DCU School of Computing

Assignment Submission

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Student Number(s):   16469764

Programme: BSc in Computer Applications

Project Title: Systems Analysis

Module code: CA214

Lecturer: Rennat Verbruggen

Project Due Date: 10 -Dec-17

Declaration

This assignment, or any part of it, has not been previously submitted by me or any other person for assessment on this or any other course of study. I have read and understood the referencing guidelines found at http://www.library.dcu.ie/citing&refguide08.pdf and/or recommended in the assignment guidelines.

I understand that I may be required to discuss with the module lecturer/s the contents of this submission.

I/me/my incorporates we/us/our in the case of group work, which is signed by all of us.

Signed: *Munashe L. Chifungo*

BAM

```
                            ┌─────────────────────────┐
                            │ Create Music Download    │
                            │        Service           │
                            └─────────────────────────┘
                                        │
                                        ▼
┌──────────────────────────┐      ◆ Define Customer User      ┌──────────────────────────┐
│ Devise Subscription Based │◄─────    Accounts      ─────────►│ Devise Subscription Free  │
│    Download System        │                                  │     Download System       │
└──────────────────────────┘                                  └──────────────────────────┘
            │                                                              │
            ▼                                                              │
     ◆ Maintain Customer                ◆ Decide Where To Place Kiosks     │
       Subscription information                                            │
            │                                                              ▼
  ◆ Define T&C's ◄──┘                                              ◆ Create One Time Music
            │                                                         Purchase system
            ▼                                                              │
   ◆ Maintain Customer Data ──────►┌──────────────────────────┐◄──────────┘
                                    │ Define Online Purchase   │
                                    │        System            │
                                    └──────────────────────────┘
                                              │
                                              ▼
                                    ◆ Create Online Shop And
                                         Sections
                         ┌────────────────────┴────────────────────┐
                         ▼                                          ▼
            ┌──────────────────────────┐              ┌──────────────────────────┐
 ◆ Decide Fixed ◄────── │ Create Music Download    │              │ Create Gift Card Purchase │──────► ◆ Decide Gift Card Cost
   Cost Per Song        │        System            │              │        System             │
            └──────────────────────────┘              └──────────────────────────┘                          │
                         │                                          │                                        ▼
                         ▼                                          ▼                           ◆ Allow for Gift Card Purchase in
            ◆ Devise Method For Users To           ◆ Decide How Gift Cards Can Be ◄──────────       Store
              Search For Archived Music               Used Online and In store
                         │                                          │
                         ▼                                          │
            ◆ Allow Users To Play Samples ───► ◆ Train Staff To Use New ◄───────────┘
              Before Purchase                     Systems In Store
                                                          │
                                                          ▼
                                                ◆ Store User Purchase
                                                     Information
                                                          │
                                                          ▼
                                        ┌──────────────────────────┐
                                        │ Advertise New System      │
                                        │  Online and In Stores     │
                                        └──────────────────────────┘
```
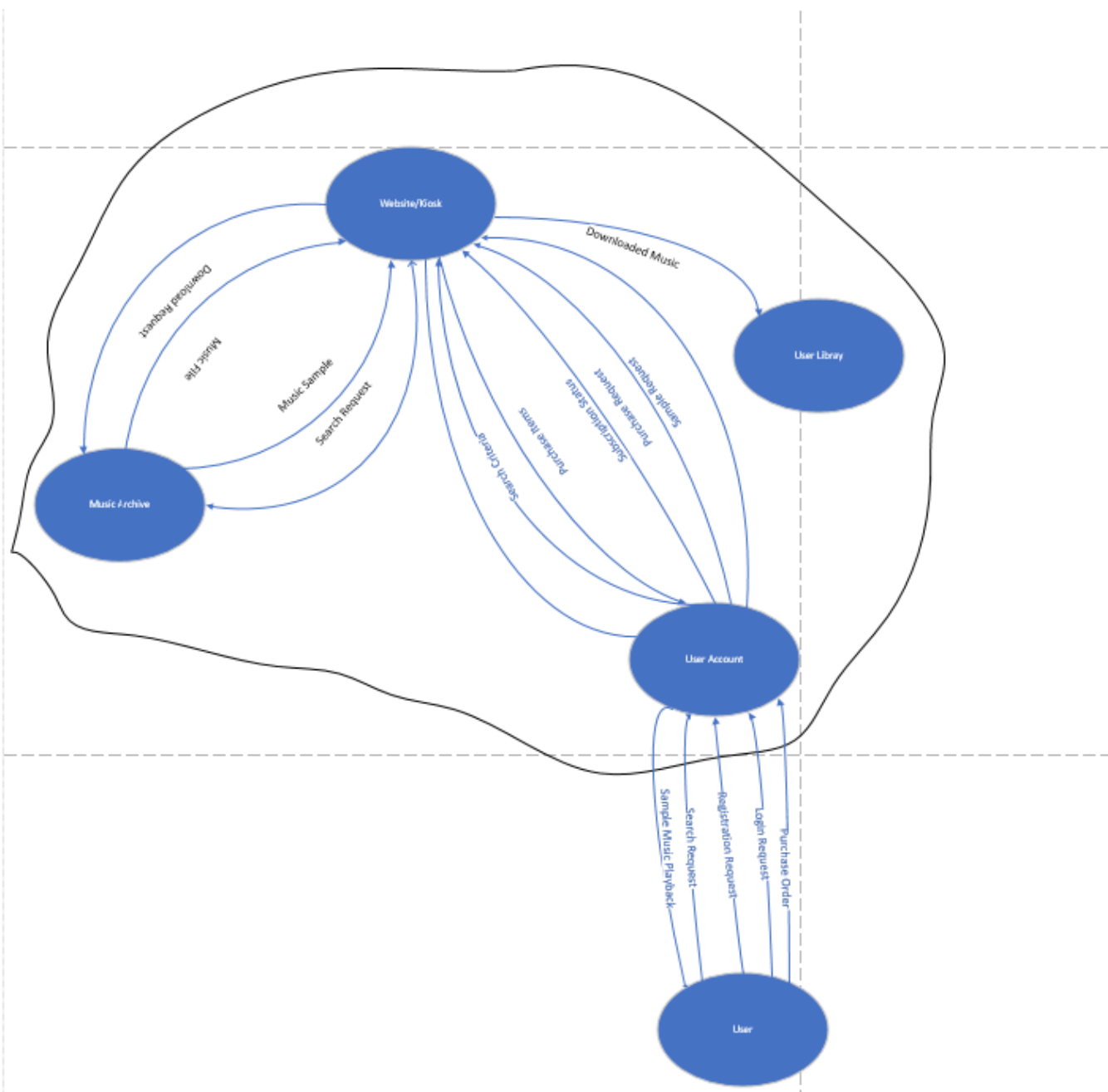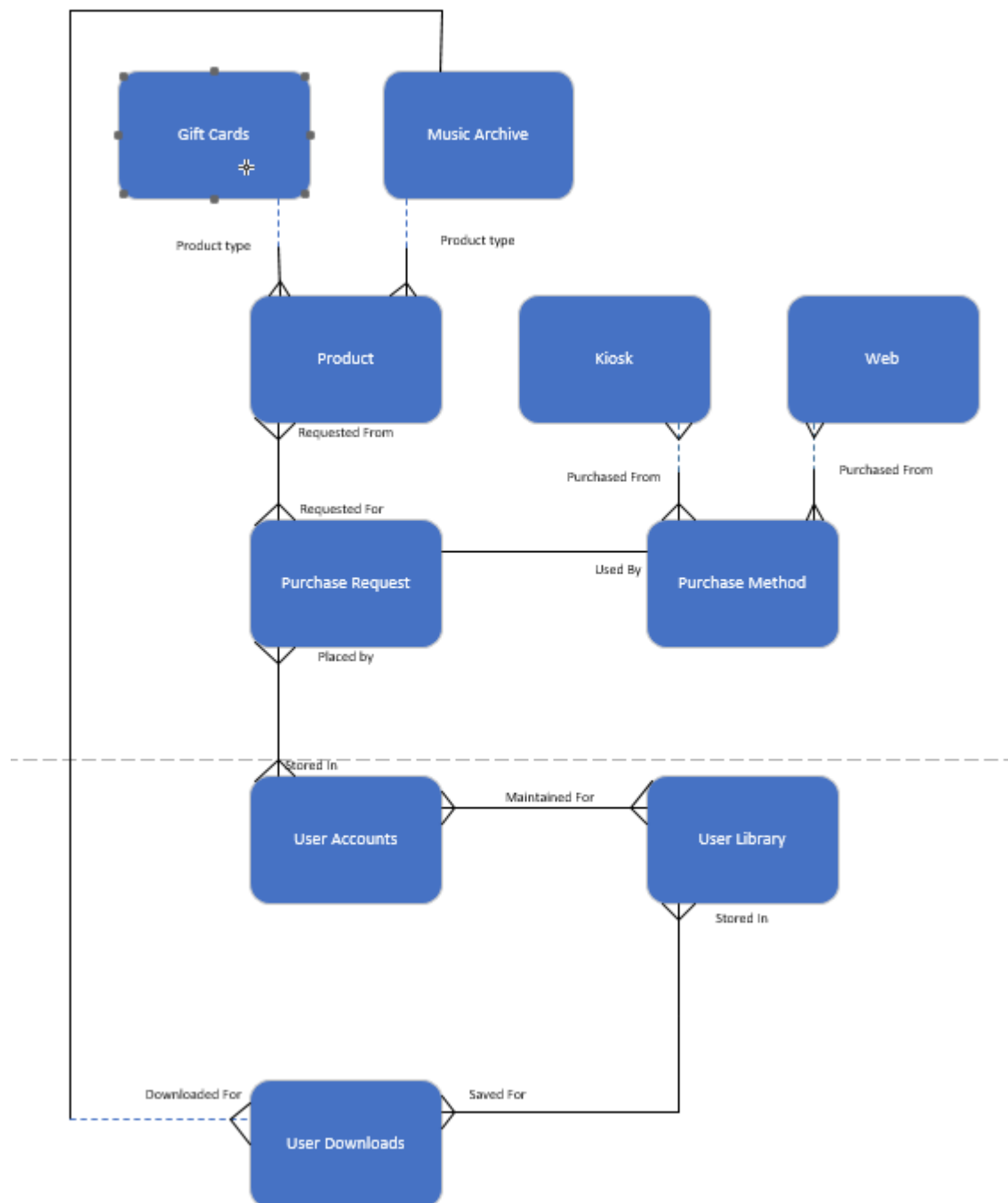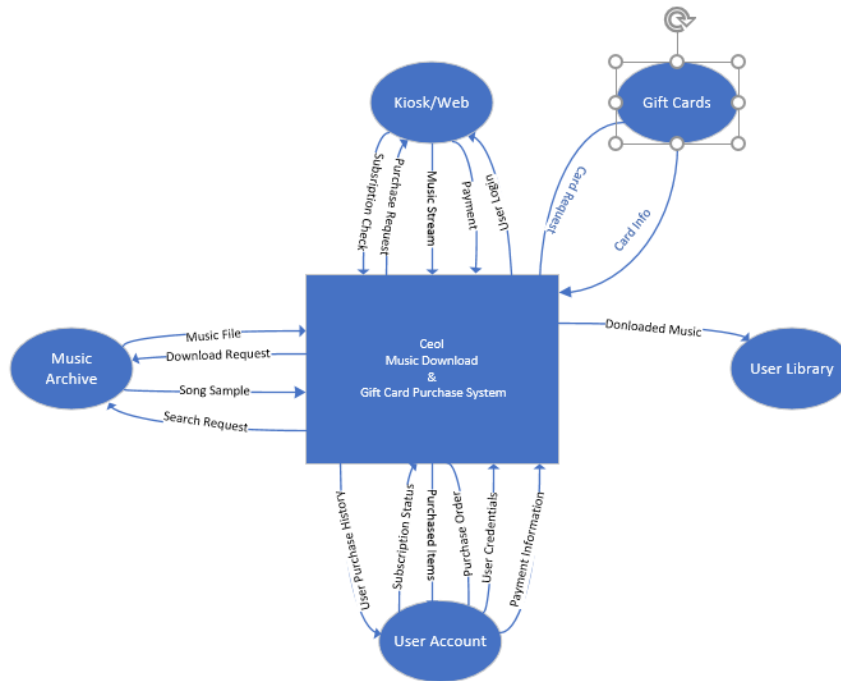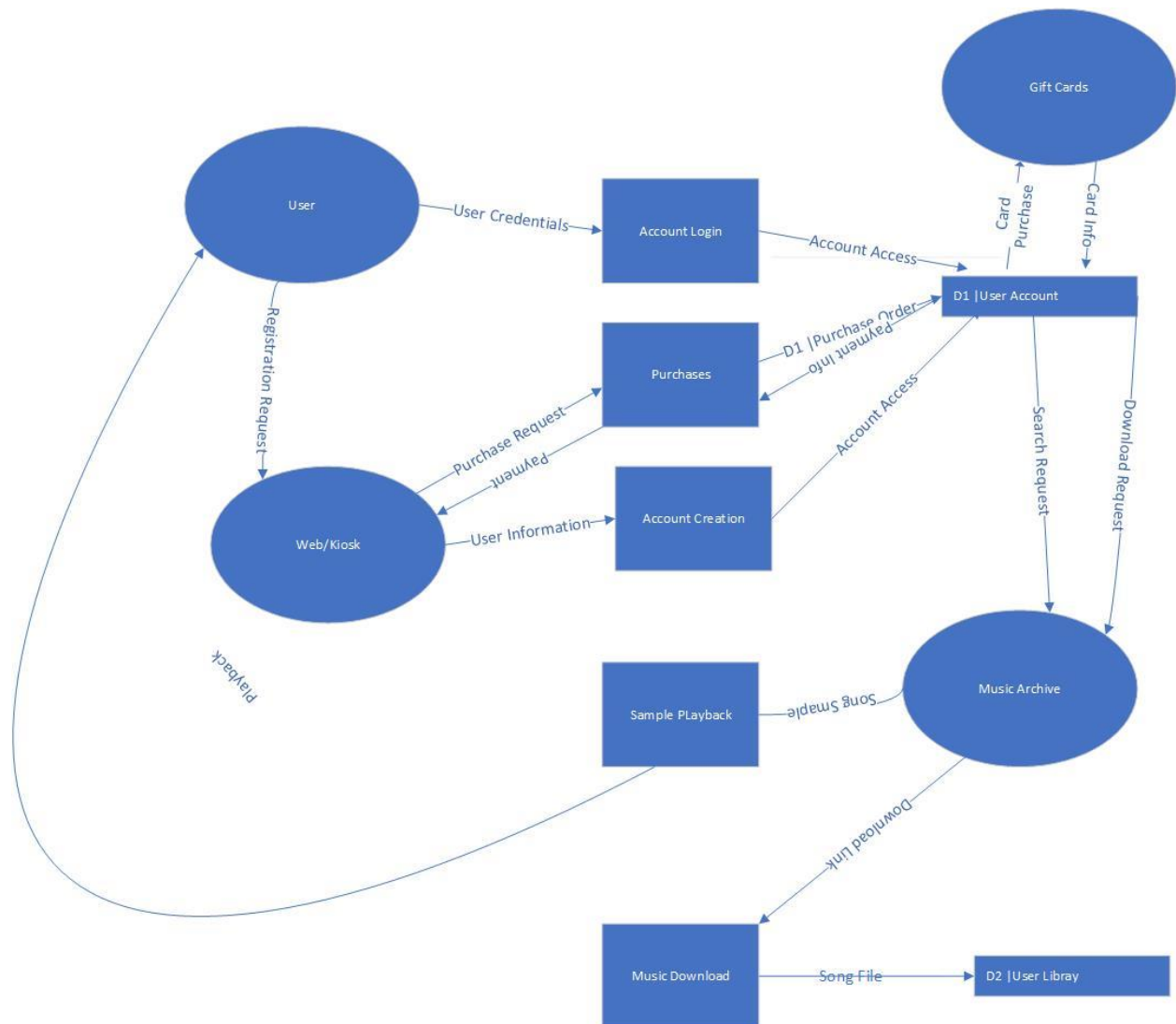
Website/Kiosk

Downloaded Music

User Library

Download Request

Music File

Music Sample

Search Request

Search Criteria

Purchase Items

Subscription Status

Purchase Request

Sample Request

Music Archive

User Account

Sample Music Playback

Search Request

Registration Request

Login Request

Purchase Order

User

DFD

LDM

Gift Cards

Music Archive

Product type

Product type

Product

Kiosk

Web

Requested From

Purchased From

Purchased From

Requested For

Purchase Request — Used By — Purchase Method

Placed by

Stored In

User Accounts — Maintained For — User Library

Stored In

Downloaded For

Saved For

User Downloads

Context Diagram

DFD Level 1

Data Store(File Description)
Data Store ID: D2
Data Store Name: User Library
Description: Stores Music Files after they are downloaded. Music files are downloaded from the Music Archive. Music Files can only be downloaded after a purchase is confirmed or as the User Account has an active Subscription. The contents of the User Library can be edited and controlled by the User.

Entity Description			

Entity Name: User Account

Description: Defines the credentials and purchases of customers

Attribute	Primary Key	Foreign Key	Mandatory/ Optional
Account No.	Yes		Yes
User Name			Yes
Password			Yes
Payment Info			Yes
Subscription status			Yes
Purchase History			Yes
Download History			Yes
User Library No.		Yes	Yes

Must/Maybe	Either Or	Link Phrase	One And Only/ Maybe More	Entity Name
Must		Stored In	One	User Library

User		Access	
Customer		Read, Create, Delete	

Growth Rate: Unknown

Archiving: User Accounts should be backed up every month incase of system errors

Process Description
Process ID:
Process Name: Item Selection
Description: To create a purchase order a customer must first chose which songs or gift cards are require. Search requests are made to the system and retrieve the relevant product information which is then palaced into the customers basket before the purchase transaction has occurred.

Process Description
Process ID:
Process Name: Purchase Transaction
Description: When the customer has entered the desired items into their basket the purchase transaction can then take place. For music file the system will check if the customer's user account has an active subscription, allowing for instant download or otherwise, the price of each song becomes part of the transaction. The relevant payment information is taken from the customer Account, the transaction occurs, and the cost is subtracted from their balance