Past Exam Workshop - S2 2012 - Pandora Music

Wednesday, 30 October 2013 10:13 a.m.

THINK BEFORE YOU WRITE!! (*-*)~~

36. Model the **Pandora Playing Process** described in the case.

    Translate the process given in the case into a flow chart diagram.
    Stick with the usual vocabulary and the flowchart symbols from class.

(START)
> [User enters song/artist/genre]
> [Scan database]
> [Play song/Continue playing song]
> <User chooses action>
    > <Rate song?>
        > 1. Thumbs up
        > [Register like]
        > <User chooses action>
            > Purchase
                > [Trigger Purchase Music Process]
            > Share
                > [Trigger Sharing Music Process]
            > Do nothing
                > link back to [Play song/Continue playing song]
        > 2. Thumbs down
        > [Register dislike]
            > link back to [Play song/Continue playing song]
    > 3. Do nothing
        > link back to [Play song/Continue playing song]
    > (4. END)

37. Identify **two** specific information systems (and broad information systems categories they fall under) that support the **Pandora Playing Process** modelled in question 36.

    Justify your answer by identifying **specific functionalities** (two for each system) that the systems must have.

    THINKING OF SYSTEMS:

    Firstly think of some nouns involved in the case. eg. users, songs, artists, genres, thumbs up, thumbs down, interest

    Secondly think of some verbs associated with the nouns. eg. scan, storing, analyse, search, listen, play, rate, register (interest)

    Then you can make up a system using "noun" + "verb", eg. user analysis, user history tracking, song searching, song storing, song rating, song purchasing, + "system"

    Then think about your broad systems types:
    - **TPS** - transactions eg. recording likes, dislikes, sales
    - **DSS** - helps decision-making
    - **CRM** - get to know your customers better (relationships)
    - **SCM** - concerning supplies (raw materials)
    - **ERP** - resource allocation
    - **Collaboration** - share and discuss ideas

For functionalities, think about your flowchart and the steps. Whatever the system needs to do to help you achieve a step is a functionality. eg. register like/dislike.

38. In class we discussed the need for integration and insight when working with large amounts of data.
    a. Pandora will be storing a large amount of data in their data warehouse. Discuss **two specific problems** that Pandora could have with integrating data from their music database, recommendation engine and the various external retailers/providers (eg. online music stores, Facebook).

    Think about: data warehouses, data visualisation, etc.
    Data warehouse is **always DSS** - helps support decisions by converting operational to analytical information

    Duplicate data: be specific - eg. duplication of users, songs, artists
    Dirty data: disorganised - eg. data formatting (textual), currency differences (store), time-zones, languages
        HOW TO SOLVE:
        Contracts - to have agreement of format
        ETC - conversion/transformation

    b. Advise Pandora of **two potential tools/techniques** they could use to turn the **data** they store into **business intelligence**. Explain how the tools/techniques achieve this.

    This question is asking for INSIGHT.

    GENERIC ANSWERS:
    OLAP (online analysis processing)
    Data mining
        cluster analysis: who likes what songs = better targeting of ads
            eg. look at what songs are being played when/by who and cluster
        association detection
        statistics: trends and other statistical analyses
    Visualisation

    Model your answer to Pandora's data and how it would be converted to business intelligence using the above generic tools.

39. Pandora is currently not available on mobile devices such as smartphones. Assume you have been assigned as the Project Manager of the **Mobile Project** reported in the case.

    Considering everything you have learnt in the course so far, discuss in terms of the NEW ZEALAND marketplace:

    a. Two potential **drivers** of a move towards mobile devices. (benefit)
        - Spotify currently has a competitive advantage over Pandora (bridging gap - catching up with competitive advantage)
        - freemium model = more $$
        - money to be made!! $$
        - tap into a larger and growing market opportunities (user demographics changing)
        - increasing mobile user market suggests an shift in focus to mobile

    b. Two potential **barriers** to a move towards mobile devices. (cost)
        - net loss reported in 2011 - sufficient capital for development?
        - regional licensing for mobile music playing vs desktop or laptop
        - cost to users to stream over mobile (3G/4G) is extremely expensive (NZ data caps

are cray) - give example of a data package
$$$ AIN'T NOBODY GOT MONEY FO DAT

c. Calculate the projected **payback period** for this project.
5 - 0.5 - 1.5 - 3 = 0 = after 3 years

d. Calculate the **return on investment** after four years.
(0.5 + 1.5 + 3 + 3.5 - 5) / 5 = 70%
> This means that Pandora earns **70c per dollar** of investment after four years! :D

e. Should Pandora proceed with the Mobile Project? Justify with reference to your answers above (39 a-d).
Taking into consideration the above, is it a good idea?
- drivers are **good**
- barriers **might prove difficult**
- market share of **existing competitors** (eg. Spotify)
- feasibility and attractiveness in target market (NZ)
- payback period is **alright/average**
- return on investment **very good** after four years!

Could talk about project management triangle: **TIME COST SCOPE (QUALITY)**

40. a. Pandora targets two major customer types. **Identify** them and their **needs**. **Justify** your answer with **evidence** from the case.

- advertisers who pay money to place ads on the site: willing to pay because of large user base. "Pandora's huge user base enables them to charge advertisers well above the industry standard." Need: reach an online demographic
- Pandora's premium users: willing to pay for mobile music streaming. Need: music on the go/on demand -- convenience of any song, anywhere.

b. Discuss an **ethical concern** that might arise if Pandora chose to **sell specific** end-users' musical preferences to Amazon.com and how Pandora might address this user concern.

- legal constraints: Privacy Act (breach of privacy/confidentiality; unethical to break the law); Bill of Rights Act (right to privacy?)
    - regional legislations may differ, eg. NZ, Australia, USA
- did users agree for information to be passed on?
- spam/unsolicited mail customers
- leak credit card details
- misappropriation of data

How to legitimise it better:
- agreeing to T&C: make it clear that on signup "they agree to let their information be passed onto third parties"
- anonymise any details that could identify a person

c. **Explain** how the use of **information systems and technology** (ref 37) has generated or could generate value for Pandora in terms of:

(i) improving customer satisfaction; (ref 40a)
- customers = :) :) :)
- how the systems in Pandora make customers happier, eg. music rating system gives them a more accurate playlist/recommendations of music that the users will like better than just a random algorithm
- a mobile music streaming application = convenience = :)

(ii) creating competitive advantages;

- Spotify and Grooveshark = only random radio songs, no rating system which creates a better list of music to the user
- relationships with online music stores = collaboration systems enable greater value = better than Spotify, Grooveshark, etc.

(iii) generating growth.

- the happier the customer the more likely they are going to be willing to pay for the premium account, thereby generating revenue (financial $$)
- greater market share
- expand in capability - mobile and perhaps video in the future, go to different countries outside current scope