eDesk Online – Internal Development and Deployment of Help Desk Management Software

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ABSTRACT
After four years of operation, the University Computing HelpDesk at Washington and Lee University, previously student-run and student-centered, needed to become more reliable and to serve a wider audience. The HelpDesk has about 2,700 potential clients, including undergraduate and law students as well as faculty and staff. As the newly appointed first resort for our entire user community, it needed to be able to track jobs, do trend analysis, and otherwise capture and use data. Commercial software for these purposes was too expensive and often geared for other sorts of institutions, so we decided to see what we could develop ourselves. This paper will brief you on the development and deployment of our HelpDesk management software.

Keywords
Help desk, call tracking, job tracking, client-server database development, Active Server Pages.

1. INTRODUCTION
Over the course of about six weeks we created the foundation of "eDesk," our online database. Through the course of the year many changes have been made and there has been a continuing effort to improve the interface, eliminate bugs, and add features that were not included initially. The in-house development of this tool was incredibly useful, and gave us a great if not perfect tool that provided new functionality to University Computing.

2. DEVELOPMENT OF eDesk
2.1 How We Began
The expertise of two students, J. Duncan and Steven Klotz, was utilized to develop eDesk during the summer of 1999. They worked on coding and creating the core database. Concurrently, I defined the criteria and functions the system needed to have to serve the mission of our newly defined HelpDesk. It needed to provide the ability to track and manage jobs, send notifications about major service interruptions, and email job status and updates to our clients. It was also decided that a web interface to the application was of primary importance. The students and I worked together at both the technical and functional ends of the database. We went back to the drawing board one or two times until the functions we desired could be developed into the new system. Finally we had a product that meet our criteria. By mid August 1999 we had the first version of eDesk in full implementation.

2.2 Technical Specifications
eDesk consists of an Access2000 back-end with a web front-end. It uses Visual Basic Script via an ODBC connection to communicate with the database. It resides on an NT 4 server running Internet Information Server (IIS), and utilizes Active Server Pages (ASP). eDesk is available from anywhere to any platform via web browser. It provides multiple levels of access, managed via a login process that associates users with various functions in the database.

2.3 Functionality of eDesk
Over the course of the year, many changes were made to the functionality and the user interface of eDesk. The core application was refined as minor problems and inconsistencies arose. The database was redesigned to meet the needs of the day to day operations of the HelpDesk.

Some of the primary functions of eDesk include:
- After logging in you are taken to a page listing all jobs currently assigned to you.
- The ability to add a new job and search for a user by name or telephone extension.
- The ability to add a hotline, which is used to alert all users to systemic problems affecting computing availability. User’s experiencing these problems can be added to the hotline, inheriting the attributes of that job.
- Search the database by job number, user’s name, department, job categories, job status, keywords, and many other criteria.
- Staff have the ability to modify user passwords and add notes referring to that user. All other user information is updated from a central database on a daily basis. Reporting is another privileged feature only associated with the manager profile. Reports include basic job information, including the number...
of open, assigned, pending and closed jobs, as well as the
number of jobs by category per month and totals by
academic year.
• eDesk manages multiple user types by associating staff
members, managers, and clients with a series of groups.
These groups include: helpdesk staff, which is the default
group, Technical Services staff, Technology Integration staff,
Systems Administration staff, and lab maintenance.
Additional groups can be added as necessary by managers.
• Jobs are marked as open, assigned, pending or solved, based
on their current status. A newly entered job is marked as
open until assigned to a staff member or group, at which
point it resides in their job list until it is closed. Pending is a
special status for jobs that are on hold.

All users at Washington and Lee University have eDesk accounts.
When they login, they are presented with a different view and
varying options based on their group association, which is stored
in the user database. There are four primary accounts with varying
privileges. An end-user account allows clients to see the
information and status updates associated with all jobs related to
them. End users have the ability to update and solve their own
jobs, but cannot enter new ones. HelpDesk student staff has the
ability to modify a user’s information, add new jobs, update, and
solve existing jobs. University Computing staff members have
access to all features except the ability to add a hotline. Finally,
managers, (i.e. HelpDesk non-student staff) have full rights to all
eDesk features.

3. DEPLOYMENT OF eDesk
Since eDesk is primarily accessed through a web interface,
training and learning time is minimal. The HelpDesk started to
use the tool almost immediately after the beta version was
finished. We only had several weeks to familiarize ourselves with
eDesk before the undergraduate students arrived on campus. The
biggest problem we had to overcome was actually using the
database and remembering to log all calls. It was very easy to just
answer a call, solve a simple problem, and never enter the data.
We were losing valuable data by not logging these calls until we
introduced a new policy at the functional level of the HelpDesk
that every time the phone rang, a client walked into the HelpDesk
or a staff member asked for assistance, the query would be logged.
After a short adjustment period, the new policy was successful
and we gained the essential statistical data that we needed. eDesk
made it possible for the HelpDesk, which only has one full-time
professional staff member, two part-time staff members, and about
10 students, to be immediately successful.

eDesk will always be a work in progress since it is so easy to add
features as they are needed. In the future we hope to add a full
Java JDBC interface, an integrated knowledge base, and a
physical hardware inventory database tied directly to the client’s
information.

4. freeDesk
Our staff found this tool to be so valuable that we decided to give
it away as an open source package. Renamed freeDesk, eDesk can
be downloaded from the freedesk.wlu.edu web site and is
available to any educational or non-profit institution interested in
a copy. We stipulate only that they fill out an online form telling
us who they are, agreeing to credit us as its developers and
promising not to sell or distribute freeDesk without our
permission. A willingness to share bug fixes and refinements is
appreciated. There is an online demo of the database with fully
working accounts available for trial purposes. Documentation on
how to setup and administer this package, a discussion board, and
detailed information about how to download the software are all
available on the freeDesk web site.

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