Proposal for information system development project

Movie theatre ticketing system

Participants in project:

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# Background

The *TAKE ONE movie theatre* is a new up and coming movie theatre in a residential area of South Africa. The movie theatre will show recently released **movies** as well as special movies for special occasions (e.g. Christmas season, Valentine’s day, ladies’ night). Audience members will be able to book **tickets** for the movie of their choice. Each day there will be a specific time schedule according to which the movies will be shown. **Members (loyalty program)** of the movie theatre will receive special deals and newsletters.

There is currently no *automated* system in place at the movie theatre, and the owners requested a system that is not run by a third party. However we will implement an Information System using existing hardware.

# Problem statement

* There is no automated system in place at the theatre to satisfy the owners’ business requirements.
* The following important business processes needs to be automated:
  + Seat booking system (Notification system)
  + Specify which movies that is shown in the theatre.
* Reporting must be implemented e.g. popular movie genre attended per year, most frequent nights visited, profit margins.
* The current system in place is a simple point of sale system that incorporated no automation. The tickets must be bought at the movie theatre. This can cause clients to arrive at the movie theatre but there is no space available in the movie theatre.
* Help function is needed for new clients using the system.
* There is no transaction history to predict what time shows are most popular.
* The system should allow clients to book seats for shows over the internet.

# Constraints

* There is currently no automated system in place at the theatre. The necessary hardware to run the system is already in place at the movie theatre.
* Budget of only R 300 000.
* All the necessary licences to develop the project, we as a company own. The movie theatre does not need any special software to run the system other than the Windows operating system which is already in place.
* 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:

1. Maintain members of movie theatre
2. Maintain movies
   1. Regular movies that are newly released
   2. Special occasions (Valentines, ladies & boys nights, etc.)
3. Selling of tickets
   1. Notify client about ticket information when sale is complete.
   2. The notification will include their movie ticket code.
4. Indicate seats that are booked.
5. Export data
   1. Backups
   2. Profit margins
6. Request report:

* List of movies
* Attendance list of movies to determine popular genre per time period (e.g. comedy, drama, action)
* Audience size per time period (time of day, day of weekend)
* Graphical representation of popular times movies is watched.

# Goals of the project

The following goals were identified for the system:

* The system must improve the business knowledge by:
  + Providing reports of movies that was well received by the audience. The reports must clearly state which genre of movies is most popular.
  + Informing the clients of which shows are in high-demand.
* The system must improve the business processes by:
  + Automating ticket sales. The ticket sales must be done over the internet.
  + Reserving seats that are already booked to ensure that no double bookings occur.
* The system must improve the business communication by:
  + Providing a graphical user interface that supports a common language to accommodate most clients.
  + Notifying the client when their seat/s have been successfully booked by sending their ticket code via e-mail.

# Opportunities to improve

The following opportunities to improve were identified:

* Additional WhatsApp system to confirm the booking and send the e-ticket to. WhatsApp is more accessible to more users in today’s day and age.
* Multiple language interface to accommodate more clients. This must ask the user of their preferred language. The system will continue in the selected language.
* If the theatre has the opportunity to expand, theatres must be maintained. The possibility for the new theatre to expand must be taken into consideration for the future.
* QR code scanners can be implemented to ease the checking of tickets at the movie theatre. This will show the movie the client will watch and which seats are booked.

# Schedule

|  |  |  |
| --- | --- | --- |
| **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 | 20-03-2020 |
| **Logical design** | Specifications and the logical system modules | 04-05-2020 |
| **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 | 04-05-2020 |
| **Physical design & integration** | * Physical design models * Detail specifications * Prototypes * Redesigned business processes | 07-08-2020 |
| **Construction & testing** | * Database * Custom-built software * User Interfaces (Windows or Web) * Test plan | 04-09-2020 |
| **Installation** | * An operational system * Operation manual * Documented quality review * Updated logical and physical system models | 02-10-2020 |

# Budget

**Man-hour cost:**

Cost from Scope definition till Decision analysis

= 5 people working 5 hours a week and working for 8 weeks @ R450/h

= 5 x 5 x 8 x 450

**= R 90 000**

Cost from Physical design and integration

= 5 people working 10 hours a week and working for 8 weeks @ R450/h

= 5 x 10 x 8 x 450

**= R 180 000**

**Software cost:**

None: Assumption was made that the hardware currently running at the theatre has Windows installed that is needed for the system to fully function. Currently no other software requirements are needed.

**Recurring cost:**

Website host: **R 69/month from Domains.co.za for 12 months**

5GB bandwidth

25 email accounts

1 website

5 MySQL databases

**Total project cost: R 270 828**

# Internal Resources

The internal resources for the project are:

* System owner (sponsor):
  + Director Charlotte Doyle
* System user (client-based):
  + Clients buying tickets using the system.
* System user (employee-based):
  + Jamie Hansen (manager)
  + Arthur Finn
  + Tom Adler

The following system will be developed by

* Johané le Roux
* Christopher Slaghuis
* Jean Marx
* Reinardt Nel
* James Uys