

The BWC Trouble-Ticket System

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Abstract:

The BWC Trouble-Ticket System was designed and developed for The Brookwood Community, a non-profit organization, using the Systems Development Life Cycle (SDLC). Research and analysis of business procedures and information technology was performed, which contributed to the design and implementation of the system. The BWC Trouble-Ticket System is currently in use at The Brookwood Community in Brookshire, Texas where it assists Brookwood's IT department in managing computer related problem requests for the entire Brookwood Community computer network.

Introduction:

The BWC Trouble-Ticket System, is an information technology (IT) system that was designed, developed, and implemented for The Brookwood Community, a non-profit organization, during the fall of 2006 as a project requirement for the Computer Information Systems (CIS) major capstone class, CIS 4312.

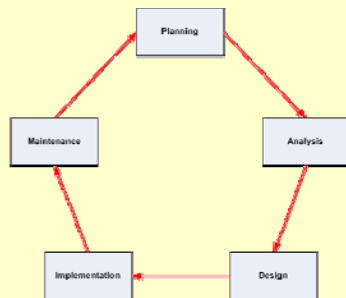
As with most non-profit organizations, The Brookwood Community faced many challenges, especially in information technology. The Brookwood Community has roughly 125 network PC's and 5 servers that are managed and supported by Brookwood's IT department.

The BWC Trouble-Ticket System was implemented in December of 2006 to assist The Brookwood Community's IT department in managing computer related problem requests for the entire Brookwood Community computer network. These requests are generated by Brookwood's computer users when they have problems with their computers or the network and want to notify Brookwood's IT staff in order to fix their problem. Once the requests are inputted into the system, the system will automatically email the Brookwood IT department to notify them. Brookwood's IT staff will then pull-up the request from the database and act on it accordingly and close the request when the problem has been resolved.

Methodology:

The methodology used to create The BWC Trouble-Ticket System was the Systems Development Life Cycle (SDLC), a project management technique that divides complex projects into smaller, more easily managed segments or phases. For the BWC Trouble-Ticket System, a total of five different phases were used. These phases are the planning, analysis, design, implementation, and maintenance phases. Figure 1.1 illustrates the Systems Development Life Cycle along with the five phases used.

Figure 1.1-The Systems Development Life Cycle



Phase 1 – Planning:

During the planning phase, observations and interviews were conducted and the following problems were identified:

The Problem:

- No formal trouble-ticket system existed. Users used informal means such as emails or telephone calls to notify the Brookwood IT department when a computer related problem arose.
- Email was the only means of documenting trouble requests, responses, and assignments.
- History of trouble requests, responses, and assignments was not kept, providing no audit trail or reporting capabilities.
- End-users were reluctant to make requests since they had to call or email their supervisors.
- The IT Manager had to manually present internal and external (outsourced) IT staff approved trouble-ticket requests with priority status. This was usually written down on a piece of paper and provided onsite.

To correct the problems identified, the following proposed solutions were recommended:

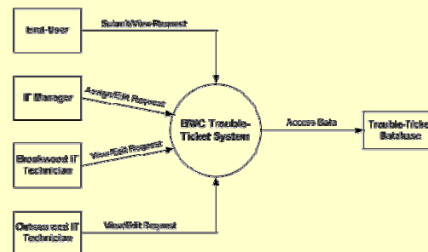
The Solution:

- A trouble-ticket system needs to be created to allow end-users to input IT related trouble requests using user-friendly forms.
- This system will allow the history of all inputted data to be stored in a database providing an audit trail and reporting capabilities.
- IT Managers will be able to approve or reject end-user requests and assign requests to IT staff.
- IT staff will be able to review assigned requests and change status of requests as needed.
- End-users will be able to track their requests and the IT department will be able to track what each IT technician is working on.

Phase 2 – Analysis:

In the analysis phase, research of Brookwood's business procedures and current information systems was conducted to create a list of requirements for the new system. The different types of users were identified including the various functions each user will perform. The Context-Level Diagram in Figure 1.2 illustrates the users of the system and their functions.

Figure 1.2 – System Context-Level Diagram



Phase 3 – Design:

During the design phase, The BWC Trouble-Ticket System was designed and developed from scratch using Microsoft's .NET Framework development platform. Figures 1.3 and 1.4 are snapshots of sample input forms and output reports that were designed during this phase.

Figure 1.3 – The Main Program Window of the System

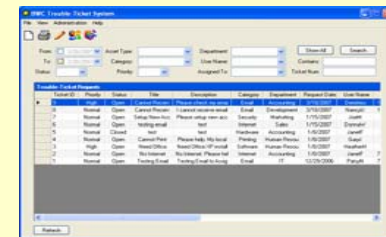
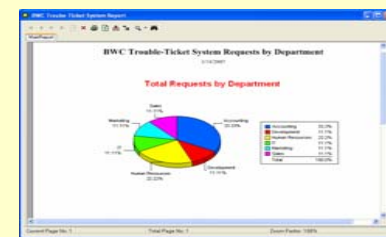


Figure 1.4 – Sample Output Report Generated by the System



Phase 4 – Implementation:

In the implementation phase, the system was tested in Brookwood's test environment to insure that the system performed as expected. Testing was performed on each system module and on the system overall. Once acceptance testing was completed, the system was installed on Brookwood's PC's and servers.

Phase 5 – Maintenance:

In the maintenance phase, system documentation such as technical, maintenance, and user manuals were created and provided to Brookwood's IT department. Training of both the end-users and the IT staff was performed at The Brookwood Community. A maintenance plan for the system was compiled and given to Brookwood's IT department. At that time, the project was completed.

Conclusion:

The BWC Trouble-Ticket System has been successfully operational for the past 5 months. It is a system that has helped Brookwood's IT staff become more efficient. Projects such as this contribute to a lasting legacy for the university as they help businesses resolve their computer problems at no charge while providing UHD students excellent opportunities to gain hands-on experience.

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