Proposal for information system development project

Red = the example given in the video

Green = the description

# Background

The BEAUT ART gallery is a popular art gallery in South Africa. The gallery is home to one of the largest and most comprehensive collections of art in South Africa. Artists exhibit their art to be sold in the gallery. Clients visit the gallery on a regular basis to buy artworks. Special events are organised on a regular basis where clients are invited to visit the gallery for a social evening.

A HIGH-LEVEL DESCRIPTION OF THE BUSINESS

The *Make a Scene Theatre* is a new up and coming theatre in South Africa. The theatre will provide a platform for artists and performers (booked by a third party). **Clients** will be able to book **seats** for the show of their choice. Each weekend there will be multiple **shows** that clients can book **tickets** for.

There is currently no system in place at the theatre and the owners requested a system that is not run by a third party.

# Problem statement

* The existing IS no longer satisfies the business requirements. The following important business processes are not currently automated:
  + Events booking
  + Inventory control
* Reporting is inadequate e.g. no monthly cost report, no Client report.
* There is no help function, especially needed for temporary employees.
* With the rise of global art markets functionality is needed to do business over the internet in order to compete with competitors.
* The existing system does not keep the detail of history transaction needed to predict future sales.

A HIGH-LEVEL DESCRIPTION OF THE PROBLEMS IDENTIFIED IN THE BUSINESS AND WITH THE EXISTING SYSTEM AND TO BE SOLVED BY THE SYSTEM YOU ARE PROPOSING

* There is no existing system in place at the theatre to satisfy the owners’ business requirements.
* The following important business processes needs to be automated:
  + Seat booking system
    - Including a notification system
  + Booking artists and performers
* Reporting must be implemented e.g. popular shows attended per year, most frequent nights visited.
* Help function is needed for new clients using the system.
* There is no transaction history to predict what time shows are most popular.
  + Transaction history needs to back up on a regular basis
* The system should allow clients to book seats for shows via their website.

Information Systems

# Constraints

* Budget of only R500 000.
* No budget allocated for new hardware and system software to be bought. The system will therefore to be written in Visual Studio with an Access database due to the business already having their software licenses.
* Due to the use of Access, the system will have to be used on standalone workstation. Integration issues need to be solved.
* System must be implemented by November 2019 before the high season starts.

EXTERNAL FACTORS THAT COULD HAVE A NEGATIVE IMPACT ON YOUR SOFTWARE DEVELOPMENT PROJECT. ON A HIGH LEVEL IT IS USUALLY MONEY, TIME AND TECHNOLOGY.

* There is currently no system in place at the theatre.
* Budget of only *(enter budget)*
* No software or hardware is in place to ensure that the systems can fully function. Since the business does not own any licenses yet, the system will be written in *(enter programs the system will be written in).*
* The system must be fully functional and implemented by November 2020 before the festive season starts.

# Scope Definition

The system must include functionality for the following:

* Maintain artworks (inventory)
* Maintain clients
* Maintain artists
* Maintain events
* Buying of artwork
* Selling of artwork, including delivery of the sold items
* Export data
* Extensive reporting, including History transactions per period. Monthly cost report, client report, artwork report, purchases for a time period, sales for a time period, various management information reports in graphical format.
* Extensive Help functionality

The system must include functionality for the following:

1. Maintain clients
2. Maintain tickets
3. Maintain shows
4. Selling of tickets
   1. Notify client about ticket information when sale is complete
5. Show seat that are booked
6. Export data
   1. Profit/loss
   2. Backups
7. Request report:

* List of shows
* Attendance list of shows to determine popular shows
* Type of shows in high attendance per time period (Type e.g. comedy, play, musical, concert)
* Audience size per time period (time of day, day of weekend)
* List of performers with high attendance

# Goals of the project

The following goals were identified:

* The system must improve business knowledge by providing management information reports in graphical format. These reports must provide drill-down functionality.
* The system must improve business processes by automating the buying and selling of artworks. It must also be possible to have these transactions happen over the internet.
* The system must improve business communication by providing a consistent graphical user interface with support for different languages and exchanger rates.

APPLY THE HIGH-LEVEL GOALS OF SYSTEM OWNERS AND SYSTEM USERS (CHAPTER 2 p47) TO YOUR DEVELOPMENT PROJECT

The following goals were identified:

* The system must improve the *business knowledge* by:
  + Providing reports of shows that was well received by the audience. The reports must clearly state which type of shows are most popular. This information will allow the owners to ensure that the most popular type of shows is frequently booked for performances.
* The system must improve the *business processes* by:
  + Automating ticket sales. The ticket sales must be done over the internet.
  + Ensuring that ticket codes cannot be falsified, and that the ticket was actually bought
  + Reserving seats that are already booked to ensure that no double booking occur.
* The system must improve the *business communication* by:
  + Notifying the client when their seat/s have been successfully booked by sending their ticket via e-mail.

# Opportunities to improve

The following opportunities to improve were identified:

* To improve security in the system fingerprint scanners can be used to obtain access to the system. This will free employees to attend to clients and will help very much during busy hours.
* Provide functionality to export reports with minimum effort to Excel. The gallery manager is an expert in Excel and this will give him the flexibility to further manipulate data to obtain business knowledge.

BE CREATIVE AND IDENTIFY OPPORTUNITIES TO IMPROVE THE BUSINESS. USUALLY IMPROVEMENTS ARE DONE BY PROVIDING ADDITIONAL FUNCTIONALITY OR MAKING USE OF NEW TECHNOLOGY.

The following opportunities to improve were identified:

* WhatsApp
  + Receiving a message through WhatsApp with a link to their ticket
* Artists book shows to play directly through the theatre company
  + Not through a third party.
* QR Code scanners
  + To be implemented at doors to simplify ticket checking process
* Multiple languages
  + Providing a graphical user interface that supports multiple languages to accommodate various clients.

# Schedule

The FAST methodology provides the ‘steps’ for developing any system.

List the phases of the FAST methodology and estimate a start date as well as list the steps to be executed for each phase for your project

Phases of 1st semester:

* Scope definition
* Problem analysis
* Requirements analysis
* Logical design
* Decision analysis

Phases of 2nd semester

* Physical design and integration
* Construction and testing
* Installation and delivery

Use the CMPG 213 schedule on eFundi to estimate the start dates for the 1st semester. Remember presentation of final project design happens 5 weeks before start of exam.

Use the NWU calendar to estimate the start dates for the phases to be done during the 2nd semester. Remember presentation of final working system happens 5 weeks before start of exam.

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| --- | --- | --- |
| **Project Steps** | **Steps Implemented** | **Proposed date** |
| **Scope definition** | Scope definition documented in the project proposal. | 24-02-2020 |
| **Problem analysis** | The project proposal with the existing problems, proposed solutions to the problems, business opportunities, schedule of events and the economic justification. | 24-02-2020 |
| **Requirements analysis** | Business requirement statements |  |
| **Logical design** | Specifications and the logical system modules |  |
| **Decision analysis** | * Document with evaluation for each candidate solution in terms of technical-, operational-, economic-, schedule- and risk- feasibility * Choose best candidate solution and decide whether project must be completed |  |
| **Physical design & integration** | * Physical design models * Detail specifications * Prototypes * Redesigned business processes |  |
| **Construction & testing** | * Database * Custom-built software * User Interfaces (Windows or Web) * Test plan |  |
| **Installation** | * An operational system * Operation manual * Documented quality review * Updated logical and physical system models |  |

# Budget

MAN-HOUR COST:

Internal and consultant cost

HARDWARE

List all hardware to be bought here with prices.

SOFTWARE

List all software as well as number of licenses to be bought here with prices

TOTAL PROJECT COST = TOTAL MAN-HOUR COST + HARDWARE COST + SOFTWARAE COST

Internal Cost   = 20% of 2 people working 8 hours a day for 8 months @ R250 / hour

= 20% x (2 x 8 x 22.5 x 8 x 250)

= R 144,000

Consultant Cost  = 4 people working 8 hours a day for 8 months @ R350 / hour

= R 2,016,000

 R 550 782 per year

365 days\*24 hours = 8760 hours

R550 782 / 8760 = R62/h

Ads seen for consulting : R400-500/h

I don’t think we need to buy any hardware to code the system, however the client will have to have a server computer of some sort – to host the website and store the database. Other than that, they can connect via iPads?

# Internal Resources

The suggested internal resources for the project are:

* System owner (sponsor): Director P. Smit

The following system users are proposed and should be available for 20% of their time for months:

* Art gallery assistants J.P. Groenewald and Tine Liebenberg

THE NAMES OF THE SYSTEM OWNER AND SYSTEM USERS INVOLVED IN YOUR PROJECT

The suggested internal resources for the project are:

• System owner (sponsor): Director *(enter name)*