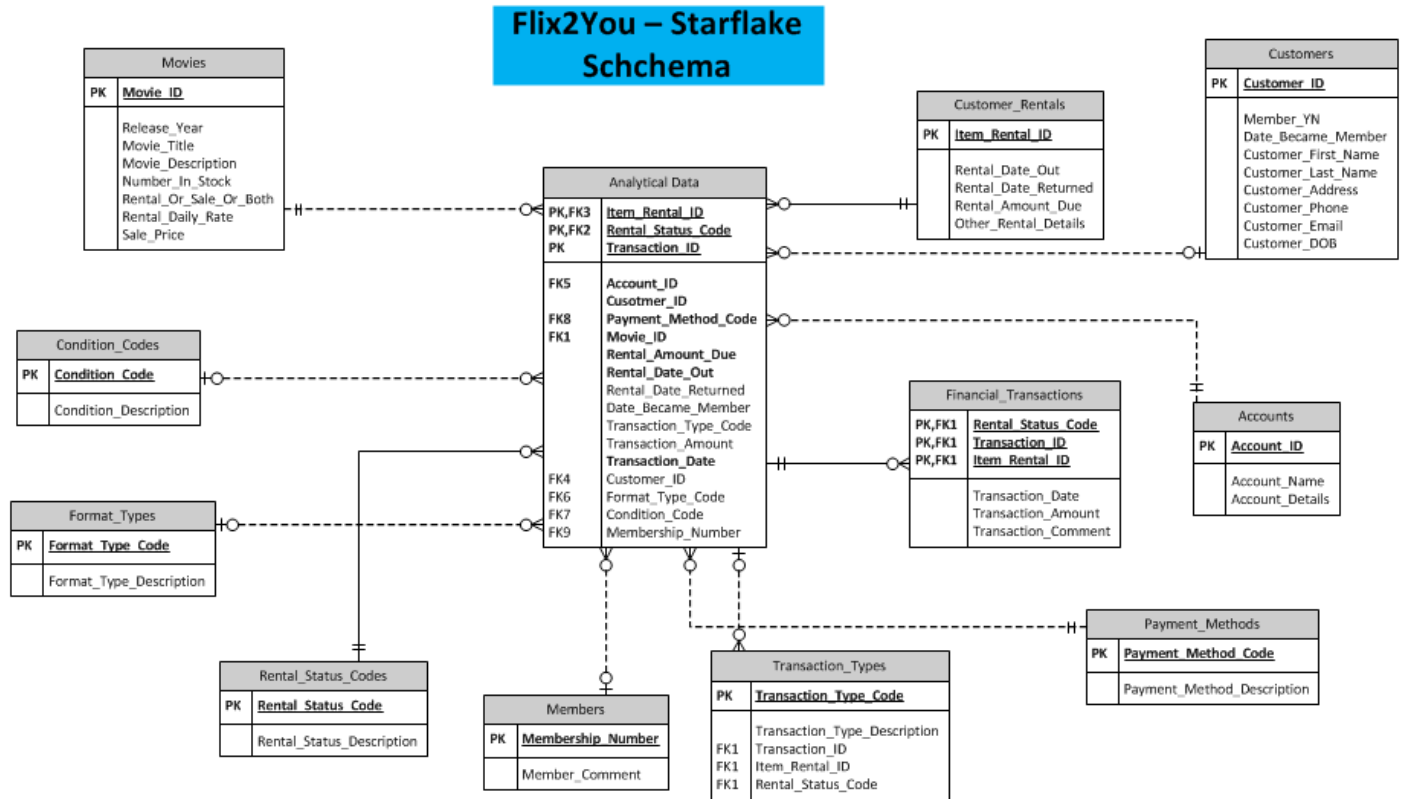
2 Weeks: Design and build, we will install a development environment to design, build and test the reports and dashboards.

3 Weeks: Deploy and Operate, once report functionality has been thoroughly tested we will load all production data into Cognos and train users.

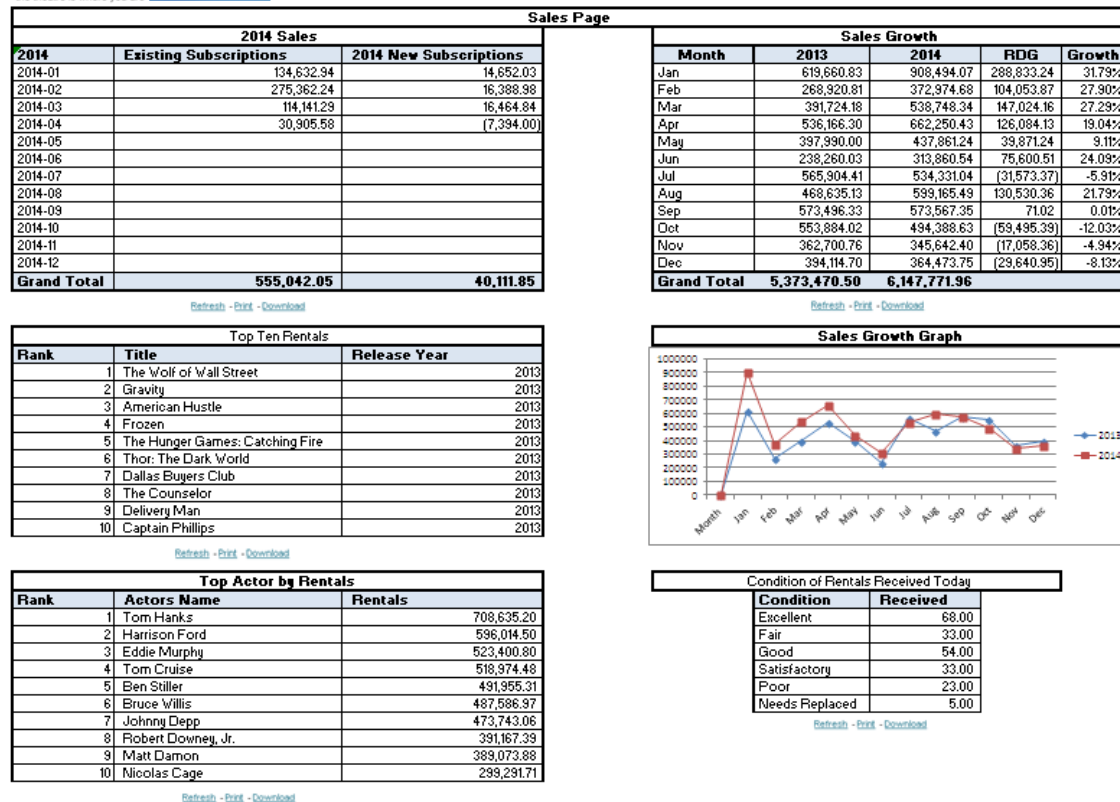
Once we have had a successful launch of the Cognos tool the Super Six Team will assign the following user groups



To populate the data for the Cognos Tool the Super Six team will create the following transactional database tables.



Once completed we should have a dashboard that looks like the following, with your BI Admin and BI Professional license your team can create further dashboards based on the expanding needs of your business. The Super Six team is also going to build out the dashboards below in the Cognos mobile Workspace solution. This will allow your Enhanced Customers to access critical analytics day or night, in office or on the road.



Type	Number of License	Unit Price	Extended
Admin (revised)	1	\$14,700	\$14,700
BI Professional	2	\$3,540	\$7,080
Enhanced Consumer	17	\$1,171	\$19,914
Sub Total:			\$41,694
20% yearly maintenance			\$8,339
Year One total			\$50,033
Year Two Maintenance			\$8,338.86
Year Three Maintenance			\$8,338.86
Year Four Maintenance			\$8,338.86

VIII. Legal Issues

The following are Flix2You's privacy policy and privacy statements. These statements and policies are available through-out Flix2You's website and have been reviewed and approved for use by our legal team.

Privacy Policy

This Privacy Policy explains our policy regarding the collection, use, disclosure and transfer of your information by the Flix2You family of companies ("Flix2You") (help.Flix2You.com/article/en/node/6592). To learn which company is responsible for processing your personal information and for instructions on how to contact us, please see the "International Users/Contacting Us" section below. By using, visiting or browsing the Flix2You service, you accept and agree to our information practices described below.

Please note that this Privacy Policy includes embedded hyperlinks that may only be accessed through our website, so if you are reviewing this Privacy Policy through certain Flix2You ready devices (for example game consoles or Internet enabled televisions), you may need to visit the website to review these hyperlinked terms.

- Collection and Use of Information
- Disclosure of Personal Information
- Social Sharing
- Other Websites, Platforms and Applications
- Children
- Right to Access Your Information
- Cookies and Internet Advertising
- Security
- Changes to This Policy
- Transfer of Information
- International Users/Contacting Us

Collection and Use of Information

We receive and store information, including personal information, about you and your use of our service. This information is gathered in a number of ways, including when you enter it on our website and from interactions with our service. In this Privacy Policy, we use the term "personal information" to mean information that can be used to uniquely identify or contact you. Non-personal information is information that does not permit direct association with you. We may collect, use, transfer and disclose non-personal information for any purpose. You can choose not to provide personal information we may request of you, but, in general, most of the personal information we request is required in order to provide our service and the lack of such personal information will prevent us from doing so.

When you interact with us, we may ask you to supply us with personal information so that we can provide, enhance and personalize our services and marketing efforts. For similar reasons, we may supplement the personal information you provide with publicly available information about you as well as information from other sources, as permitted

by law. We use this personal information for various reasons, including to process your registration, your orders and your payments, and to communicate on these and other topics. For example, we may use your e-mail address or other methods to send newsletters, messages about new Flix2You features, Flix2You special offers, promotional announcements, consumer surveys and other correspondence and marketing concerning our service. If you no longer want to receive certain communications from us via email, simply access the "Email preferences" (<https://www.Flix2You.com/EmailPreferences>) link on the "Your Account" page of our website (<https://www.Flix2You.com/YourAccount>) and uncheck those items to unsubscribe, or click the "unsubscribe" link in the email. For information about opting out of certain postal communications, please visit <https://help.Flix2You.com/article/en/node/8748#gsc.tab=0>. Please note that you cannot unsubscribe from certain correspondence from us, including messages relating to your account transactions.

We keep track of your interactions with us and collect information related to you and your use of our service, including but not limited to: your online activity, title selections, reviews, ratings, payment history, correspondence, Internet protocol addresses, device and software data (such as type, configuration and unique identifiers), instant watching of movies, TV shows and related activity. We use this information for such purposes as determining your general geographic location, providing localized content, enforcing our terms (such as determining your eligibility for a free trial), providing recommendations on movies & TV shows we think will be enjoyable, personalizing the service and our marketing to better reflect particular interests, tracking your instant-watching hours, determining your Internet service provider, helping us quickly and efficiently respond to inquiries and requests and otherwise analyzing, enhancing, administering or promoting our service offering for you and other users. We may supplement this information with information from other sources, including offline data and your browsing behavior on other sites and interactions with our advertising. We also provide analysis of our users in the aggregate or otherwise in anonymous form to prospective partners, advertisers and other third parties. We may also disclose and otherwise use, on an anonymous basis, movie & TV show ratings, consumption habits, commentary, reviews and other information. For example, we use movie & TV show ratings and consumption behavior to improve our recommendations to you as well as other users.

While using the Flix2You service, you will have opportunities to post reviews or other information in public forums. Please understand that when you post such information, it is made public and is not subject to this policy. We are not responsible for any third party's use of information you publicly disclose through our service.

From time to time, we may partner with companies whose products we believe will interest our members. In conjunction with these partners, we may send promotional announcements and/or serve web-based advertisements on their behalf, as permitted by law. You can go to the "Email preferences"

(<https://www.Flix2You.com/EmailPreferences>) link on the "Your Account" page and request that your name be excluded from marketing emails.

You may connect one or more social networks (such as Facebook) with your Flix2You account. If you choose to do so, we will collect and use information from your social networking account(s) and your use of our social features. For more details about our

social features, information we collect and use, as well as account connection, including how to disconnect, see our Social Terms (<https://www.Flix2You.com/socialterms>).

Disclosure of Personal Information

We may share your personal information among the Flix2You family of companies (<https://help.Flix2You.com/support/6592?locale=en-US&country=US>). The Flix2You companies that access your personal information will follow practices that are consistent with the practices described in this Privacy Policy.

In addition we use other companies, agents or contractors (“Service Providers”) to perform services on our behalf or to assist us with the provision of services to you. For example, we engage Services Providers to provide marketing, communications, infrastructure and IT services, personalize and optimize our service, process credit card transactions, provide customer service, collect debts, analyze and enhance data, including users' interaction with our service, and process consumer surveys. In the course of providing such services, these other companies may have access to your personal information. We do not authorize these companies to use or disclose your personal information except in connection with providing the services we request of them.

We may offer joint promotions or programs that, in order for participation, will require personal information be shared with third parties. For example, we may partner with companies that offer incentives, such as frequent flyer mileage awards, if you sign up or otherwise utilize our service. In fulfilling these types of promotions, we may share your name and other information in connection with fulfilling the incentive. By participating in such joint promotions or programs, you agree to our sharing of your information. Please note that we do not control the privacy practices of these third party businesses.

Flix2You also reserves the right to disclose personal information if we reasonably believe that access, use, preservation or disclosure of such information is reasonably necessary to (a) satisfy any applicable law, regulation, legal process, or governmental request, (b) enforce applicable terms of use, including investigation of potential violations thereof, (c) detect, prevent, or otherwise address illegal or suspected illegal activities, security or technical issues, or (d) protect against harm to the rights, property or safety of Flix2You, its users or the public as required or permitted by law. In connection with any reorganization, restructuring, merger or sale, or other transferring of assets we reserve the right to transfer information, including personal information, provided that the receiving party agrees to respect your personal information in a manner that is consistent with our Privacy Policy.

Social Sharing

You may elect to share information about your use of the Flix2You service, including what you watch, within Flix2You as well as on other social networks and in other communications. Your use of our social features is subject to our Social Terms (<https://www.Flix2You.com/socialterms>); please review them for details.

Other Websites, Platforms and Applications

The Flix2You service may be provided through platforms or contain links to sites operated by third parties whose policies regarding the handling of information may differ from ours. For example, you may be able to access the Flix2You service through platforms such as PlayStation systems, Microsoft Xbox, Nintendo Wii, Roku Streaming Player, iPad or iPhone and a number of other Internet connected devices. While we endeavor to associate with reputable companies, Flix2You cannot be responsible for the information handling practices of these other websites and platforms. These websites and platforms have separate and independent privacy statements, notices and terms of use, which we recommend you read carefully. In addition, you may encounter third party applications that interact with the Flix2You service. To learn more about these, see our Terms of Use (www.Flix2You.com/termsfuse).

Children

You must be 18 years of age or older to subscribe to the Flix2You service. In certain jurisdictions, the age of majority may be older than 18, in which case, you must satisfy that age in order to become a member. While individuals under the age of 18 may utilize the service, they may do so only with the involvement, supervision, and approval of a parent or legal guardian, and subject to our Terms of Use (www.Flix2You.com/termsfuse).

Right to Access Your Information

We give you access and the ability to update a broad range of information about your account, including your contact information and your communication preferences in the "Your Account" portion of our website. You must be signed in to access "Your Account." If you have a question regarding our privacy practices, or want to exercise your rights regarding your personal information, please contact us at privacy@Flix2You.com.

Cookies and Internet Advertising

Visit About Cookies and Internet Advertising (<https://www.Flix2You.com/cookies>) for information about our use of cookies, other technologies, and Internet advertising.

Security

Flix2You takes information security seriously and uses reasonable administrative, technical, physical and managerial measures to protect your personal information from unauthorized access. For example, we utilize Secure Sockets Layering, an industry-standard protocol for certain of your transmissions to us, in order to encrypt certain personal information that you send to us through the registration and sign up process. Unfortunately, no security system can be guaranteed to be 100% secure. Accordingly, we cannot guarantee the security of your information and cannot assume liability for improper access to it. By using our service, including our website and user interfaces, or providing information to us through any means, you agree that we can communicate

with you electronically regarding security, privacy, and administrative issues relating to your use of the Flix2You service.

In order to provide you with ease of access to your account and to help administer the Flix2You service, Flix2You implements technology that enables us to recognize you as the account holder and provide you with direct access to your account without requiring you to retype any password or other user identification when you revisit the Flix2You service. You can choose not to take advantage of this feature on your computer by unchecking the box "Remember me on this computer" when you login on the website. To remove access to your Flix2You account from your devices: (a) visit "Your Account" (<https://www.Flix2You.com/YourAccount>) (note, deactivation may not occur immediately) or (b) delete your Flix2You settings from your device (steps vary by device and the option is not available on all devices). You are responsible for maintaining the confidentiality of your account access information and for restricting access to your computer or device through which you access your Flix2You account. Where possible, users of public or shared devices should log out at the completion of each visit. If you sell or return a computer or Flix2You ready device, you should log-out and deactivate the device before doing so. If you do not maintain the security of your password or device, or fail to log out or deactivate your device, subsequent users may be able to access your account, including your personal information.

Changes to This Policy

Flix2You may, from time to time, make changes to this Privacy Policy, the Social Terms or About Cookies and Internet Advertising. Such revisions shall be effective immediately; provided however, for existing members, such revisions shall, unless otherwise stated, be effective 30 days after posting. We will endeavor to post prior versions (including marked changes) of the Privacy Policy, if any, for the preceding 12-month period. You can see these prior versions of the Privacy Policy by visiting our website (www.Flix2You.com/privacypolicychanges).

Transfer of Information

Given that the Internet is a global environment, using the Internet to collect and process information necessarily involves the transmission of data on an international basis. Therefore, by using Flix2You, you acknowledge and agree to the transfer of your information outside your country of residence to any country (including the United States) where we have facilities or engage third parties (including but not limited to payment processors, cloud service or other IT providers, and other companies that provide services to us). You understand that the countries to which we may transfer information may not have as comprehensive a level of data protection as in your country.

International Users/Contacting Us

If you reside in a member state of the European Economic Area, your personal data is controlled by Flix2You Luxembourg S.à r.l, who is providing the service to you (address below). Individuals who reside in Brazil are being provided the service by Flix2You Entretenimento Brasil, Ltda. Av. Bernardino de Campos, 98 - 4° andar - sala 36,

Paraiso, Cep 04004-040 SP Brasil. Otherwise, Flix2You, Inc. (address below) is providing the service to you and is the data controller (where applicable).

If you have questions concerning your account, please contact Customer Service. If you have questions concerning this Privacy Policy, including the treatment of your personal information and/or our use of cookies and other technologies, please contact us via email at privacy@Flix2You.com, or at the following:

For US, Canadian, Latin American and other non-European customers:

Flix2You, Inc., 100 Winchester Circle, Los Gatos, CA 95032, U.S.A. Attention: General Counsel.

For European customers:

Flix2You Luxembourg S.à r.l., 26, Boulevard Royal, #205 L2449 Luxembourg, Attn: Manager.

Last updated: September 11, 2013

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Appendix A- Create Tables

Table Creation examples:

```
CREATE TABLE Customer_Rentals(
    Item_Rental_ID int IDENTITY(1,1) NOT NULL,
    Customer_ID int NOT NULL,
    Movie_ID int NOT NULL,
    Rental_Status_Code int NOT NULL,
    Rental_Date_Out DATE NOT NULL,
    Rental_Date_Returned DATE NULL,
    Rental_Amount_Due MONEY NULL,
    Other_Rental_Details VARCHAR (32));
```

```
CREATE TABLE Financial_Transactions(
    Transaction_ID int IDENTITY(1,1) NOT NULL,
    Account_ID int NOT NULL,
    Item_Rental_ID int NOT NULL,
    Transaction_Type_Code VARCHAR (15) NOT NULL,
    Transaction_Date DATE NOT NULL,
    Transaction_Amount MONEY NOT NULL,
    Transaction_Comment VARCHAR (156),
    Previous_Transaction_ID int NULL);
```

```
CREATE TABLE Customers(
    Customer_ID int IDENTITY(1,1) NOT NULL,
    Member_YN CHAR (2) NOT NULL,
    Membership_Number int NOT NULL,
    Date_Became_Member DATE NOT NULL,
    Customer_First_Name VARCHAR (32) NOT NULL,
    Customer_Last_Name VARCHAR (32) NOT NULL,
    Customer_Address VARCHAR (128) NOT NULL,
    Customer_Phone CHAR(11) NOT NULL,
    Customer_Email VARCHAR (128) NOT NULL,
    Customer_DOB DATE NOT NULL);
```

PK Creation for the 3 example tables:

```
ALTER TABLE Customer_Rentals ADD CONSTRAINT pk_Customer_Rentals
    PRIMARY KEY (Item_Rental_ID);
ALTER TABLE Customers ADD CONSTRAINT pk_Customers
    PRIMARY KEY (Customer_ID);
ALTER TABLE Financial_Transactions ADD CONSTRAINT pk_Financial_Transactions
    PRIMARY KEY (Transaction_ID);
```

FK Creation for the 3 example tables:

```

ALTER TABLE Customer_Rentals ADD CONSTRAINT fk_Customer_Rentals_Customers
    FOREIGN KEY(Customer_ID) REFERENCES Customers (Customer_ID);
ALTER TABLE customer_rentals ADD CONSTRAINT fk_customer_rentals_movies
    FOREIGN KEY(movie_id) REFERENCES movies (movie_id);
ALTER TABLE customer_rentals ADD CONSTRAINT
fk_customer_rentals_rental_status_code
    FOREIGN KEY(rental_status_code) REFERENCES rental_status_codes
(rental_status_code);
ALTER TABLE financial_transactions ADD CONSTRAINT
fk_financial_transactions_accounts
    FOREIGN KEY(account_id) REFERENCES accounts (account_id);
ALTER TABLE financial_transactions ADD CONSTRAINT
fk_financial_transactions_customer_rentals
    FOREIGN KEY(item_rental_id) REFERENCES customer_rentals
(item_rental_id);
ALTER TABLE financial_transactions ADD CONSTRAINT
fk_financial_transactions_transaction_type
    FOREIGN KEY (transaction_type_code) REFERENCES transaction_types
(transaction_type_code);
ALTER TABLE financial_transactions ADD CONSTRAINT fk_previous_transaction_id
    FOREIGN KEY (previous_transaction_id) REFERENCES
financial_transactions (previous_transaction_id);

```

Example Data Population:

Of a Customer:

Customer ID:001
 John Smith
 123 Street
 Sometown, US 12345
 555-555-5555
 john.smith@internet.com
 11/01/1977

```

INSERT INTO Customers VALUES
('001','John', 'Smith', '123 Street, Sometown, US 12345', '555-555-5555',
'john.smith@internet.com' '11/01/1977');

```

Of a movie:

World War Z
 New, DVD
 Sci-Fi/Action/Adventure
 Store 336
 Released in 2013
 United Nations employee Gerry Lane traverses the world in a race against time
 to stop the Zombie pandemic that is toppling armies and governments, and
 threatening to destroy humanity itself.
 4 in stock
 For Sale and Rent
 1.99/day

```
INSERT INTO movies ('release_year', 'movie_title', 'movie_description',
'number_in_stock', 'rental_or_sale_or_both', 'rental_daily_rate');
VALUES
('2013', 'World War Z', 'United Nations employee Gerry Lane traverses the
world in a race against time to stop the Zombie pandemic that is toppling
armies and governments, and threatening to destroy humanity itself.', '4',
'Both', '$1.99');
```

/note condition_code, format_type_code, genre_code and store_id will be populated by foreign keys/

Of a Store:

Store ID 8765309
Flix2You of Greater Greensboro
345 Street Road
Greensboro, NC 12345
336-555-5555
GSOstore@flix2you.com
High revenue store

```
INSERT INTO video_stores VALUES
('8675309', 'Flix2You of Greater Greensboro', '345 Street Rd.,
Greensboro, NC 27455', '336-555-5555', 'GSOstore@flix2you.com',
'High revenue store');
```

Queries:

What does John Smith have out right now?

```
SELECT customer_id from customers WHERE
customer_first_name = John AND
customer_last_name = Smith
```

Result:

Customer_id	Customer_first_name	Customer_last_name
001	John	Smith

```
SELECT Movie_ID from customer_rentals WHERE
customer_id = '001';
```

Result:

Customer_id	Movie_ID
001	283

```
SELECT movie_title from movies WHERE movie_id = '283';
```

Result:

movie_id	movie_title
283	World War Z

How does John Smith pay for his subscription?

```
SELECT payment_method_code from accounts WEHRE customer_id is 001
```

customer_id	payment_method_code
001	CC