

Expanding Help Desk Services: The Benefits of Student S.O.S.

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ABSTRACT

It is a given fact that information technology managers often must make decisions on how to best serve the community at large while most effectively utilizing the manpower and resources available to them. Many Help Desks have expanded services by offering new technology, like Desktop Streaming, that has enabled them to meet the users' demands for immediate service without having to wait for a technician. However, what can the Help Desk do when this technology will not work because the user cannot get online? In this case, we rely on technicians to go out and fix the problem.

At Brown University we recently initiated a Service on Site (S.O.S.) program that is free of charge to our community. In the case of our student clients, we send two person teams of student consultants to the dorm room of the client who needs assistance. Besides the obvious benefit of being able to fix problems that cannot be solved over the phone or via Desktop Streaming we have seen many additional benefits. We will outline each benefit in this paper. For the Brown Help Desk they have been:

1. a positive adjustment in the way the community views our services;
2. the ability to help users secure their computers against virus and compromise incidents;
3. the ability to educate customers on how to use their computers to best fit each customer's individual needs;
4. the opportunity to educate customers on other services the department offers, such as software, training, and file services;
5. on-the-job training for our newer consultants and cross-training for our more experienced consultants.

Since some problems will always require on-site technicians to resolve them, it makes sense to use the technicians to further expand and promote our services.

Categories and Subject Descriptors

K.6.1 [Management of Computing and Information Systems] Project and People Management - *Management techniques, staffing, Strategic information systems planning*

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K.4.3 [Computers and Society] Organizational Impacts –
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Management, Measurement, Performance

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Help Desk, Student consultants, On-site assistance, Student Staff, Management, Customer Service, Performance, Measurement, Accountability

1. INTRODUCTION

In the fall of 2002, we radically changed our Help Desk structure at Brown University. Previously, our Help Desk had been manned entirely by student workers. As part of the reorganization professional staff was brought in to work from 7:30 a.m. - 6:30 p.m. Monday through Friday. This action automatically reduced hours available to our student workers to evenings and weekends. This presented a significant problem since we had a large staff of well-trained student workers but not enough hours for them. As a result, it appeared as if we would not be able to utilize the full breadth of our student workers' talents. Concurrent with the reorganization, the Help Desk was embarking on a new path which we believed would lead to better service for our customers. Out of these two very different situations—the problem of not having enough hours for our student workers and the goal of providing better customer service—the Student Service on Site (S.O.S.) program was born. S.O.S. is a program that sends teams of student consultants to other students' dorm rooms to fix software problems that cannot be solved over the phone. It should be noted that the Student S.O.S. program is only meant to troubleshoot difficult software problems and not intended to replace hardware technicians. In general we do not handle hardware problems or help with operating system reinstalls or hard drive reformat.

Almost immediately after its inception, the S.O.S. program was tested in the controlled environment of a special project called ConneCTech. For the first five days of first-year orientation our students were positioned in the dorms, available to get the new students' computers on the Brown Network. Upper management enthusiastically promoted this project and the S.O.S. program in general which gave us a great deal of the necessary support to get the S.O.S. project up and running. Given the success of the initial

ConnecTech project, we started the pilot program of Student S.O.S. when the fall semester begun.

In the year since we initiated the S.O.S program we have found there are many benefits to providing an on-site service to the student community. In addition to solving problems we cannot resolve over the phone, we have found many other benefits:

1. a positive adjustment in the way the community views our services;
2. the ability to help users secure their computers against virus and compromise incidents;
3. the ability to educate customers on how to use their computers to best fit each customer's individual needs;
4. the opportunity to educate customers on other services the department offers, such as software, training, and file services;
5. on-the-job training for our newer consultants and cross-training for our more experienced consultants.

This paper will explain these benefits and demonstrate the value of creating an on-site technical assistance program.

2. LOGISTICS

The basic schema for the S.O.S. program can be distilled into four components: scheduling, assigning, researching, and tracking the status of problems. We will cover these four ideas as well as initial organization to understand how Brown developed its Student S.O.S. program from its initial idea to a working model.

2.1 Initial Organization

The first challenge we had to tackle with the new S.O.S. program was the scheduling of appointments. To do this, we had to have a schedule for the student workers. We posted the schedule and allowed the consultants to sign up for desired hours. We tried to team newer consultants with more experienced consultants and "Mac people" with "Windows people" to guarantee a conducive learning atmosphere. We decided to bring the last teams (queues) back at 10 p.m. even though the Help Desk remains open until midnight. We thought this was an important safety consideration for our student workers. Thus, S.O.S. appointments are scheduled at 6:00, 7:00, 8:00, and 9:00 p.m., Monday through Thursday, with two teams per hour. On the weekends we schedule appointments at 12:00, 1:00, 2:00, 3:00, 4:00, and 5:00 p.m. with one team per hour. We initially had Friday appointments at 6:00 and 7:00 p.m. but discovered early on that there was not sufficient demand for appointments. In addition, we had two teams scheduled on Saturday and Sunday but after the first term we cut this back to one team because there was insufficient demand for these weekend appointments. Although we have special projects for our consultants when there are not enough appointments, we felt it would be a better use of resources to cut the extra queue.

2.2 Assigning Tickets and Scheduling Appointments

Here at Brown, we use Remedy as our ticket tracking system for customer problems. To facilitate the ease of scheduling, we assign all tickets to the group SOS Student (see figure 1). The required information for a S.O.S. ticket is the user's name (called User Net_ID), the user's phone number, the user's Dorm, the user's Operating System, and a detailed description of the problem. To eliminate confusion and to prevent double-booking

appointments we decided to have only one person, the S.O.S. Coordinator, who is a full-time staff member and a co-manager of the student consultants, handle the scheduling of all student appointments. The S.O.S. Coordinator is backed up by the S.O.S. Student Supervisor, a student who takes over the scheduling of appointments when the Coordinator is absent or unavailable. The S.O.S. Coordinator decides which teams are assigned specific S.O.S. tickets and where those teams are sent (i.e. which dorms) each evening. Since we are still transitioning our user community to Exchange and Active Directory, for the moment we continue to use the old fashioned method of emailing teams their assignment for the evening. An email is sent to the members of the S.O.S. team in the late afternoon detailing the time, location, user, ticket number, and a short description of the problem. In the future we hope to use a public calendar that student consultants can check to see what is on the S.O.S. schedule for that evening. We have been using public calendars successfully in our Faculty and Staff S.O.S. program since all the "workers" in that program are all full-time C.I.S. staff already in Active Directory and Exchange.

2.3 Researching/Documenting

One thing we did not realize when we began this project was the amount of time the S.O.S. Coordinator would spend scheduling and researching tickets. Initially, the Coordinator had to make sure the S.O.S. consultants had all relevant documentation and disks before each appointment. Often the important step of researching solutions was left to the Coordinator and not done by the person who wrote up the ticket. To remedy this problem and to streamline the process we created a S.O.S. disk that contains spyware tools, virus removal tools, and all relevant documentation created by Brown regarding connecting to the network. This way the S.O.S. Coordinator does not have to create an individual disk for each appointment. Additionally, we set aside a file cabinet dedicated to storing all documentation we found on the web to aid in the consultants many tasks.

2.4 Post-appointment Follow-up

After the S.O.S. consultants visit the customer's dorm room, they come back to the Help Desk to update that customer's Remedy ticket with the actions they performed, the time they spent on the problem, and whether they believe the problem is resolved or not. If the problem is considered resolved, it is passed on for review to the S.O.S. Student Supervisor, who then contacts the customer to verify that the problem is indeed resolved. Additionally a quick survey is sent to each person who has a S.O.S. appointment to gauge customer opinion on the service.

2.5 Step-by-Step Instructions: How a Remedy ticket get resolved by S.O.S teams

The following outlines the general procedure for resolving a Remedy ticket though the S.O.S. Program.

1. Customer calls into Help Desk and the consultant who answers the phone takes his or her name and problem detail
2. Consultant tries to troubleshoot problem over the phone
3. If consultant determines the problem would be better handled via S.O.S., the consultant takes the customer's phone, dorm, and room number, and Operating System

New HD_Ticket Save

HelpDesk Problem Reporting Print Ticket Ticket number: HD Status: New State: Needs suggestions/attention

User Information:

User Net-ID	User Email	Contact Phone #	User Type	Dept/Dorm	Room
First_Last	First_Last@brown.edu	35555	Staff	Dorm: Main/Keeney/Archibald	000

Previously Submitted Tickets for this User in the Last 6 Months (Newest Shown First) [Search EAB](#)

Category	Assigned-to	Create-date	Status	Ticket number	Ticket Type

Ticket Detail Category: Desktop Ticket Title: Desktop

Troubleshoot Problem Make Request

Desktop Information

Desktop information is critical when trouble-shooting. Please use this opportunity to populate the fields below.

Machine Brand:

Machine Type:

RAM:

Hard Disk Size:

Op System:

Software:

Version:

[Package Owner Look-Up](#)

Assignment Info

Assigned-to Group:

Assigned-to:

Date needed:

Create-date:
Modified-date:
Last-modified-by:
Submitter:
Audit Log:

Last Staff Update:
Last Staff Update By:

(Figure 1: Sample Remedy Ticket)

4. Consultant than reroutes ticket to the group “SOS Student”
5. By assigning the ticket to “SOS Student” an email is automatically generated and sent to both the S.O.S. Coordinator and S.O.S. Student Supervisor
6. Tickets are sorted for scheduling by difficulty and location
7. S.O.S. Coordinator or S.O.S. Student Supervisor contacts customer via the phone and/or email to schedule the appointment
8. Once the appointment is scheduled it is logged on a paper ticket which is simply a print out of the Remedy ticket
9. Attached to the paper ticket are relevant disks (such as S.O.S. Tools disk, Norton Anti-Virus, and Operating System disk) and any additional write-up the consultants may need for the appointment
10. An email is sent out to the team who is working that evening detailing the time, user, location, ticket number, and short write-up of the problem
11. S.O.S. consultants stop into Help Desk to pick up paper tickets and disks
12. Consultants go to appointments
13. Consultants update Remedy tickets upon arriving back and return paper tickets and disks to S.O.S. Coordinator
14. Upon completion of the appointment, the Remedy ticket is set to “Review” and an email is generated and sent to the customer with the link to the S.O.S. survey
15. The customer is contacted by Student S.O.S. Supervisor to make sure problem is resolved
16. S.O.S. Student Supervisor closes tickets once the customer has verified the problem is resolved

3. ANALYSIS

One of the best ways we have discovered to gauge what our clients think of our service is asking students to complete a survey we send them once their ticket has been reviewed (see figure 2). Given the fact that students are asked to fill this out voluntarily we do not necessarily expect a high yield of respondents. However, we have had a reasonable number of students fill out the survey and their open-ended comments have provided confirmation that the Student S.O.S. is performing well and meeting our goals.

A screenshot of a 'Service on Site Survey' form. The form is titled 'Service on Site Survey' and contains several input fields and radio button options. The fields include: Name, Email, Brown Status (dropdown), Ticket Number, Appointment Date & Time, Type of Computer (dropdown), Nature of Problem (dropdown), Did the consultants arrive on time? (Yes/No radio buttons), How long did it take for the consultants to resolve the problem? (text input), Were you satisfied with the efforts of the consultants to resolve your problem? (Yes/No radio buttons), Were the consultants who helped you professional and courteous? (Yes/No radio buttons), Was your problem resolved? (Yes/No radio buttons), and Do you have any other comments about your experience with our Service on Site Program? (text input). At the bottom right, there are 'Submit' and 'Reset' buttons.

(Figure 2: Survey sent to all customers upon completion of appointment)

Each month, we assess how the S.O.S. program is performing and provide the results to upper management in a detailed report. We analyze the number of tickets that are resolved each month by S.O.S. teams (this is the actual percentage of tickets assigned to Student S.O.S. that are resolved with on-site visits), the number of tickets that are hardware problems, the number of problems that could not be resolved for other reasons, and the number of tickets that are bounced back to the Help Desk for more research. We also analyze the time spent on each appointment on-site to further refine our S.O.S. schedule. It is through the results of this analysis we are able to see the benefits of the S.O.S. program.

4. BENEFITS

One of the most obvious benefits of the S.O.S. program that we have seen is our ability to resolve customer issues quickly. In instances when the customer is having trouble getting online our remote control client, Desktop Streaming, is ineffective. We must send a team on site to aid the customer in connecting to the network. Additionally, since our present remote control client is Windows-specific, sometimes we are able to fix complex Apple problems only by going on site. Although these are important advantages of the S.O.S. program we have discovered other

benefits as well. Below we describe the five benefits we believe to be the most significant.

4.1 Positively adjusting community views

At the beginning of the school year we were not only adjusting to a new organizational structure at the Help Desk, but we were also battling the reputation of the old one. The user community perceived the Help Desk as a bottomless pit for customers' problems. The customer would call in with a problem and if not provided an immediate solution, felt there was no hope. By being able to send people out in the field we were able to solve more problems, thereby helping to improve our reputation.

Additionally, we believe that it is important to put a face to the Help Desk. Through the SOS program we have the ability to send student consultants out to represent what we do best, which is resolve customer problems. Furthermore, for customers who are new to Brown this may be one of the first interactions they have with the Help Desk. Having on-site representatives allows us to make a positive first impression for certain kinds of problems that would be challenging to solve over the phone. Thus, we feel the S.O.S. program has had a profound impact on the way we are

viewed in the community. We regularly get very positive feedback on the S.O.S. surveys. Now people recommend that their friends call the Help Desk because if the Help Desk staff cannot solve the problem on the phone then the Help Desk might be able to send an on-site team who can.

4.2 Reducing virus infections and compromises

All our S.O.S. teams carry up-to-date Norton Anti-Virus disks. Although Brown University has a site license for its students, faculty, and staff we have learned many people do not install it because they are unaware of its availability. Once installed, the software regularly checks for updated virus definitions, removing the responsibility from users. If the S.O.S. consultants arrive on site and discover the customer does not have Norton Anti-Virus, they install it for the customer before they leave. Additionally, they educate the customer about the importance of the 7 Steps to Securing Your Networked Computer. The steps, recommended by our IT Security Team for all computers on Brown's network, are outlined below:

1. Install Norton Anti-Virus
2. Apply Windows Critical Updates
3. Secure Accounts (i.e. all accounts must have a strong password; disable guest access)
4. Disable NETBIOS Null Sessions
5. Disable Remote Access
6. Internet Explorer Settings
7. Lock it up (i.e. locked dorm rooms and locks for laptops)

Although our S.O.S. consultants cannot complete all the steps themselves on the appointment, they will make sure that at least steps 1 and 3 are completed, and they will educate the user on the remainder of the items before they leave. We strongly believe that putting Norton Anti-Virus on all networked machines can help quarantine viruses before they become larger outbreaks. And by educating users on the importance of strong passwords, we have attempted to reduce the number of clients who need their computers rebuilt because their machines were compromised.

4.3 Educating our customers about their PCs

At Brown we believe an educated customer is the best kind. It is easier for us to help them and it is easier for them to help themselves. While our S.O.S. consultants educate customers on the importance of such things as strong passwords, applying critical updates, and securing their computers, we have also found that frequently the customer will ask numerous other questions when the S.O.S. consultants are on site. Our S.O.S. consultants are given the rare opportunity to sit down with the customer and show him how to use his computer most effectively for his needs. Sometimes this is simply showing the customer a program which he might find easier to use with his portable mp3 player. Sometimes it is showing how to disable sharing on peer-to-peer software. Essentially, the one or two hour period the S.O.S. consultants spend with the client provides a personal learning session for that client. At that point, the client has two knowledgeable people who are there to provide any assistance that they can. We often receive comments from users remarking on the fact that the consultants were more than willing to address issues other than the one for which the appointment was scheduled. Additionally, we get comments on the patience and helpfulness of our S.O.S. consultants. Our clients seem particularly pleased that the consultants do not make them feel

like they have "dumb" questions, thus making the customers more comfortable with their personal computer.

4.4 Educating customers about additional C.I.S. services

Brown C.I.S. offers much more to the user community than just the Help Desk, though many customers do not know of the other services provided. The S.O.S. consultants are given the opportunity to teach customers about other services that C.I.S. provides. If a user asks how she can get some Dreamweaver training so she can design a website for a student group she belongs to, the S.O.S. consultants will show her the website maintained by the Instructional Technology Group that lists all the training available to students. The customer might complain about problems using floppy disks, so the S.O.S. consultants will install and educate the user about CFHome, which is Brown's networked storage space for students. Additionally, students may ask about how to obtain software they need for class. The S.O.S. consultants will show them both the Application Server (a networked server containing lots of software) and the Software Services website where they can download other pieces of software. At that point, the consultants will also inform the customer that the majority of software is keyed, requiring the customer to be on Brown's network to use it.

4.5 Training consultants

One of the most beneficial aspects, in the opinion of managers, is the fact that the S.O.S. program provides on-the-job training for newer consultants or consultants who may be weak in certain areas. Since we must hire students whenever there is demand, we are not always able to provide our new consultants with as much training as they might need. On S.O.S. appointments new consultants learn valuable technical and customer service skills. New consultants are always paired with some of the most experienced consultants so that they are given the opportunity to learn more than we would ever be able to teach them in the classroom. Additionally, newer consultants get the benefits of being taught by a peer rather than a supervisor, and older consultants get the benefit of learning how to train other consultants. We often try to pair consultants who are strong on Windows platforms with consultants who are strong on Apple operating systems, thus allowing for cross training. Usually in this case, both consultants are already well-trained in one area, but need some work on the other area and S.O.S. provides this opportunity.

5. CONCLUSION

We have found that in many ways the benefits outlined in this paper are interconnected. We resolve problems we cannot over the phone, and by doing so we improve our reputation. By going to customers' rooms we are able to help them secure their computers as well as educate them about their computers and other services we offer. Sending our teams on a variety of different appointments provides our consultants with the opportunity for cross-training.

We have found that the S.O.S. program has some problems. With the growing popularity of the program, at times some customers are unwilling initially to troubleshoot the problem over the phone;

instead, they immediately request a S.O.S. appointment before the consultant on the phone can delve into (and possibly solve) the problem. Additionally, at first consultants with less experience on the phone tended to use the S.O.S. program as a crutch, thus robbing themselves of important learning opportunities. Once we became aware of these potential problems, we were able quickly to curb this tendency by addressing the training needs of our student consultants.

However, given the array of benefits outlined in this paper, we have found Brown's Student S.O.S program to be very successful on many levels. The user community is impressed with our services and seeks out our help. Of equal importance is the fact that our consultants enjoy their jobs more; several have commented on how they enjoy getting to help and educate other students. Management is equally happy because our reputation

among our customers is improving and our students are active and satisfied.

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