CA214 Systems Analysis
SSADM Project

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I declare that this is entirely my own work and that of no one else.
~ *Connor Mulready*

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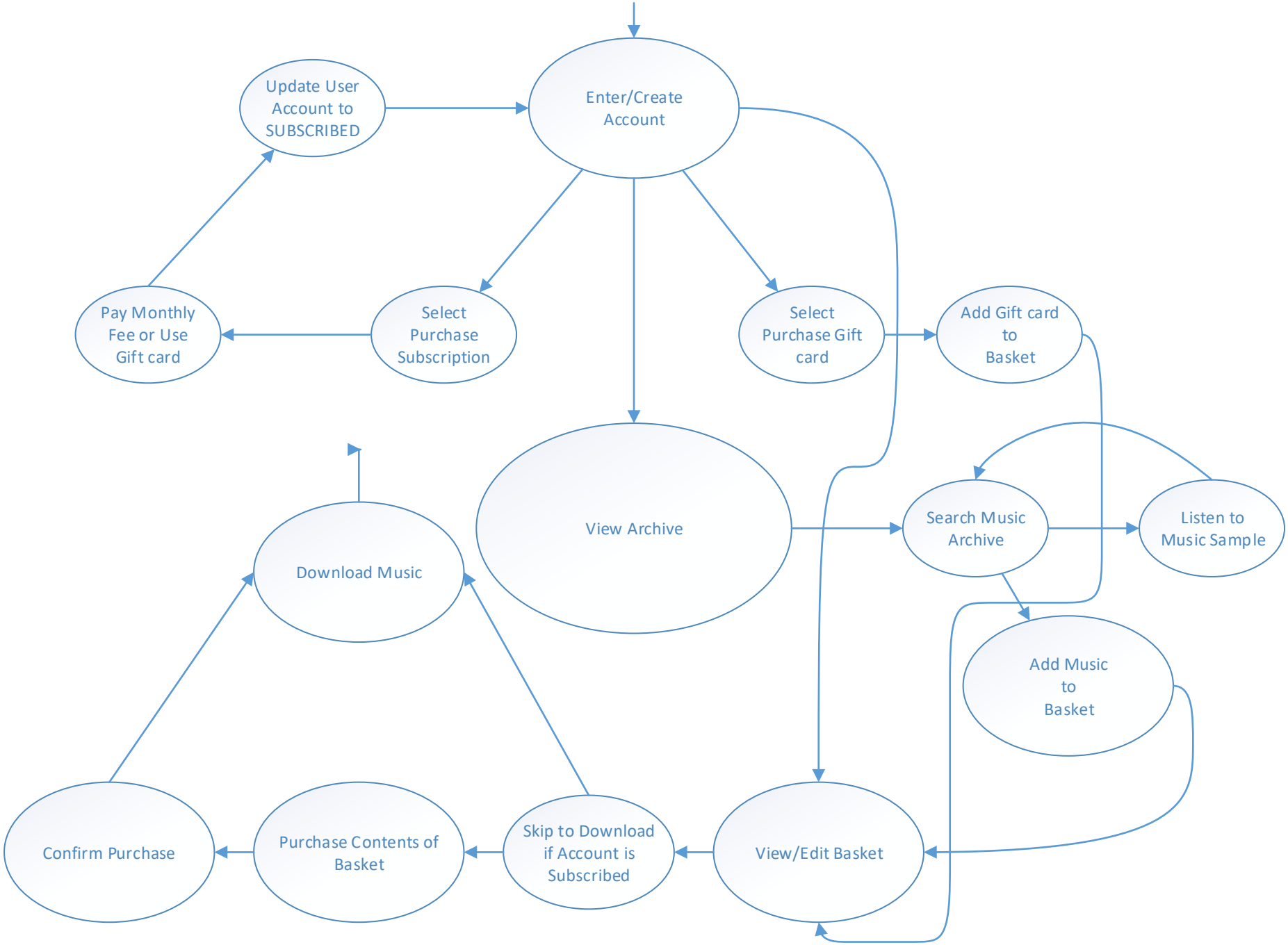
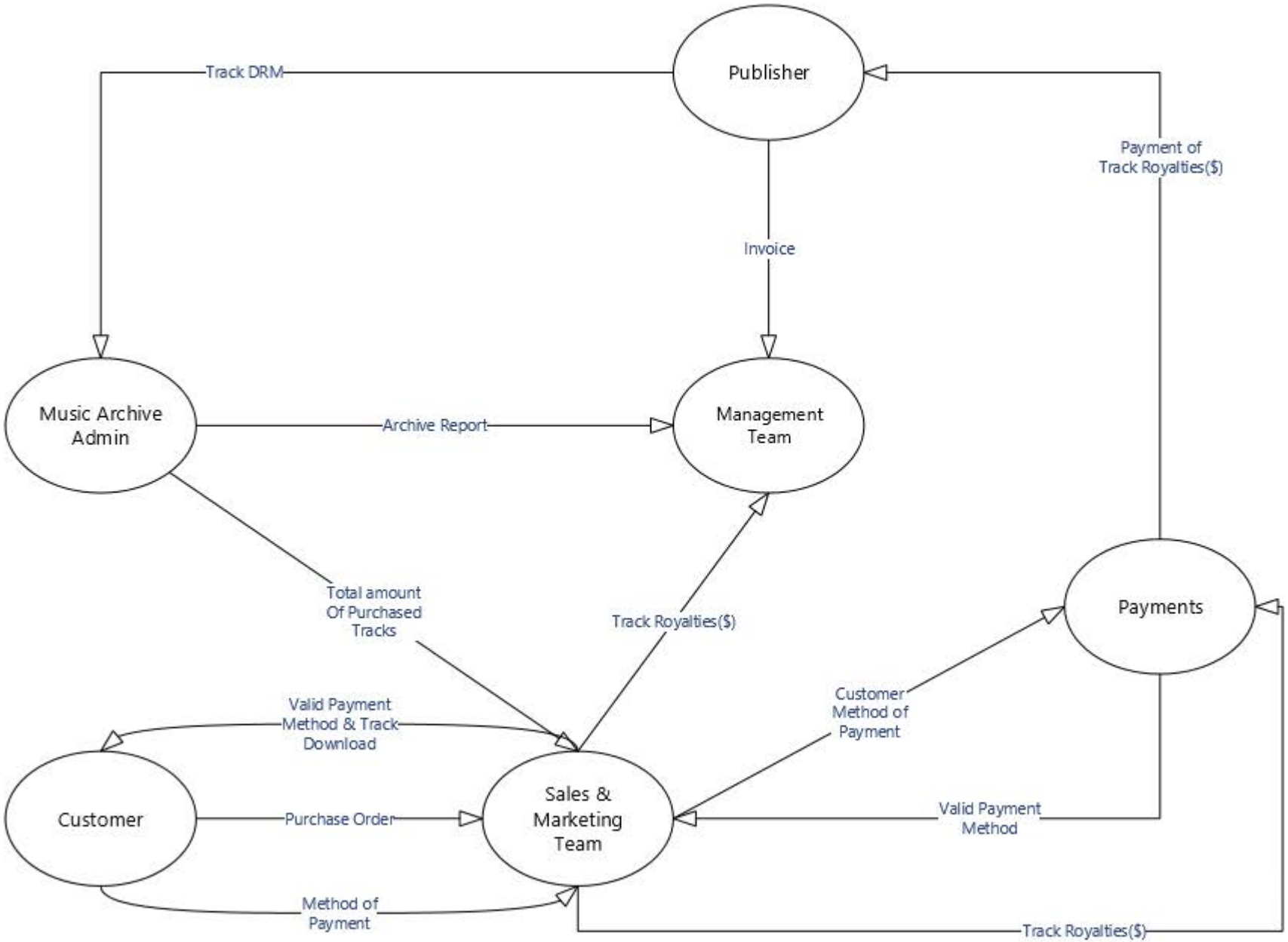
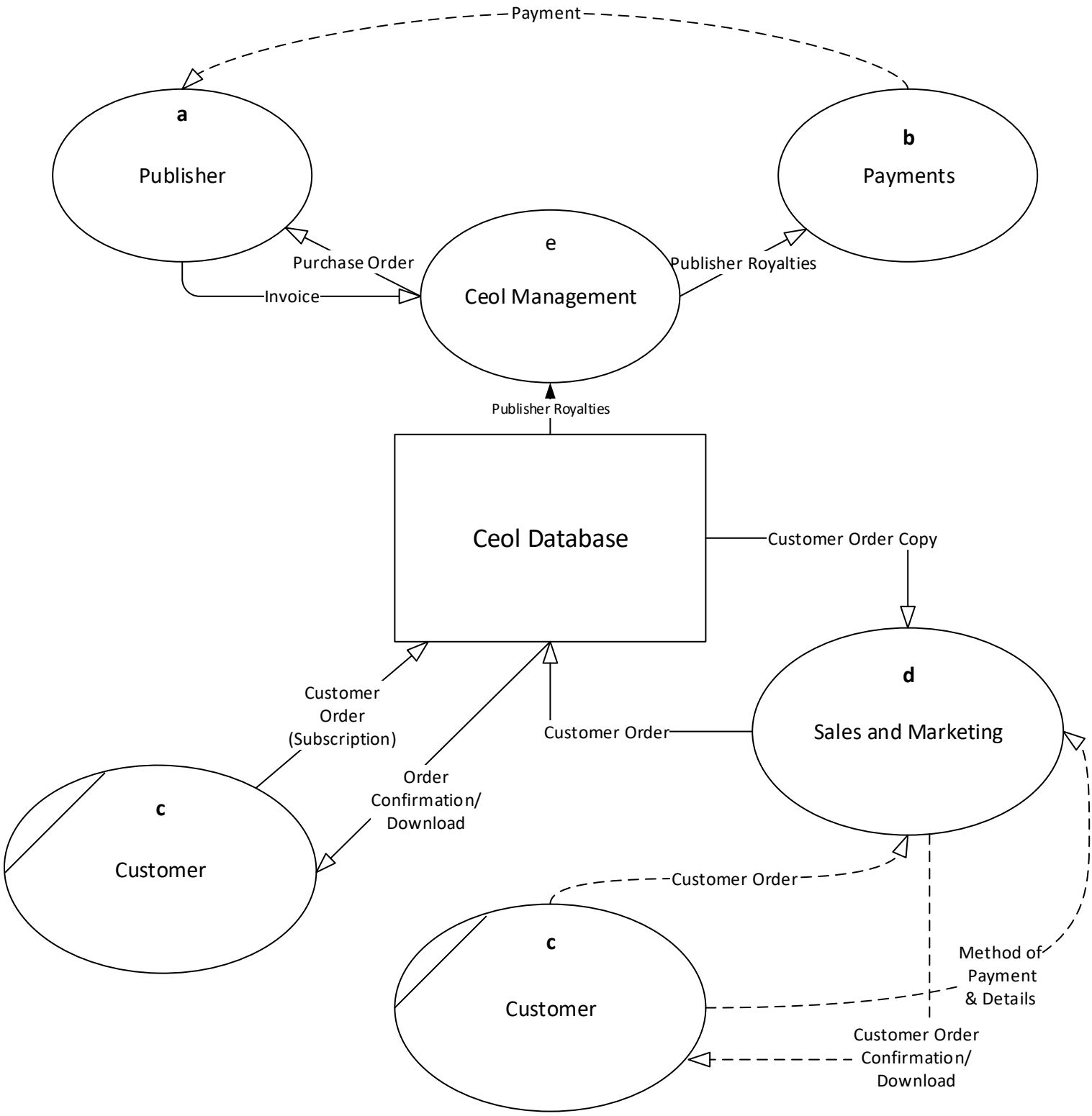
Business Activity Model



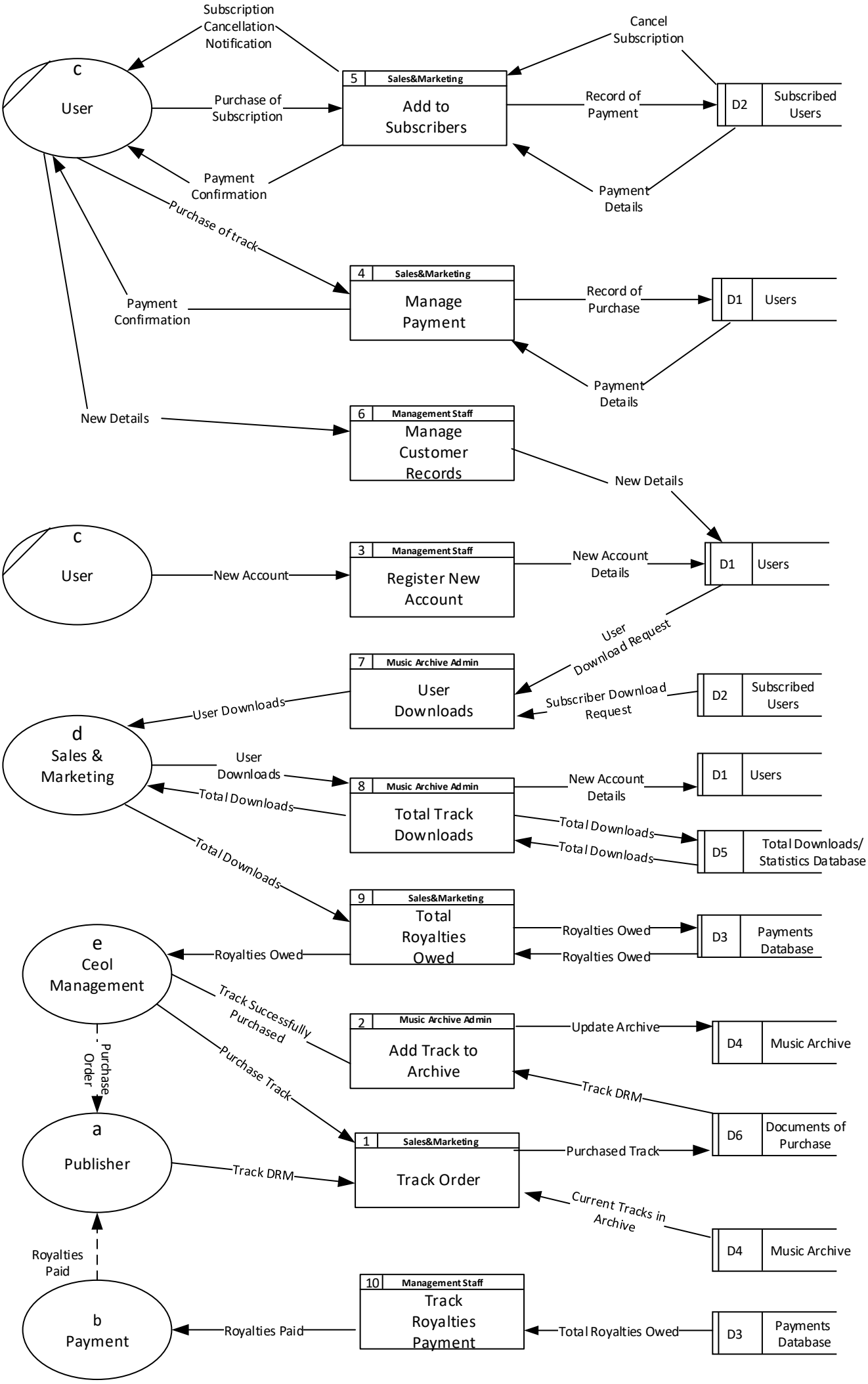
Logical Data Model



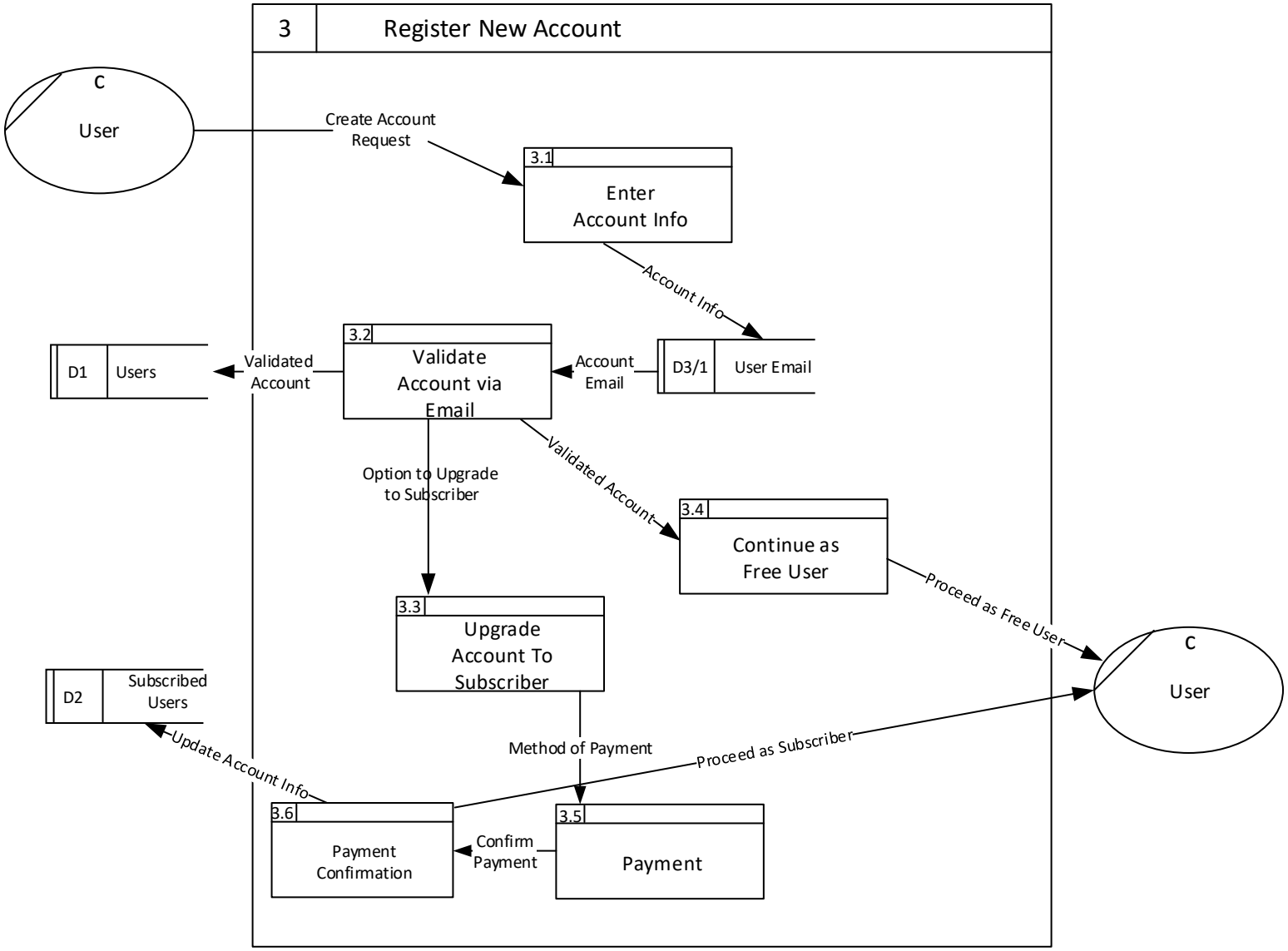
Document Flow Diagram



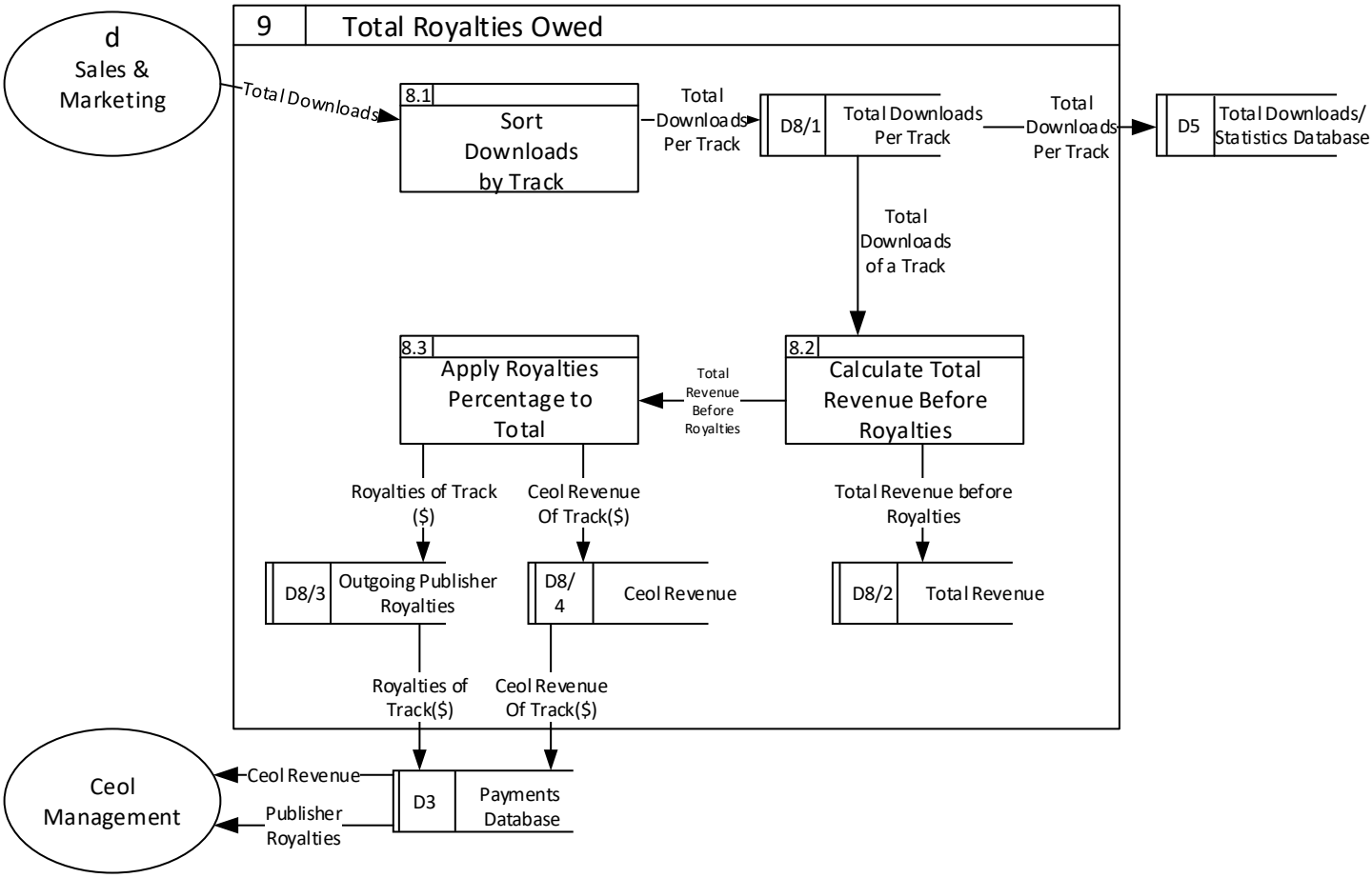
Physical Level One DFD



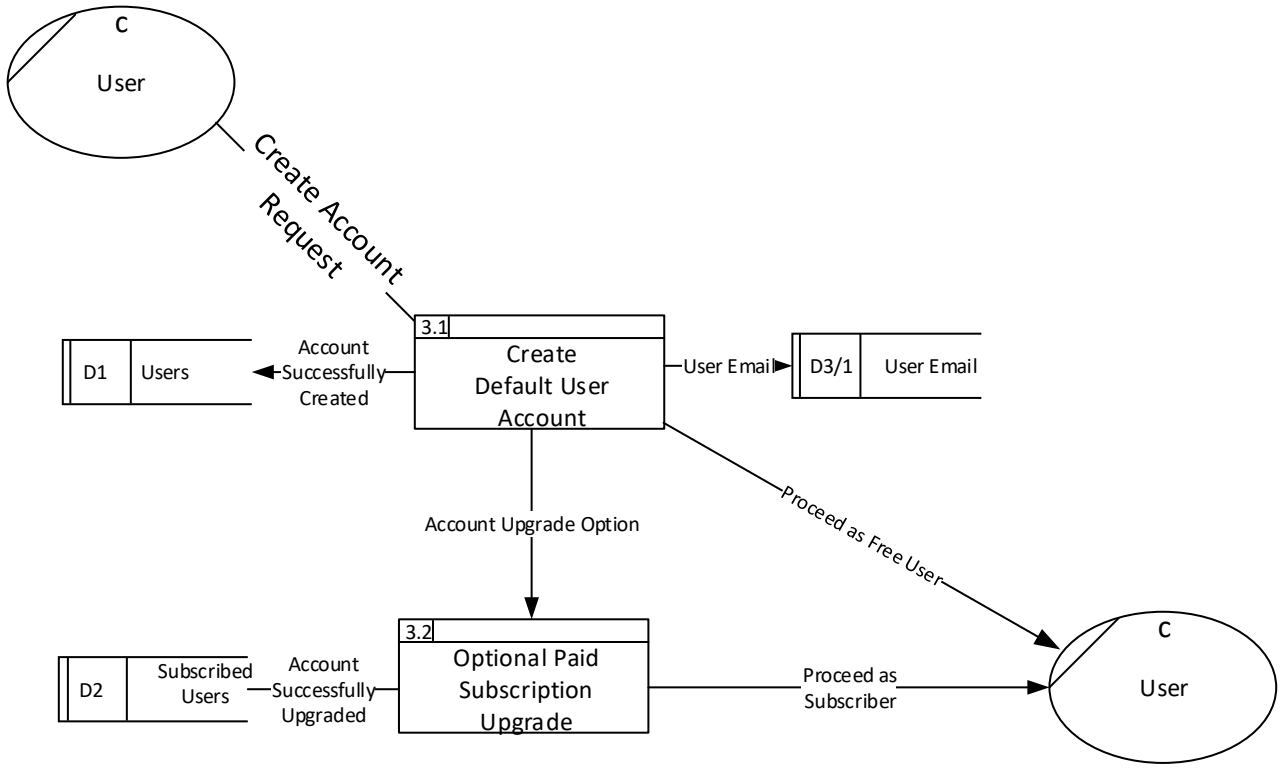
Physical Level 2 DFD - Register New Account



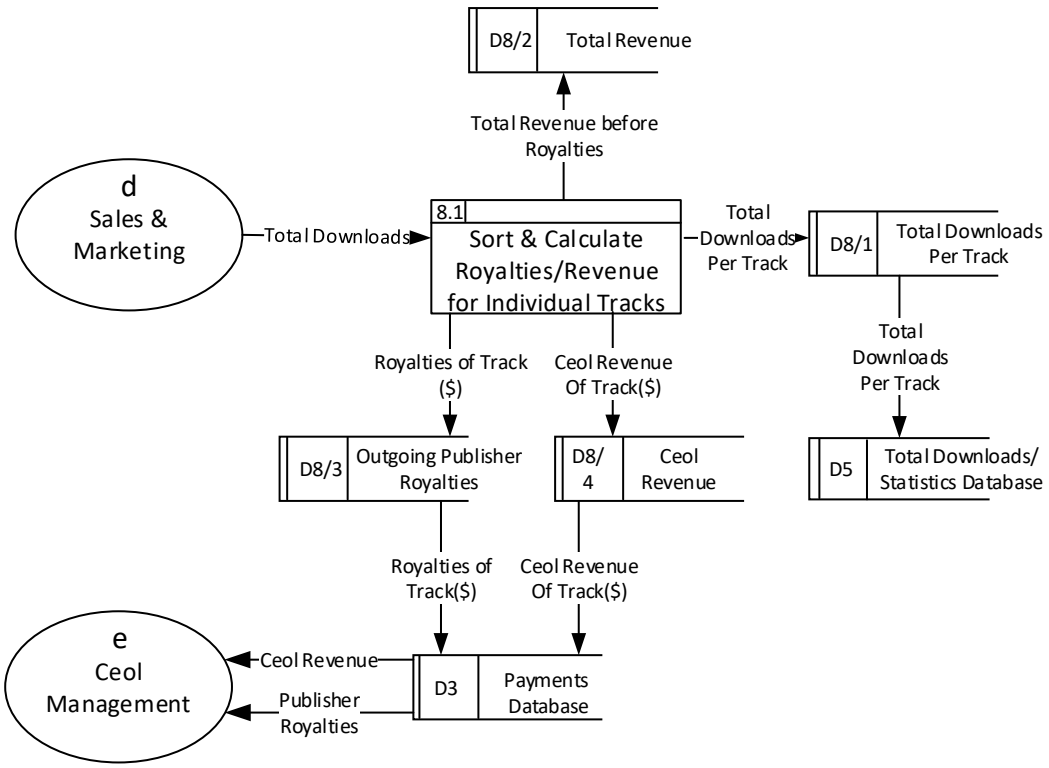
Physical Level 2 DFD - Total Royalties Owed



Logicalised Level 2 DFD - Register New Account



Logicalised Level 2 DFD - Total Royalties Owed



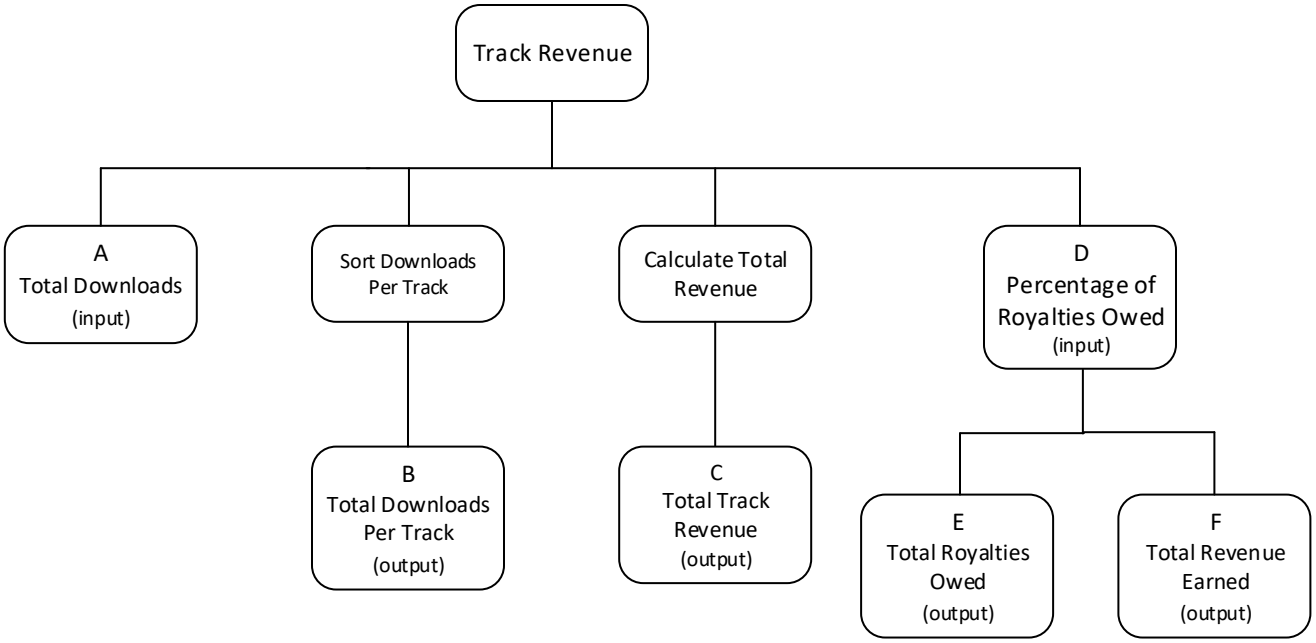
Download Music

The User selects a track from the music archive and proceeds to add it to basket. Once their the system proceeds to check the details of the user whether they are a default user or subscriber. If they are a default user they will be prompted to purchase the track and enter their method of payment, when the payment is confirmed their User account in the data store is updated with the new track they purchased and then proceed to User Downloads where the Music Archive Admin confirms the download. Else if they are subscribed they don't have to purchase the track and instantly skip to the download phase. All data from the downloads is sent to the Sales & Marketing Team and stored in the corresponding Data Stores.

Track Revenue

Receives the total amount of downloads/purchases from the Sales & Marketing Team. Sorts the purchases by Track and stores the data into a statistics Database. It then proceeds to calculate the total revenue received from the Track and royalties owed, it places both values into their corresponding Data stores which proceed to make up the Payments Database. The information is stored in this database and forwarded to the Ceol Management.

Input/Output Diagram - Track Revenue



Elementary Process Description
System: Ceol Database DFD Type: Post
Process Name: Enter Account Info Process Id:3.1

Upon requesting to create a new account to the system the user must fill in the required fields shown (first and last names, email address and password). Upon completion the user's email is automatically stored in the email data store which it will be used at a later stage to verify and activate the user's account. Otherwise if the account is not verified, the system will hold onto the user's details for a certain time before removing them completely. If any issues arise it is the Ceol Managements System Administrator who should query and resolve the problem.

Elementary Process Description
System: Ceol Database DFD Type: Post
Process Name: Apply Royalties Percentage to Total Process Id:8.3

Music Archive Admin gives the Sales & Marketing Team the total number of Downloads and the Sales and Marketing Team have calculated the total revenue before royalties in ($) they must then proceed to calculate the total amount of royalties owed to a publisher from a certain Track. Upon applying the designated percentage to the total revenue earned they proceed to store the Royalties of the Track into a Outgoing Publisher Royalties Data store and the remainder into the Ceol Revenue Data store which then both feed into the overall Payments Database which is then sent to the Ceol Management Team.

Data Flow

SOURCE	DOCUMENT	RECIPIENT
Publisher	Track DRM	Music Archive Admin
Publisher	Invoice	Management
Music Archive Admin	Archive Report	Management
Customer	Purchase Order	Sales & Marketing Team
Customer	Method of Payment	Sales & Marketing Team
Sales & Marketing Team	Method of Payment	Payments
Payments	Confirmation/Denial of Payment	Sales & Marketing Team
Sales & Marketing Team	Confirmation/Denial of Payment	Customer
Sales & Marketing Team	Track Download	Customer
Music Archive Admin	Total Purchased Tracks	Sales & Marketing Team
Sales & Marketing Team	Total Track Revenue	Management
Management	Total Track Royalties	Payment
Payment	Total Track Royalties	Publisher
Sales & Marketing Team	Total Track Royalties	Management

Entity Description			
Entity Name: Publisher Royaties			
Description: Percentage of total revenue returned to publisher as royalties.			
Attribute	**Primary Key**	**Foreign Key**	**Mandatory/ Optional**
Publisher Id	Yes		M
Track Id		Yes	M
Royalties($)			M
Payment Date			M
Number of Track Purchased			O

Must/May be	**Link Phrase**	**One & only/ One or more**	**Entity Name**
Must be	sent to	one or more	Publisher
Must	result in	one or more	Invoices

Entity Volumes: Max. 6,000 Min. 1,500 Average 4,000

User	**Access**
Management Team	Read, Modify
Sales and Marketing Team	Read,Create,Delete,Modify
Payment Office	Read
Publisher	Read

Growth Rate: 3%-5% per year

Archiving: All data regarding royalties payments should be stored on the Payments Database indefinitely.

Data Store

Reference: D1 Name: Users

All default non subscribed User Accounts are stored within this Data Store along with all their attributes i.e. First Name and email. Any account that has not verified itself through it their given email will have 24 hours before termination of that Account. Along with Users personal details all purchased songs by the user are also stored here under their Account Id but the Method of Payment is not for security measures.