Online Help Systems
and Knowledge Bases:
Building a Virtual Helpdesk

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Online Help Systems and Knowledge Bases:

building a virtual helpdesk

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Why build an online help system?

What does it take to build one?

What makes an online help system good?

How much does it cost, and is it worth it?

If we build it, will they come?
The purpose of an online help system should be to allow computer users to accomplish their tasks and resolve their problems as quickly and conveniently as possible.

Online Help Systems in Context

An online help system can be part of an excellent computing support environment, but cannot by itself be an excellent computing support environment.

The Indiana University Leveraged Support Model:
- online help as “first stop”
- departmental support providers
- phone and walk-in help from central computing center
- deep technical support

In an ideal world, everyone would look at online help systems first when trying to solve a problem. Phone support would be needed only for emergencies, network outages, or problems not available via online help. Walk-in consulting would be reserved for issues requiring in-person authentication of identity, and introduction to the computing environment

What does your helpdesk do that could be done online?

- answer questions
- notify customers of scheduled and unscheduled outages and problems
- provide documentation
- allow users to look up e-mail addresses locally and elsewhere
- provide helpful phone numbers & e-mail addresses, especially regarding computing support
- accept applications for (and process) new computing accounts, network IDs, quota requests, IP numbers
- register for computing classes
- schedule appointments (for extended consulting, disk recovery, office calls, house calls)
- reserve computing facilities
- provide printable forms for mailing in requests (e.g., for password changes, letters of authorization, etc.)
- allow customers to report problems
- distribute software
- provide acquisition consulting
- post computing policies
- announce new or changing services
- post availability of computing sites, workstations or consultants
- display print queues
Benefits of online help in comparison to conventional computing support:

• provides computing help 24 hours/day, 365 days/year (almost)
• can consolidate many types of help (information, services, tutorials, troubleshooting) in one location
• "recycles" each question answered, therefore is more cost effective
• scales with growth in demand better than phone or e-mail consulting
• empowers users and consultants through shared knowledge and self-service
• permits easier revision than printed materials; eliminates "recalls"
• reduces (and shifts) printing costs
• distributes information faster than printed material
• can answer questions and provide services faster than a busy helpdesk can
• facilitates self-directed learning by users
• provides help to remote customers
• avoids user transcription errors

Other benefits of online help:

• via the Web, it uses software probably already in use at your institution and familiar to your customers
• provides storage space for esoterica
• reduces loss of knowledge with staff turnover
• can serve many skill levels
• provides work for staff during non-peak seasons
• may reduce demand for one-on-one consulting and free consultants for difficult and unique problems

Costs of online help:

• unavailable if workstation or network is down
• user hardware and software are unpredictable
• can be unintuitive, difficult and hidden to new users
• development and maintenance can be very expensive
• hardware may be expensive
• loss of human interaction may be perceived as lower quality of service
• does not eliminate need for conventional methods of help (for new and unique problems, recalcitrant users, workstation- & network-crippling problems)
Minimum requirements for providing Web-based Online Help:

- incentive (Constant growth in demand for consulting help in periods of generally flat or declining budgets should provide this!)
- Web server
- reliable network
- Web-savvy customer base with predictable needs
- Web programmers
- organizational and institutional buy-in
- publicity
- commitment
- a sense of responsibility on the part of users

Characteristics of a good online help system:

- contains hyperlinks (a clear advantage of online help)
- entices users through both content and appearance
- provides clear organization/structure/navigation (e.g., navigation bar, helpful headers and footers, consistent design)
- easy and intuitive: question and answer format
- options and possible actions are clearly presented and intuitive
- offers one-stop shopping
- system- and browser-independent, and useful to all potential users (How does it look in Lynx?)
- exemplifies good user interface design, e.g., readability, predictability, consistency (e.g., will “enter” submit or not?)
- alternate interfaces are geared for varying skill levels
- predictable content: users must expect to get help there
- clear instructions
- quick and clear response signaling that the computer has received input from the user and is acting upon it
- exploits knowledge of users - uses familiar terms and concepts (e.g., tables of content, buttons look like buttons, avoids jargon and unfamiliar terms)
- minimize distractions (such as backgrounds, blinking, extraneous images, excessive flashiness)
- not an expert system that take you to the right pages of poorly written technical documentation
Requirements for providing a Knowledge Base

- commercial software (including a search engine) or programmers who know perl, database, unix, CGIs, html, etc., and who are charged with this big, ongoing project (Note: even with commercial software, a programmer/script writer will be required.)
- dedicated machine (or several) and system administration
- base budget funds
- willing (or vested interest by) contributors
- adequate staffing and dedicated, capable staff (good editors and writers)
- a solid plan, including standards for presentation, structure for content life-cycle, maintenance, ownership, etc.

Knowledge Base options

- use a commercial knowledge base
  - Inference's CasePoint: http://www.inference.com/
  - Molloyn Group: http://www.molloyn.com/
  - others
- build your own Knowledge Base
- use a commercial or shareware search engine
  - Excite: http://www.excite.com/navigate/home.html
  - others
- build your own search engine
- provide a menu or list without search capabilities

Things to consider when building your own search engine or Knowledge Base:

- advantages: you can build-in local customization; you can change it as your needs change
- costs: it’s probably more expensive
- web server selection: commercial, bundled with operating system, or freeware
- searching on the fly takes time; therefore, index content
- indexing: full-text vs. title vs. keywords, vs. all of the above; partial-word searching and wildcards; phrase searching
- access control: appropriately serving target audiences
- what if users search on “email” or “e mail” but you spell it “e-mail”?
- punctuation requires special treatment so you can find (unix), unix, “unix”, Unix?, unix.
- plurals: ignore terminal “s” and a search on “dos” becomes search on “do”
- ignore words: ignoring useless words speeds indexing and search
- how to order search returns (scoring): long texts might show up first; padding
- how to facilitate return of a usable number of entries
- how to adapt text documents to the Web (converting content into html)
- maintenance tools and utilities for writers and editors
- there will always be a better way
Miscellaneous Tips and Observations

- **Good writing is critical.**
- Headers, footers, navigation bars are very important.
- Long pages can be costly.
- Usability studies are difficult, inconvenient and worthwhile.
- There are no formalized standards for online help (regarding fonts, pull-down menus, search booleans, etc.).
- Search behavior is unpredictable (i.e., inconsistent behavior of various search engines; also, who knows how a given user will compose a search?).
- Maintenance of a knowledge base of changing technology is difficult and expensive.
- More is not necessarily better; sometimes less is better.
- Production systems should strive to be fail-safe (e.g., machine twinning).
- Don’t duplicate efforts of others: steal (legally) rather than reproduce.
- Menus can be too many layers deep, or too overwhelming on the top level.
- What is the appropriate number of keystrokes or clicks required to accomplish task?
- Graphics limit Lynx users, so might best be reserved for examples.
- There is almost always a conflict between ease of use and functionality (power).
- Should you reflect organizational structure or mask it? Does it help or hinder the user?
- It helps to have a problem tracking system that collects, logs and traces questions asked and answered.
- How many network connections can your system handle?
- Lynx can address inadequate desktop hardware; design for its use.
- Use your knowledge of customer behavior to present the help most likely to be sought, first.
Some URLs of a wide variety of Online Help Systems at Universities:

Boston College: http://www.bc.edu/bc_org/tvp/IT/it.html
Brigham Young: http://ucs.byu.edu/ (nice nav bars on subsequent pages)
Carnegie-Mellon University: http://www.cmu.edu/acs/resources.html
Dartmouth College: http://www.dartmouth.edu/comp/index.html
Duke University: http://www.oit.duke.edu/help/
Emory University: http://www.emory.edu/ITD/comp-help.html (nice acquisition consulting page)
Florida State: http://www.acns.fsu.edu/
Georgia Tech: http://www.gatech.edu/oit/ (flashy Support Center page)
Indiana University: http://www.indiana.edu/~ucshelp
MIT: http://web.mit.edu/cwris/computing.html
New York University: http://www.nyu.edu/acf/index.html
North Carolina State University: http://www2.ncsu.edu/ncsu/cc/pub/ccindex.html
Northwestern University: http://www.nwu.edu/compute/
Penn State: http://www.psu.edu/computing/ (comprehensive front page)
Princeton University: http://www.princeton.edu/cit/ (long pages, but pretty)
Tufts: http://www.tufts.edu/tcsc/acs/help/
UCLA: http://www.ucla.edu:80/campus/computing/
University of California, San Diego: http://www-acs.ucsd.edu/
University of Florida: http://www.circa.ufl.edu/comp.net/ (logically organized)
University of Illinois: http://www.uiuc.edu/computing.html
University of Michigan: http://www.itd.umich.edu/ (very pretty, long catalog)
University of New Hampshire: http://www.unh.edu/Campus/cis/cis.html
University of New Mexico: http://www.unm.edu/cirt.html (help search returns confusing “score”)

There are hundreds of others.

Commercial knowledge bases your pages can link to

Microsoft Knowledge Base: http://www.microsoft.com/kb/
Novell Support Connection: http://support.novell.com/
others
The Indiana University Experience

History of the UCS Knowledge Base and UCS Help Online

UCS Help Online http://www.indiana.edu/~ucshelp
UCS Knowledge Base http://ucsssc.indiana.edu/kb/

Indiana University's UCS Support Center has been answering computing questions via e-mail, telephone and walk-in since the early 1980's. Even in those early days, constant change and repetitive answers were the modus operandi. These two conditions encouraged the staff to maintain a source of facts -- the official, correct answers to frequently changing, and frequently requested information. Consultants also needed a repository for results of difficult or lengthy research they had undertaken to resolve some problems. Post-it notes on the monitor were no longer adequate.

The first on-line "Knowledge Base," established in about 1988, was a directory of files on a shared VMScluster account. Known as the "M" directory (named for Marie Meyer, one of the originators), files were named for their content, such as: VMS_SCRATCH_DISK.OVERVIEW, VMSMAIL_EDT.HOWTO, CDC.JCL, etc. Consultants answering user questions via e-mail found it very convenient to include the content of these files into their e-mail messages, and customize the answer to the particular question, rather than typing it from scratch each time the same question was asked. Upon sending information to answer an original question, they also created a more general version of the answer to include in the M directory for reuse.

This directory quickly grew into over a hundred files, often with multiple versions. There were no standards for the format of the files, and answers were written, revised and maintained ad hoc. In about 1989, Support Center staff attempted a more logical organization of these files in a VAXNotes conference, called the "Pat Answer Library," but because of the unwieldy character of VAXNotes, this never really caught on.

By 1990, the Support Center was determined to find software appropriate for storing, maintaining and retrieving this "Knowledge Base", and examined several text-oriented, LAN-based databases. (LAN-based so that the files could be shared, yet independent of any central operating system.) We settled on "IZE," a commercial product which ran on DOS only, a major limitation. Nonetheless, IZE served us well for almost two years. It offered content-based outlining and keyword searches that made maintenance easy. The KB grew to several hundred files written by Support Center consultants or snipped from FAQs found elsewhere on the Internet.

Then came Gopher. In the early 1990's, we had on our staff a clever, ambitious young man, Scott Hutton. He created for us a full-text searchable, world-accessible gopher server that revolutionized the Knowledge Base. Support Center staff stopped thinking of the KB as a tool for our own private use, and started orienting information for direct public use. Gopher allowed around-the-clock public access to the Support Center's repository of frequent (and infrequent but difficult) questions and their answers.

We were enchanted by gopher for about 6 months, when we first heard about the World Wide Web. Scott had the KB on the Web within a few months. Almost immediately, the gopher version became an albatross. Scott wrote many hacks to make the gopher version simulate the Web (e.g., linking texts), but we were, in effect, maintaining two versions of the KB. The simple existence of the gopher KB handicapped the Web version. We could not write texts embedding hot links or internal references. In March, 1995 we disabled the gopher version of the KB, freeing us to exploit
HTML features to their fullest.

At about the same time, we realized that we could offer other computing support services online through the Web, especially through Web forms. Other units in UCS had begun to write Web utilities for account creation, requesting password changes in absentia, registering for free computing classes, etc., i.e., many of the services we provide at the UCS Support Center. But none of these services were consolidated on one web page, or were particularly easy to find. Our manager at the time, Marion Krefeldt, decided we should design and build a “virtual Support Center”. In January, 1996, we declared UCS Help Online to be a production service, and the home page for the UCS Knowledge Base. In effect, we built a computing services “mall” around the “Lord and Taylor” (the Knowledge Base).

As of this writing, the KB contains 4707 files and was hit an average of more than 2800 times per day (including weekends) since January 1, 1996, and over 4,000 times per day during September and October, 1996. Texts in the KB come from many sources, although our primary source is the Support Center consultants, writing up answers to questions they have been asked. Additionally, over 200 person hours are dedicated to KB maintenance each week: revising texts, building scripts to enhance maintenance, adding links, building better interfaces, etc.

During the winter of 1995-96, the Knowledge Base software was rewritten to provide easier maintenance, faster searching, more search options and other features not possible when the original Web version was written. "KB2", written primarily by Matt Liggett, with additional modules written by Alan Meiss and John Nienart, replaced the original KB on March 6, 1996.

On December 31, we plan to make some major changes to the appearance of the UCS Knowledge Base and UCS Help Online: improving headers and footers, adding a navigation bar, and rearranging some services on UCS Help Online. These services will never be “finished,” but we hope and expect that they will continue to improve and provide useful and easily accessible computing help to the Indiana University community.

How the UCS Knowledge Base works

"Ingredients:"

- 4707 files (each is one Knowledge Base entry) containing a question and an answer, formatted in Knowledge Base Mark-up Language (KBML), a text markup language, a superset of HTML, with some customizations and special features for the needs of the KB
- a locally written full-text search engine, called "Mindex", written in Perl 5
- a freeware Web server, Apache
- several databases, including an extensible keywords database (which includes access "domains", content status (from "approved" to "inaccurate"), the most recent verification date, expiration date, and content owner), usage logs, a "Q-line" database, and others
- Unix Revision Control System for revision and editing history on all entries and many other files
- archives of "retired" KB entries
- tools and utilities for KB usage reports and text maintenance, including an editing environment written in emacs lisp, Web and command-line tools for title-searching only, searching for archived texts, searching by owner and by expiration date, a tool to study the search strings actually submitted by users, tools for adding and removing links to other KB entries and for changing keywords, and others
• a staff of editors and programmers (approximately 200 person-hours per week)
• two dedicated Sun Sparc 20 workstations with 128 Mb memory and 5 Gb disk space

Knowledge Base entries

Knowledge Base entries are most frequently written by the 30 or so telephone, e-mail and walk-in consultants who work for University Computing Services Support Center at Indiana University. Most entries originate from questions asked of the consultants by the computing community. Also, as technologies change and new computing tools are introduced at IU, UCS system and service "owners" prepare for support impacts in advance of the change. Part of the preparation includes supplying new KB entries. This helps keep the Knowledge Base full of current information.

When a new entry is added to the Knowledge Base, it is assigned a unique identifier ("docid"). The docid will never change, even when other parts of the entry are modified. An RCS file is then created to track the history of the entry. Finally, the "Q-line" (i.e., the question line) is extracted and stored in a database.

As the KB editor adds the text, s/he supplies the author, the "domain", and the "status" of the entry. The domain refers to the realm of relevance of the information contained in the KB entry. Texts about Unix and WordPerfect for example, are of interest globally, and therefore are assigned to the domain "all". Texts about the availability of color printing at IU-Bloomington are relevant locally, and are therefore assigned to the "iub" domain. Only those using the Knowledge Base from IU central systems or workstations with IUB IP numbers will see these entries. Domains include all (everyone), iu (all Indiana University campuses), iub (IU-Bloomington), iu-pui (IU-Purdue University at Indianapolis), domains for each IU campus, and a restricted domain for the UCS Support Center.

(KB staff are currently developing an "expanded search" interface for public use which would allow users to include archived entries, to display information in additional domains, to disable default domains, to search titles only, and etc. For example, someone elsewhere would be able to find out about color printing at IU-Bloomington, or someone at IU Bloomington could ask to see only relevant locally information. This tool will be available by January, 1997.)

Some entries in wide domains have embedded restricted domains. For example, a text about Unix might have a sentence or paragraph about Unix systems at IU Bloomington. Readers of the entry elsewhere would not see this part of the text, but readers at IUB would see the extra information seamlessly.

The "status" of a new entry is presumed to be fine, but a better status is "approved" -- given a "Stamp Of Approval" by a technical authority. KB editors attempt to obtain SOAs for all new entries, and as entries age, to seek renewal of "approved" status.

KB editors can also include hidden information in the text, such as a comment about when the information might expire. While this information can be useful when rewriting or updating the entry, it does not affect how the Knowledge Base works. However, other hidden words can be embedded in the text to affect searches. For example, in each text that contains "Windows 95," the KB editors have created a hidden area of the text in which they also include "Windows95," "Win 95," and "Win95." By including common alternate spellings of terms like these, we can increase the chance of a search returning all the relevant entries, without skipping some due to the vagaries of spelling special terms.
After revising existing KB entries, KB editors are asked whether the text should be considered re-approved. Only if the editor has received an "SOA" from a technical authority is the "last verified" date of the entry updated. After modifying an existing entry, the RCS log is revised. Through RCS, it is possible to restore previous versions of all entries.

KB entries regarding technologies no longer used at IU (such as VMS mail) or services no longer provided at IU can be archived. Archived texts are not returned as searches, but can be unarchived if necessary. With the forthcoming "expanded search" utility, all users will have access to archived entries.

The Knowledge Base search engine

The Knowledge Base search engine, Mindex, was written in the early months of 1996 by Matt Liggett (mliggett@pobox.com). Mindex is not available for distribution. Each night, Mindex sorts the words of all 4,707 KB entries. It skips words on an "ignore words" list, and strips the terminal "s" or "es" from most words (except for a few words like "DOS"). The "ignore words" list consists of the very common terms that would not contribute meaningfully to a search, such as "the," "if," "however," "should," "do," etc. The result is a table containing all searchable words in the Knowledge Base, the docids of entries in which each word is found, and the number of occurrences of each word within each entry.

When someone submits a simple search string (without quotation marks), the words are located in the table, and the docids of entries containing all words in the search string are determined. The docids of archived entries are removed from the list, as are docids of entries in irrelevant domains. The Q-line database is applied to the list of remaining docids, and the resulting list of Q-lines (questions) are displayed on the user's Web browser. Only when the user selects a "hot linked" question (Q-line) does the KB entry's file actually open for reading. Then, the KBML entry is converted to HTML for display.

When someone submits a search string with quoted words or phrases, Mindex returns only documents which contain exactly the contents of the quoted term. This means that punctuation, singular vs. plural, whitespace, and capitalization are all honored. (In simple searches, they are discarded.) To accomplish this, first Mindex breaks all search terms down into simple words and performs the search as if there were no quotes. Then, it searches each of the documents that contain all of the simple words for exact matches to the quoted phrases. It does this second pass at the time of the search submission, and does not rely on an index of any kind.

Twin machines and other notes

KB editors and programmers work on a Sun Sparc workstation named "nacho.ucs.indiana.edu", logging into it from remote workstations. Every 30 minutes, all data files are copied to its twin, "ancho.ucs.indiana.edu". [Note: We are aware that "nacho" is not a real pepper.]

When editors make changes to entries, words that were once contained in entries may be removed, and new words added. These changes will not be reflected in the table Mindex builds until it is rebuilt that night. Therefore, new entries are not searchable until the next day. Furthermore, it is possible that entries that do not contain the search words you used will be returned as a result of your search because those words were recently removed.
If we build it, will they use it?

Gaining user acceptance

• a good system is required
• build the system for usability from the customer’s perspective
• high level of commitment is required
• attempt to enlist advocacy from faculty
• self-interest is a great motivation
• capitalize on Web training (embed online support in all Web classes)

During the past year, phone consultations did not increase over the previous year, however our online help systems showed dramatic increase in use. We believe that our online help system is helping us handle our growth in demand.

<table>
<thead>
<tr>
<th></th>
<th>phone calls received</th>
<th>KB hits</th>
</tr>
</thead>
<tbody>
<tr>
<td>August '92 - July '93</td>
<td>78643</td>
<td></td>
</tr>
<tr>
<td>August '93 - July '94</td>
<td>88953</td>
<td>130274</td>
</tr>
<tr>
<td>August '94 - July '95</td>
<td>120512</td>
<td>487447</td>
</tr>
<tr>
<td>August '95 - July '96</td>
<td>95301</td>
<td>982364</td>
</tr>
</tbody>
</table>

Knowledge Base hits compared to phone calls received at the UCS Support Center.

Monthly Usage of the UCS Knowledge Base
Definitions:

FAQ - a collection of frequently asked questions and their answers, usually in menu form.

Knowledge Base - a collection of narrow questions and specific answers, usually arising from actual questions asked by system users. Can include FAQs as well as esoterica. Preferably searchable. Electronic equivalent of computing consultant. Useful only for non-unique questions and answers.

Online help - the superset of online publications, services, knowledge bases, tutorials, and information.

Online information - electronic notices, banners and announcements. Overlaps with online publications (e.g., online newsletters). Electronic equivalent of bulletin boards.

Online publications (documentation) - institutionally (locally) or commercially developed substitute for printed manuals. Designed for browsing, learning and reference. Includes context-sensitive help which is part of commercial software, unix man pages, etc.

Online services - programs, scripts and utilities which accomplish a specific task via e-mail, Web form, etc. Includes electronic equivalent of paper forms.

Online tutorials - electronic learning guides designed to assist new users.

Related reading:


How to resolve problems or answer questions about computing at IUB

(text version)

When you have a computing question or problem, you should follow the procedure outlined below, stopping when you get the answer or solution you need. The flow chart on the back of this page presents the same procedure in a graphical format.

Note: If you have an emergency, go to step 3.

1) Use UCS Help Online at http://www.indiana.edu/~ucshelp/ to solve your problem. (If you cannot connect to UCS Help Online, you should skip to step 2.) UCS Help Online is designed to provide the solutions to most computing problems at Indiana University. UCS Help Online features the following services, as well as many others:

   a) The UCS Knowledge Base, a searchable database of answers to over 5000 computing questions asked by Indiana University users, is available by selecting Search For Answers. If you don't find your answer here, you can use the provided form to submit your question to a consultant.

   b) Check System Notices to find out about outages, planned changes, and scheduled downtimes affecting UCS Central Systems. Use the Problem Report Form to let us know about problems which are not mentioned in System Notices.

   c) The Account Services section provides access to services for maintaining your computing accounts on UCS Central Systems, such as forms to request quota increases or password changes.

   d) The Request Appointments forms enable you to set up one-on-one help. There is a charge for these services, as they are not covered by the basic Student Technology Fee or departmental contribution.

2) If you can't find the help you need in UCS Help Online, consult your department's Local Support Provider (LSP), if your department has one.

3) If you can't find the help you need in UCS Help Online and don't have a Local Support Provider, or if you have an emergency, call the Support Center at 855-6789 to talk to a consultant, report a problem, or request an appointment. The Support Center is open from 8 to 5, Monday through Friday.
How to resolve problems or answer questions about computing at IUB
(flowchart version)

Problem or question

Can you connect to online help?

NO

Do you have a Local Support Provider (LSP)?

NO

Call UCS Support Center at 855-6789.

YES

Contact your LSP.

YES

Are you having difficulty accessing a particular system?

YES

Check System Notices in UCS Help Online at http://www.indiana.edu/~ucshelp/

If the problem is not mentioned in System Notices, use the Problem Report Form.

OR

Call UCS Support Center at 855-6789.

NO

Look in the Knowledge Base by selecting "Search For Answers" in UCS Help Online at http://www.indiana.edu/~ucshelp/

Did you find the answer to your question?

NO

Do you have a Local Support Provider (LSP)?

NO

Use the form provided in the Knowledge Base to ask for help from a consultant.

OR

Call UCS Support Center at 855-6789.

YES

Contact your LSP.

YES

You're done!
UCS Help Online and the UCS Knowledge Base: A quick guide

Use UCS Help Online and the UCS Knowledge Base to get help with computing, 24 hours a day. Find them on the Web at http://www.indiana.edu/~ucshelp/

To access this document on the World Wide Web, set your browser to:
http://www.indiana.edu/~ucspubs/h135/

September 1996

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What is UCS Help Online?

UCS Help Online, featuring the UCS Knowledge Base, is a collection of resources for helping and supporting computer users at Indiana University. UCS Help Online is a series of customer-friendly Web pages, forms, and links dedicated to providing the computing information, services, and help that you need in your computing at IU. A key component of UCS Help Online is the UCS Knowledge Base, which contains answers to the 5,000 computing questions most commonly asked at IU. UCS Help Online is designed to be a quick, convenient method for students, faculty, and staff to get help with computing, answers to their computing questions, solutions for problems and errors, and services for their computing needs.

Just as a bank machine lets you do your banking at any hour and without going into the bank, UCS Help Online gives computing help and services around the clock, from any networked or modem-connected computer. And even when the bank is open, you can still use the ATM for your everyday banking needs, knowing that if you have an involved problem or question, there’s a teller available to help you. In the same way, UCS Help Online allows you to get access to computing services and information without waiting in line at the IMU or holding for help on the phone. And when your problem can’t be solved online and you need individual attention to your question, personalized help is still available. You can even ask a consultant your question from inside the Knowledge Base, without waiting in line at the IMU. You don’t have to wait overnight or over the weekend to ask your question.

Think of UCS Help Online as a "virtual" Support Center, offering most of the same services as the physical Support Center in the IMU (and more), but that’s available 24 hours a day, 7 days a week, year-round. You can use it to change your passwords, request quota increases, and get computing help.

Where do I find UCS Help Online?

UCS Help Online is a service offered via the World Wide Web. You can get to the Web from the UCS public computing sites, the Halls of Residence computing sites, your network-connected computer in your office or Residence Hall room, or your home computer connected via modem. For more information, see "How to connect to the Web" in this document.

Once you’re connected to the Web via Netscape or Lynx, you can find UCS Help Online from the IU Bloomington home page: select Services used often, then Computing, then UCS Help Online.

Or, you can go directly to UCS Help Online by opening its Web address. In Netscape, click “Open,” or in Lynx, press g. Then carefully type:

http://www.indiana.edu/~ucshelp/

How to use UCS Help Online

UCS Help Online includes a front page that summarizes what you’ll find in each of its sections. Some sections contain forms you can fill out for requesting services, some contain information for you to read, and some contain resources you can search for information. To get to a section, select its link on the UCS Help Online front page.

(To select a link in Netscape, click the highlighted word with your mouse. To select a link in Lynx, use TAB to highlight the link you want, then press ENTER.)
At the top of each page, a header tells you where you are in UCS Help Online, and offers you buttons for help and for returning to the table of contents. By selecting these "hot" buttons, you can easily navigate within UCS Help Online.

Some links connect you to resources outside the UCS Help Online pages. You'll know you've left UCS Help Online when you no longer see the familiar header and footer at the top and bottom of the Web page. (Don't forget to scroll or use the page up and page down keys to make sure you see the whole page.) To get back to UCS Help Online, use your browser's back feature to retrace your steps. In Netscape, click Back to go back one page, or in Lynx, press the left-arrow key.

Each page in UCS Help Online offers detailed help that explains what each service does and how to use it. If you find a page confusing, just select the Help link at the top of the page.

**Resources in UCS Help Online**

UCS Help Online has a wide variety of resources you can use from your desktop computer. The following is a brief introduction to the resources shown on the UCS Help Online front page (see Figure 1).

**How do I send WordPerfect files in e-mail?**
Find out in "Search for Answers"!

Search for Answers offers you both local information and a doorway to worldwide resources. A number of searchable knowledge bases are available in this resource. Start with the UCS Knowledge Base, a collection of the answers to some 5000 computing questions commonly asked at IU. If the information you need isn't in our own UCS Knowledge Base, you can search other knowledge bases offered by computing corporations, all of the Web pages at IU, or even all the pages on the entire World Wide Web.

**What is the UCS Knowledge Base?**
The UCS Knowledge Base is the keystone of UCS Help Online. When you have a computing problem or question, check in the UCS Knowledge Base for your answer first. The UCS Knowledge Base contains the answers to thousands of IU's most commonly asked questions about computing.

**How to use the UCS Knowledge Base**
You can use the UCS Knowledge Base in any of these three ways:

- **Searching** allows you the most flexibility, and gives you access to the entire contents of the UCS Knowledge Base. If you have a specific computing question or problem, then searching is the best fit for you.
- The **menus** provide a list of the questions that beginning computer users commonly ask. The menus do not give you access to the entire contents of the UCS Knowledge Base, but can introduce you to how the UCS Knowledge Base works and the kinds of information you'll find there. Use the menus if you haven't used the UCS Knowledge Base before, or if you want to "browse."
- The **glossary** provides definitions to some computing terms.

To get to the UCS Knowledge Base, start at the UCS Help Online main page. Choose "Search for Answers," then "UCS Knowledge Base." On the Knowledge Base main page, you'll find a box for searching, as well as links to the menus and the glossary.

**Searching the UCS Knowledge Base**
Using the search, you can search the UCS Knowledge Base for words or phrases. Your search covers the full text of each UCS Knowledge Base entry, not just the titles. To submit a search, type several specific words to search on, then select "Submit query."

Within moments, you'll get a list of every UCS Knowledge Base entry that contains all the words in your search. Check the list for the question most similar to yours, then select it. If that entry does not answer your question, look at the related questions referenced at the bottom of each UCS Knowledge Base entry, use the "back" feature of your browser to return to your original search results, or submit a new search.

If you've tried a few searches but still can't find the answer to your question, select "I'd like to ask a consultant my
question” at the bottom of any page. You’ll access a form on which you can send your question to a consultant. After you’ve completed this form, send it in by clicking the appropriate box, and a consultant will respond to you via e-mail. (Note: this option is available only to computer users at IU.)

How to search effectively

Searching is an imperfect science, even for experienced users. You may have to try searching on a few different word combinations before you find what you’re looking for.

The best searches are specific, descriptive (and usually multiple) words. It’s best to avoid vague, general concepts such as help (which appears in over 300 UCS Knowledge Base entries) or mail (which appears in over 600 entries!). Even a more specific single-word criterion, such as Telix, might return more entries than you would want to read. Better examples of search words are narrower combinations, such as:

```
install telix
netscape windows ppp
find e-mail address
```

If you’re having trouble thinking of the words to use in your search, try starting with the name of the software your question is about, and the task you’re trying to accomplish. If you need to further narrow your search to get a smaller result, you can add the relevant platform (like Macintosh or Windows 95) if it’s applicable. For example, if you want to know how to set up a Majordomo list, try searching on `create majordomo list`. Or, if you get an error message that you don’t understand, try searching on some words from the error message. For example, if you get the error “ERR Maildrop lock busy! Is another session active?” try searching the UCS Knowledge Base on `maildrop lock`.

Searching tips, tricks, and rules

- When you search on two words (e.g. `install telix`), you’ll get all the entries that contain both `install` and `telix`, not just one or the other.
- Separate your search words with spaces.
- Searching on part of word won’t give you related words (e.g., a search on `major` will not return `majordomo`).
- Plurals are the exception to the above rule (e.g., a search on `file` will return all entries containing the word `files` as well, and vice-versa). To match a word exactly, enclose that word in “quotes.”
- If you don’t get the results you want, try searching on variations of your search words. For example, if a search on `installing telix` doesn’t yield the answer you want, try searching on `install telix`.
- Searches are not case sensitive. To do a case-sensitive search, enclose each of your case-sensitive search words in “quotes” (e.g., “NeXT”).
- To search for an exact word or phrase, enclose the phrase in quotation marks. An exact search will match capitalization, punctuation, and plurals.

Using the UCS Knowledge Base menus

The menus provide a good starting place if you want to browse the UCS Knowledge Base without searching for a particular question, or if you aren’t sure how to frame your question. This interface organizes a few hundred of the introductory UCS Knowledge Base entries by topic.

Newcomers to the UCS Knowledge Base can use the menus to get comfortable with the UCS Knowledge Base before using the standard search. Keep in mind that the menus are by no means the entire UCS Knowledge Base. If you don’t find your answer in the menus, use the search facility.

To use the menus, select `Menus` from the bottom of any UCS Knowledge Base page, then select any highlighted word or phrase from the menu. You’ll see a menu of topics. Select any highlighted word or phrase to see the UCS Knowledge Base entries that address that topic. After reading an entry, follow any link in that entry for related information, or use your browser’s “back” feature to get back to the menu or topic.

What’s Professor Smith’s e-mail address? Find out in “Locate E-Mail Addresses”!

`Locate E-Mail Addresses` is a quick way to find e-mail addresses at IU and other institutions. For IU addresses, you only need to know all or part of the person’s last name. A first initial sometimes helps. By using the IU addressbook, you can be sure your e-mail will get to the right person.

You can also use “Locate E-Mail Addresses” to look for addresses outside IU. You can search for your correspondent’s name and institution to see if his or her university offers an online addressbook.

Tip: It’s usually easier to find a non-IU e-mail address by calling your correspondent instead of looking on line.

Want to learn how to use Pine? Take a look at “Computing Publications”!

`Computing Publications` offers the how-to guides that UCS provides on many of the systems and software used at IU. These brochures help you use the programs you need, and learn about the computing tools available to you at IU. You’ll also find computing news and announcements in the `UCS Monitor`, a newsletter delivered via e-mail, and in the `UCS Times Online`, a Web-based news magazine about computing at IU.

`Computing Publications` also offers links to computing magazines and manuals from other institutions.

Need specialized services from UCS? “More UCS Resources” takes you to other UCS departments.

The UCS Support Center is only one of the many divisions that make up UCS. `More UCS Resources` takes you to services from other UCS divisions, such as computing classes and training, current schedules of public site reservations, and information on buying computer hardware and software.
Forget your password? Request a new one via “Account Services,” and avoid trekking to the IMU!

With Account Services you can get computing accounts, request a group or departmental account, register your preferred e-mail address, unsubscribe from mailing lists, and change your password — all without leaving your workstation. Some of these utilities require some processing time after you submit your request, but you still avoid making the trip to the IMU to fill out the paperwork.

Fido chewed up your diskette? “Request Appointments” reserves one-on-one help for you.

When online help or a few minutes on the phone can’t solve your computing problem, you can request a one-on-one appointment with a specialist at your own on-campus workstation, at the IMU, or in the LAN Lab. When you’re having trouble with your computer hardware or when your dog chews up your most important diskette, hands-on help is just what you need. Use Request Appointments to schedule an appointment. If you can’t connect to the network, call 855-6789 to schedule an appointment.

Tip: Some appointment services require a fee. You can save time and money by checking the UCS Knowledge Base for a solution first.

Is Copper down right now? “Check System Notices” for scheduled system downtimes.

Check System Notices is a valuable resource that contains scheduled downtimes of the central systems, notices about outages and problems on the central systems, and general announcements about fast-changing technical problems that affect computing on campus. Central systems include the Shakespeare Systems, EZinfo, Teach, Copper, Cobalt, Chrome, Zinc, the STARRS, the Lockers, Nickel, Silver, and others. Look here if you suspect that the computer you’re trying to reach is down. If you’re planning to use a particular system for an important project, look here to plan ahead and avoid that system’s scheduled downtimes.

Find something broken? Let us know with the “Report Problems” forms, so we can get it fixed.

The Report Problems section of UCS Help Online lets you file a report when you find something broken on a central system or in a public site. Describe the problem on this central form, and we’ll route it to someone who can fix it as quickly as possible.

How to connect to the Web

To access UCS Help Online, you need a Web browser such as Netscape or Lynx. Use Netscape if you have a Windows, Windows95, Macintosh, or Unix workstation and a direct connection to the network or a fast modem (14kbp or faster) that uses PPP. Use Lynx on EZinfo if you have a DOS-only or text-only computer, or if you dial in using a slow modem (9600bps or slower) or non-PPP connection. Even if you use an older computer that isn’t able to run Netscape, you can still use UCS Help Online by using Lynx on your EZinfo account.

To learn more about using Netscape, see the UCS publications Netscape from your home or IUB office (http://www.indiana.edu/~ucspubs/b118) and Netscape in the IUB public computing sites (http://www.indiana.edu/~ucspubs/b119/). To learn more about using Lynx, see the UCS publication The Lynx Web browser: A quick guide. You’ll find them at the Support Center (IMU M084), on the Web (at http://www.indiana.edu/~ucspubs/), or in the IUB public computing sites. Or, send a message to newsdesk@indiana.edu requesting that a paper copy be sent to your campus-mail address.

How to comment on UCS Help Online

The UCS Support Center invites you to make suggestions about UCS Help Online. Are the resources useful to you? Did the online help clarify the service? Did the UCS Knowledge Base contain the answer you needed? Was there a UCS service you needed but didn’t find in UCS Help Online?

To send a comment about UCS Help Online, please select either mail or web form from the bottom of any UCS Help Online page, or select suggestions, corrections, and additions from the bottom of any UCS Knowledge Base page. The form makes it easy to send your comments. If your Web browser does not allow you to send mail or use forms, use your regular mail program to send your comment to scweb@indiana.edu (for comments about UCS Help Online) or scsb@indiana.edu (for comments about the Knowledge Base in particular).

If you’re at IU and you have a technical question that the UCS Knowledge Base doesn’t answer, you can ask a consultant by selecting “I’d like to ask a consultant my question” from any UCS Knowledge Base entry or search return page. You’ll be taken to a form where you can compose a message to a computing consultant, who will reply to you via e-mail.

At the end of each UCS Knowledge Base entry and search page, you can select options to indicate whether you found your answer. The maintainers use this information to improve the UCS Knowledge Base.