UT Direct Phase One Final Summary Report

Authored by Dana Cook
Finalized October 30, 2000
## Table of Contents

UT Direct Phase One - a HUGE success!
- I. Vision
- II. How well are we delivering on the Vision
- III. Project statistics
- IV. Phase one services

UT Direct Project History
- V. Project History
- VI. Organization of the UT Direct project

UT Direct Project Management
- VII. Development principles and methodology
- VIII. How UT Direct addresses Accessibility issues
- IX. Project Management Methodology used to build UT Direct
- X. Promotional Campaign and Communication Plan
- XI. Testing and Quality Assurance Process

UT Direct as we begin Phase Two
- XII. Current state of UT Direct - software management and oversight
- XIII. Plans for Phase Two and the future

UT Direct - Lessons Learned
- XIV. Lessons Learned - from the project manager
- XV. Lessons learned - from developers on the project
- XVI. What went well and what I would do differently if I had it to do over again

Personal Comments - CONFIDENTIAL

### Appendices:
- A - List of all services delivered in phase one
- B - Project organization chart
- C - Project statistics
- D - Project timeline

**ATTACHMENTS:** (1) UT Direct initial report, (2) list of people who contributed to the completion of the project, (3) November, 1999 presentation to the President, (4) February, 2000 presentation to the Executive Leadership Team, (5) July, 2000 presentation to the Executive Leadership Team
I. Vision

UT Direct is a single Internet-based point of contact for University core constituents. It is the gateway to electronic services and is the foundation of a each person’s electronic relationship with The University. UT Direct is The University's main electronic presence and means through which all core constituents will interact with UT. Core constituents include faculty, staff, students, and alumni in all stages of their relationship with UT from prospect and beyond. This includes all facets and phases of a core constituent's relationship with UT—from prospective student to alum, encompassing academics, business interactions, entertainment and recreation, development activities and much more.

UT Direct provides numerous benefits. It is constituent-centered providing customized Internet communications. It produces high levels of effectiveness, efficiency and satisfaction. It facilitates the building of communities and trust. Future benefits will be seen in the UT departments that manage procurement and purchasing, grant accounting, distance and continuing education programs, the travel voucher process, K–12 initiatives and so much more. The value of UT Direct extends to a wide range of constituents such as faculty members, University employees and guests of The University.

The main focus of phase one was the release of student services. That focus will be seen throughout this document.

II. How well are we delivering on the Vision

The implementation of UT Direct phase one has been a tremendous success as illustrated by the number of users and the number of hits to the System each day (Appendix C). The statistics show positive progress towards the UT Direct vision. Other ways in which we have made progress on the vision include the high degree of customization and personalization UT Direct affords its users.

UT Direct customizes the users' experience their first time into UT Direct by detecting which one of 11 categories a person belongs to, then creating a default home page and default navigation bar options for them based on that category. The categories for which UT Direct customizes include prospective students, admitted undergraduates, first year undergraduates, continuing undergraduates, graduating senior, graduate school applicant, admitted graduate student, continuing graduate student, faculty, staff, and guest. UT Direct is a project that enables that The University to reach out to our prospective students using a customized electronic vehicle to recruit students. The Provost has mentioned UT Direct as a possible tool to aid in Faculty recruitment as well. Creating an Alumni category is currently being developed as an additional category for which we would customize their UT Direct experience.
UT Direct further customizes the users' experience by prompting them with a selection to view UT Direct using the "alternative interface option". This happens when the user visits UT Direct their first time. The "alternative interface option" is discussed further in the section titled 'How UT Direct addresses Accessibility issues'.

In order for UT Direct to fully realize the vision of being "the foundation of a (users) personal electronic relationship with The University", it is essential that each individual be able to personalize their UT Direct experience as much as possible, thus making UT Direct what they want it to be. The personalization is accomplished through the vast options each user has in UT Direct. Through the "CUSTOMIZE" link in each user's navigation bar, they have access to change the following things about their UT Direct:

- Choice of using the "alternative interface option".
- Which categories of services they would like to appear in their navigation bar.
- Which UT Direct services they would like to have quick access to via their navigation bar.
- Which services and channels they would like to appear on their UT Direct home page. In addition to which services and channels, they can choose which column and what order they appear in on the home page.
- If they would like to receive their official notifications via email AND through the UT Direct home page or just the UT Direct home page.
- Which campus information categories they would like to see appear on their home page.
- Management of their Quicklinks - adding them, ordering them and accessing them.

Another benchmark of success is how UT Direct stacks up in relation to other similar projects/products other Colleges and Universities have released. In all the "portal" implementations we have seen across the nation, UT Direct is, by far, the most integrated - both back end and in presentation to the user - and the most fully featured meeting the needs of the greatest number of constituents the Colleges and Universities serve. We are very proud to be a national leader in this respect and seek to continue this leadership role with future enhancements to UT Direct.

Another measure of success is the number of Colleges and Universities inquiring about UT Direct or coming to UT for site visits to see how we accomplished UT Direct so that they might do the same. Some Colleges and Universities have asked for our software to implement on their campuses.

### III. Project Statistics

One of the measures of success we have used in our assessment has been statistics regarding use of UT Direct. From the launch on August 14 through October 6, 2000, these are some sample key statistics:
• Over 29,000 users have logged on with their UT EID and claimed a UT Direct home page
• 23,115 of them were students (some student employees)
• 6,171 of them were freshmen
• 9,386 of them were other enrolled undergraduates
• 4,265 of them were enrolled graduate students
• 1,753 of them were graduate school applicants
• 9,474 of the total were employees (some were students and employees)
• The UT Direct home page averages over 5,000 hits per day
• The UT Direct navigation system averages approximately 10,000 hits per day
• The UT Direct Integrated Degree Audit Service (IDA) averages approximately 8,000 hits per day
• The new UT Direct Address Change service averages approximately 5,000 hits per day

For a complete set of statistics as of October 6, see Appendix C.

124 people, varying in participation from 5% to full time, helped make UT Direct a reality. These people included representatives from over 20 departments and colleges on campus and performed every task required to make UT Direct a success.

Overall, the project consumed approximately 14,745 total staff hours to accomplish. The staff hours came from existing staff resources. No additional IT staff was added for UT Direct phase one. This includes the design through the implementation phases of the project. The breakdown of hours by department looks like this:

<table>
<thead>
<tr>
<th>Area</th>
<th># hours spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Computing - Infrastructure</td>
<td>7,400</td>
</tr>
<tr>
<td>Office of Accounting</td>
<td>325</td>
</tr>
<tr>
<td>Office of the Registrar and Admissions</td>
<td>3,000</td>
</tr>
<tr>
<td>Measurement and Evaluation</td>
<td>500</td>
</tr>
<tr>
<td>General Libraries</td>
<td>130</td>
</tr>
<tr>
<td>Academic Computing - Course web sites</td>
<td>2,800</td>
</tr>
<tr>
<td>Student Financial Services</td>
<td>450</td>
</tr>
<tr>
<td>Housing and Food Service</td>
<td>140</td>
</tr>
</tbody>
</table>

Almost half of the total hours were spent setting up the infrastructure that runs UT Direct for all faculty, staff, students, alumni and other core constituents.

The total cost for phase one of the project was $423,123.57. Below is detail of the costs:

| Server to run UT Direct Infrastructure    | $17,103.03   |
| Server to run UT Direct Infrastructure - rental | $3,695.00 |
| Blackboard Courseware Software                   | $81,000.00 |
| Storage Server - for Blackboard                  | $151,279.40 |
| Server - for Blackboard                          | $24,057.50  |
| Server - for Blackboard                          | $87,093.21  |
| Oracle - for Blackboard                          | $50,283.62  |
| Promotional Items to raise awareness             | $6,031.22   |
| Focus Groups and Testing Sessions                | $566.16     |
| Software to test ADA compliance of UT Direct     | $1,195.00   |
| Launch Ceremony                                  | $819.43     |

The total cost to complete the infrastructure for phase one and the UT Direct administrative web services, separate from the number of hours, was $18,798.03. The total cost for phase one of the Blackboard service was $393,713.73. The rest of the funds were spent in support of the entire project.

As stated earlier, as of early October, there are 74 total services registered in UT Direct - 30 fully integrated services and 44 UT Direct affiliates.

As of October 6, 474 or 1.9% of the total number of users have requested the "alternative interface option" of UT Direct, providing screen reader software with full access to UT Direct's customization features.

An additional measure of success has been the number and quality of the comments received by our utdirect-comments mail list. These are comments from users about the home page, navigation or any other infrastructure service or general comments about UT Direct. The comments have been overwhelmingly positive with regard to the infrastructure services in UT Direct.

**IV. Phase One Services**

In February, 2000, we promised the Executive Leadership Team 24 fully integrated services and 8 "affiliate" services would be part of the August release of UT Direct. As of early October, there are 74 total services - 30 fully integrated services and 44 UT Direct affiliates. Unlike most releases of new software, whether commercial or in-house development, UT Direct was able to deliver approximately 40% MORE functionality than was originally promised. This is an impressive statistic and speaks well of the developers ability to rapidly develop the software such that additional features were able to be developed as well. It also reflects the excitement around campus that created an atmosphere where people wanted to get their services into UT Direct for phase one.
These 74 services in UT Direct have been delivered to the user under one or several of the following 16 categories of services:

<table>
<thead>
<tr>
<th>Academic Services</th>
<th>Campus Services</th>
<th>Graduation</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>Colleges - Schools</td>
<td>Instruction</td>
<td>Staff Services</td>
</tr>
<tr>
<td>Around Campus</td>
<td>Employee Info</td>
<td>Orienting to UT</td>
<td>Training *</td>
</tr>
<tr>
<td>Benefits</td>
<td>Finances</td>
<td>Personal Info</td>
<td>Welcome to UT</td>
</tr>
</tbody>
</table>

* No services available in this category at this time

A complete list of all the services that were part of Phase one of UT Direct can be found in Appendix A.

There were several components of UT Direct that were promised but not delivered. These include chat, threaded discussion, personal calendaring and web publishing. Personal calendaring did not make phase one because the product that was selected was deemed too expensive to be implemented. ACITS had responsibility for incorporating personal calendaring, chat, threaded discussion, and web publishing into UT Direct but were unable to make it happen for phase one. To date, none of these are integrated into UT Direct. I believe it would be best for The University for ACS to take on responsibility for and a leadership role in choosing products to perform chat, threaded discussion and personal calendaring to ensure that their integration into UT Direct enables them to function as a foundational infrastructure component as the rest of the infrastructure now does.

One very important service that was delivered from ACITS that was not promised originally is WebMail. In the focus groups, WebMail was mentioned by each focus group as the one feature they wanted in addition to what we were showing them. WebMail’s integration into UT Direct is a definite win for the students.

The phase 1 release can be described as being delivered in two parts. First, the delivery of the core infrastructure upon which all other services are built can rely. These include such foundational elements as the navigation, security, authentication, customization, profiling, official notifications, campus info, channels, search, site maps, and help. Second, the delivery of the content, or services, in UT Direct. These include such services as centralized address changes, financial summary, tuition and fees, "where's my check", credit card payment over the web (a.k.a. "what I owe"), registration, webmail, financial aid, a small number of course web sites, housing status information and much, much more.

On the next page is an illustration of how these pieces work together:
V. Project History

UT Direct was first envisioned in October, 1999 by the ACS e-business task force as a way to address some of the President's goals as stated in his September, 1999 State of The University address. One of the President's goals for 1999-2000 focused on "providing a strong focus on quality". Coupled with that, he asked for University departments "To calibrate against the best, program by program. To imagine what would allow us to become better than today's best in the world that will exist a decade from now. To frame and to take practical steps to close the gap. The first element in this trio is simply a way of saying that the benchmark for any individual program at Texas, academic or not, should be the defined by the best performers of the same type in the nation: ….. Department of Computer Sciences or Administrative Computing Services; …" As a result of this speech and the President mentioning ACS by name, the ACS Director, Randy Ebeling, asked the ACS e-business task force to interview the President and/or those closest to him to see what he might have in mind and what technology could do to help him meet his goals. UT Direct was an outgrowth of this speech and these initial meetings with the President's office.

Shortly after discussions began in ACS regarding a "portal project", Randy invited ACITS Director Tom Edgar to appoint some ACITS management members to join the e-business task force so that the two organizations would have the opportunity to work together on a project. The two organizations working together collaboratively on a project was a stated goal coming out of the August, 1999 ACS management retreat.
The UT Direct project initiated the building of an e-University organizational infrastructure designed to support it, and initiatives like it, into the future so that principles of an e-University would flourish on campus. The e-business task force changed names and now goes by the e-University task force label. Members now include ACS and ACITS management team representatives, a General Libraries representative, a Student Records representative and an Internal Auditor.

In May, 2000 an e-University steering committee was formed to oversee and guide e-University initiatives. e-University task force members are a part of the e-University steering committee.

The e-University Executive Leadership Team was established in November, 1999 and is made up of the President, Tom, Randy, the Provost and many of the Vice Presidents. They are the group to which e-University project initiatives and big decisions are taken for approval.

See Appendix D for a UT Direct project timeline documenting when key presentations were given, when project approval was obtained, when the working prototype was delivered and when the project was completed.

UT Direct received its name and identifying logo as a result of two contests run in May, 2000. The contest was judged by three faculty members.

VI. Organization of the UT Direct project

Executive involvement and project management

Appendix B contains an organization chart that depicts the way in which the UT Direct project was ultimately managed. Several changes were made to the way in which the project was managed throughout the course of the project. Most notably, the removal of the e-University Task Force as a decision making and/or driver of the project happened in May, 2000. This was the result of many factors including the task force’s slow response to issues, inability of the group to focus on the August goal, inability of the group to deal with issues critical to getting the project accomplished and a persistent lack of agreement on the major goals of the project. From January to May, the project came under the general direction of the e-University task force. However, risks that were very likely to prohibit a quality product being released in August, or no product being released at all, caused the project to proceed after May without Task Force input or direction. The e-University Steering Committee, although contemplated in the Spring, was not established until mid-Summer and so was not a driver in the development of the project. This was solely due to the late date at which the group was finally formed.

As the project began, the project management divided in two parts - daily project management and design coordination. The daily project manager was responsible for
project oversight, resource allocation, daily activities, supervision, project tracking, and coordination of subgroups towards the August implementation date. The design stage of the project was led by John Wheat, Design Coordinator, up until April. The design coordinator was responsible to guide and coordinate the overall product design process, serve as part of all subgroups as consultant and designer, coordinate vendor/consultant relations/negotiations, handle external communications with campus constituent groups, coordinate evaluation, acquisition, and integration of commercial products, and identify policy issues and seek resolution. Ultimately this segregation of duties was merged into one project manager in April. From January through April, the project manager and design coordinator shared decision making on the project.

**Organization of the Project**

UT Direct phase 1 was a collaborative effort by many University departments including Administrative Computing Services (ACS), the Office of the Registrar, Admissions, Housing & Food, Student Financial Services, Measurement & Evaluation, General Libraries, the Office of Accounting, the College of Engineering, the College of Liberal Arts (and several other colleges to a lesser degree) and Academic Computing and Instructional Technology Services (ACITS).

While ACS had responsibility for the project management and oversight, personnel from each of these departments staffed the groups that made UT Direct a reality. These groups—IT Managers and Service Developers, UT Direct Infrastructure Coordinating Group, UT Direct Infrastructure Development Team, and the Communication and Customer Relations Group—guided efforts to bring UT Direct to fruition. The organization chart found in the Appendix B represents the overall organization of the project.

**IT Managers and Service Developers**

The IT managers and developers of services for UT Direct are from departments all across campus. These groups committed to placing services in UT Direct for phase one and most met or exceeded that commitment.

**Infrastructure Coordinating Group**

UT Direct's Infrastructure Coordinating Group's purpose was to coordinate infrastructure projects and make recommendations on how UT Direct infrastructure is designed, developed and implemented. Furthermore, this group obtained feedback from diverse groups involved in the project such as infrastructure developers, service developers, IT managers across campus, campus departmental management and other groups in order to make the best recommendations possible to meet the project
objectives. This group was made up of ACS senior developers, the UT Direct project manager, design coordinator and an ACITS representative.

**Infrastructure Development Team**

UT Direct's Infrastructure team was composed of technical staff from ACS. They were responsible for producing UT Direct infrastructure and providing a full range of support services to University offices incorporating services into UT Direct. This group was able to draw on talent in ACITS to provide development for the UT Direct Channel functionality.

UT Direct Infrastructure Development Team was responsible for providing methodological, design, implementation, and testing services and assistance to all UT Austin departments and colleges developing services to go into UT Direct. The Team provided a user interface "roadmap, as well as tools, templates, standards interface elements, and other reusable components to make high quality, user-centered interface design as easy as possible.

The team developed and provided style guides, detailed design specifications and other design documentation; standard templates, layout schemes, graphical elements, and other resources for developers.

**Public Relations and Marketing**

The Public Relations & Marketing subgroup was charged with introducing UT Direct to the campus. A creative way the group did this was with a contest in which students were asked to submit a name or a logo representing UT Direct. You can refer to the section titled "Promotional Campaign and Communication Plan" for details as to the types of activities this group coordinated.

**Training and Documentation Support**

The Training and Documentation Support subgroup provided support for the help function and general documentation in UT Direct and on campus. They provided both online and hard copy help resources, documentation expertise and general advice in this area for the developers and users of UT Direct.

**VII. Development principles and methodology**

The methodology used to develop UT Direct is one of "iterative prototyping". Iterative prototyping allows for multiple prototypes to be developed from the design stage through implementation. These prototypes are developed frequently and are tested throughout the project. This allows the project manager and developers to test out design
ideas and software development plans prior to spending the time fully developing the idea. A theory can be applied quickly in a prototype and "test run". This approach proved to be highly effective in the development of UT Direct, as it has been for years in the development on campus on many different projects.

There were a number of important key success factors in the development of UT Direct that helped the project to succeed. These include such factors as the use of collaboration, the use of usability testing and focus groups, an early investigation of commercial products so that we could adequately evaluate them and make informed "buy vs. build" decisions, and using the foundational infrastructure for authentication and security for UT Direct. Each one of these success factors is covered in more depth below.

First, collaboration is one of the cornerstone elements that made UT Direct the success that it is. Collaboration took place at all levels of the project - from developers to senior management. Cross-campus collaboration was key because this project was not managed by any individual or group that had control over the resources for the entire project. Coupled with the President and Executive Leadership Team's expressed desire to see this project implemented, collaboration was present throughout the project. There was a point in the project where collaboration was not occurring and that is with the overall project management and decision making on the project. This occurred in May and was resolved in a meeting with the Provost where he clarified the roles of the project manager and the e-University task force and allowed the project to proceed without e-University task force influence. This was a key turning point in the project as it allowed the groups on the project to clearly define direction without conflicting leadership.

Second, the use of focus groups and usability test sessions were of paramount importance to the overall acceptance and enthusiastic responses we received from users when UT Direct was implemented. Many users noted the ease with which UT Direct could be used and the impressive features. One can largely attribute both of these things to the focus groups and usability test sessions as many changes were made to UT Direct as a result of these sessions. Some examples of changes made in UT Direct as a result of the focus groups and usability test sessions include:

- Rewording terminology and service names for clarity
- Adding information about Austin and links to campus maps, directory, the UT home page
- Implementing WebMail
- Implementing the "Stickie" note
- Implementing the ability for each individual to arrange the position of their home page elements

Third, although the UT Direct project was on the fast track from the beginning and afforded little time for anything but quick decisions and rapid development, time was spent performing an early investigation of commercial products so that we could make informed "buy vs. build" decisions for many areas of the project. Some areas in which we researched commercial products include (1) the overall infrastructure to run UT
Direct, (2) bookmark and customization tools, and (3) search software. In these areas, the tools we reviewed included:

**Portal infrastructure software:** GoCampus, Oracle Enterprise, Sun iPlanet, and Blackboard

The primary reasons for not selecting the commercial Portal infrastructure packages were (1) scalability concerns, (2) they did not integrate well with our existing infrastructure (e.g., UT EID) and backend systems, (3) the products were immature or not yet released in production and/or (4) the overall look and feel of the products was not as attractive/UT-looking as what we were shooting for.

**Bookmark and customization Tools:** Octopus, Backflip, Syncit, Blink, and Clip2

**Search software:** NeuroMedia, GoTo.com, AskJeeves, Google, Olympus.com

In general, many of the bookmark/customization/search products were primarily ruled out due to cost, the business model for the product not working in an academic environment, scalability, and technical integration problems.

ACS was not responsible for the oversight, decisions or selection of products to run chat, threaded discussion, personal calendaring or the class web sites. Although this was the case during phase one of UT Direct, I think it would be appropriate to revisit the question of who is responsible for each of these areas. Successes in each of these areas has not been seen either at all or to the level UT Direct has. A change in responsibility to ACS may afford a new look at these areas that could improve or make some of these components a reality. I think it would be appropriate for ACS to implement chat, threaded discussion, personal calendaring and class web sites (in UT Direct) and expect a high quality, production ready, reliable and scalable result that is acceptable to the campus community.

Finally, success in UT Direct could not have been accomplished without having in place a reliable, scalable, proven solution for authentication and security.

**Authentication**

By authenticating the user, UT Direct "knows" who the user is and it can then custom-tailor services and exchange personalized and/or confidential information.

Immediately prior to accessing UT Direct, users will be asked to authenticate and will be prompted to enter their UTEID and password. The UT EID is the campus as the single sign on solution for a single userid and password. It has been in use since 1995 and is pervasive. Over 450,000 of our constituents have a UT EID and password. UT EID is a Web-based ID and Password authentication system that is used by almost all official Web services delivered from centrally managed web servers. The UT EID can be extended relatively easily to other Web servers including academic Web servers.
More information on the UT EID can be found at https://dpweb1.dp.utexas.edu/nlogon/eid_suite/FAQ.wb

**Security**
The security of confidential and sensitive data exchanged via UT Direct will be maintained through a set of security measures and procedures that are already in place for the Administrative Computer System. These security measures have been audited via a SAS 70 audit twice in the past two and have been found to meet or exceed high-level industry standards. UT Direct services are delivered via SSL, secure socket layer, thus encrypting all transmissions.

**VIII. How UT Direct addresses Accessibility issues**
In the UT Direct project, it was made a very high priority to address accessibility issues within the infrastructure. In an effort to do that in the most acceptable way, we took several actions:

- worked with the Accessibility expert in ACITS, Lisa Fogelman, to obtain knowledge about the issues, guidance handling the issues in our software, and help formulating the wording that would appear in UT Direct,
- purchased, installed and used the screen reader software, JAWS, to test the infrastructure components for accessibility,
- reviewed all of our code in light of the Priority one software requirements issued by the State of Texas, and
- designed and developed the "alternative interface option" choice within UT Direct so that those with screen readers accessing UT Direct would be able to make their experience using UT Direct easy from the first time they visited the site.

**IX. Project Management Methodology used to build UT Direct**
Largely, the UT Direct project was managed using the philosophy of "pragmatic idealism". This philosophy basically prescribes that one strive for the ideal solution/situation in all cases but always with an eye toward the pragmatic. This allows one to achieve timely, quality successes using or following the "ideal" path when possible but knowing when the "ideal" is not achievable and choosing a good, pragmatic solution. Examples of where this was extremely effective include the decision to stop reviewing potential commercial packages to run the UT Direct infrastructure, the flexibility allowed in running the focus group and usability testing and decisions to delay some functionality until a post-August phase of UT Direct.

Another key to the project management of UT Direct was the extent to which collaboration was used. As stated earlier, collaboration was one of the key foundational
principles used that was absolutely essential to the success of the project. Because the IT resources and service delivery on campus are decentralized, collaboration is the only way the project could succeed. There were many, many excellent examples of collaboration on the project including:

- the address change service,
- the financial summary service,
- the overall development of the services, and
- focus groups and usability testing performed jointly by ACS, ACITS, the Vice President for Student Affairs department, and other departments.

An additional technique used in the management of UT Direct is project phasing and milestones. These proved to be very important to the project being released on time as they allowed for the developers to focus on one deliverable for the project at a time. It helped the developers by not overwhelming them. As proof that this technique worked well (insofar as not overwhelming the developers), there was not any developer working on an administrative service or on the infrastructure that had to spend more than 45 hours a week working on the project. Most were able to work their normal work week schedule to get this project done.

X. Promotional Campaign and Communication Plan

Promotional Campaign

As any new product would, the release of UT Direct needed an awareness campaign designed to introduce it to the intended audience. Most of the activities that took place during the Summer of 2000 were focused on raising awareness of UT Direct on campus. Each major constituent group that UT Direct serves was targeted separately and different strategies were employed to reach each audience.

Since UT Direct was primarily aimed at delivering better quality student services, activities to raise student awareness were the main focus of the campaign. Following is a list of some of the activities aimed at raising student awareness:

- Information tables placed on the West mall,
- individuals handing out promotional items to people on the West mall,
- presentations to several college freshmen orientation sessions in Fall, 2000,
- print ads in the Daily Texan,
- banner ads in the web version of the Daily Texan,
- a speech given at the Fall "Gone to Texas" freshman party,
- several articles published in the Daily Texan,
- brochures stuffed in new Freshman orientation packages for Fall 2000,
- public Service announcements available on the web and played before movies shown in the dorm rooms on campus,
- a banner on the West mall, and
promotional items handed out in colleges and departments throughout campus

In addition to raising student awareness, it was extremely important that staff groups on campus were aware of UT Direct's introduction both for their own use of it as well as how the students would be accessing services differently. In order to help facilitate awareness amongst staff, the following was done:

• Five large information sessions were held to demo UT Direct, talk about its features, hand out promotional items and answer any questions staff may have,
• training sessions were given to teach people how to enter campus wide events and how to create "channels",
• over 50 presentation were given to various groups across campus regarding both the e-University initiative and specifically UT Direct,
• information tables placed on the West mall,
• individuals handing out promotional items to people on the West mall,
• print ads in the Daily Texan,
• banner ads in the web version of the Daily Texan,
• a banner on the West mall, and
• promotional items handed out in colleges and departments throughout campus

Faculty awareness was handled by ACITS and little was done outside of short presentations and a mail message targeted at teaching faculty. ACITS sent a mail message to teaching faculty members informing them of the Blackboard courses being created for their classes. Presentations were also given at each of the schools and colleges regarding the e-University initiative and UT Direct although few faculty attended these presentations. Faculty awareness is an area where I think more work should have been done to help faculty acceptance on campus.

For the general public, an article was written and published in the Austin American Statesman publicizing UT Direct's introduction.

Starting in October, the shift is being made from an awareness campaign to a campaign designed to increase usage and "showcase" some of the new and best features of UT Direct.

Communication Plan

Noted above are many items that were part of our overall communication plan. Other groups that were part of the overall communication plan include:

• the Executive Leadership Team - they were kept updated through both informal impromptu meetings and formal update meetings,
• IT managers across campus - via frequent mail messages stating project progress,
• Developers on campus - via frequent mail messages from the project manager and lead infrastructure developers as well as frequently scheduled information sessions where they could come hear about a topic and ask questions, and
• Infrastructure developers - using the same methods as with other developers with the addition of frequent collaborative work sessions in a room set up specifically as a "war room" to work on the project. There were also frequent "coding" sessions in the ACS computer lab.

For both the communication and promotional campaign, resources were key to their success. The resources UT Direct had in this area were excellent. This is one area where ACITS and ACS worked collaboratively quite well. Marcy Goodfleisch and Ginger Dillard from ACITS were invaluable to this effort as were Chris Miller and Andy Greer from ACS. Chris Miller was a programmer trainee in ACS who, at the beginning of the project, was redirected to work on UT Direct as an Information Specialist. Although this took a position out of the ACS programmer pool, his addition to the project was key to the communication and promotional campaigns. Lara Harlan, from Vice President Jim Vick's area, was an extremely lucky addition to the project team. She helped organize and plan all activities where students were needed to participate (focus groups and usability testing) and the UT Direct naming contest. Her expertise and help in this area were of tremendous benefit to the project.

XI. Testing and Quality Assurance Process

The importance of the look and feel of a web site—its appearance and behavior—has repeatedly been stressed in usability studies by such experts as Jakob Nielsen. Recognizing this importance, much effort has been expended by designers and developers at The University in establishing the general look and feel of UT Direct. The purpose of the Testing and Quality Assurance process is to ensure that services that are integrated into UT Direct complement it and give the user the feeling of consistency.

The testing strategy is thorough, relying upon several stages. Service developers first tested their service internally using their own checklist and the standard testing checklist produced by the Testing/QA subgroup. Testing was conducted in a testing lab where various combinations of computers, browsers and connections were and are available. These combinations allowed developers to observe the possible technical problems that may result from such things as minor incompatibilities between browsers and markup languages or slow downloading speeds of certain internet connections. Following internal testing, services were then submitted for review by an outside team or department. Since this stage of testing was staffed by people who are less familiar with the service, testing begins to more closely approximate use by students. Only after a service has successfully completed review by an outside department was it ready for student usability testing. With each tier of testing, the service drew closer to integration with UT Direct until finally all tests had been satisfied and the process was complete.
For more detailed information on the testing and quality assurance procedures, the Testing and Quality Assurance web site is located on a secure server and can be viewed at https://dpdev1.dp.utexas.edu/test/utportal/qa/qa.wb

XII. Current state of UT Direct - software management and oversight

Currently, management of the UT Direct infrastructure is the responsibility of ACS. ACS provides the development, maintenance and project management for UT Direct. The e-University Steering Committee is a driving force behind the project as they seek to set University-wide priorities for services that should be delivered via UT Direct. The task of determining when a service is ready to be published in UT Direct is also the responsibility of ACS. The services themselves are the responsibility of the individual departments that sponsor their introduction into UT Direct.

There are many projects underway that will help develop the infrastructure and continue to expand the functionality of the infrastructure. Shan Evans, the current project manager can provide up-to-date information on these projects.

XIII. Plans for Phase two and the future

At the conclusion of phase one of UT Direct, the immediate need we needed to address in the Fall and into the Spring is to increase the content in UT Direct. This includes adding additional web services to UT Direct, increasing the number of campus-wide events, and adding "channels".

The focus for Winter 2000/Spring 2001 is to add content related to Faculty, Staff, business services and additional services for students. There are over 30 new services slated to be part of a release in January, 2001.

Shan Evans, current UT Direct project leader, has extensive detail and a comprehensive plan for how UT Direct will be taken into the future.

XIV. Lessons Learned - from the project manager

As the project manager of UT Direct, looking back over the project development, there are a number of lessons I believe were major factors contributing to either contributed to or hindered the success of the project on this campus. I include these as future reference for other projects.

First, the idea of creating a product that is "perfect" and theoretically "ideal" is always something nice to strive for. Unfortunately, in my 10 1/2 years as a project manager on many projects, I have never seen this achieved in practice. What I learned from these experiences is that each implementation of a project is a "prototype" in a
sense, creating the highest quality product possible given the constraints at the time. The biggest constraints on this project were that of time (it was short!), lost IT staff resources, managing in a highly decentralized environment, and cross-departmental "wrangling" over the project management. Given some of the constraints presented, it is my assessment that the high quality product released in August was such a success because although we were striving for an excellent, high quality product, we were never overtaken by the sense that it must be "perfect" or that every facet of the project must be run according to the popular "theory of the day". An example of this point has to do with focus groups. Although the focus groups we ran were not exactly theoretically "pure" as an academician in the science of focus groups would define them, they produced exactly the results we needed for the project. This is just one example of how looking for a quality solution that will provide you with what the project needs helped the project succeed.

Second, the ability of the overall project and IT resources devoted to the infrastructure development to stay focused was very important. With such a short time frame in which to design, develop and implement the project, focus was imperative. One of the reasons for the project being removed from the direction of the e-University task force was the result of a lack of focus from all involved in management of the project. Having dedicated staff that were 100% time on this project, such as the key senior developers of the infrastructure helped ensure focus. The staff was very focused and dedicated to the mission.

Next, the high level executive sponsors, the President, the Provost and others, were integral to the acceptance of this project by many departments. As with many Universities, UT's inherently decentralized structure presents significant challenges when trying to accomplish cross-departmental projects. You must rely heavily upon collaboration and, at times, the good will of management in the departments to want to do what is best for The University - even when they are not sure that the project is it! Having the sponsorship of high level executives who had expressed a willingness to step in and solve cross-departmental disputes - if they were to arise - paved the way for departments to look for ways to work collaboratively toward the common goal of implementing UT Direct. However, although this went well in phase one, a major concern for future phases of UT Direct is the inclusion of more college-level services and faculty services. These are going to be much more difficult to gain support for as each college has its own mission, priorities and control over their services; much more so than the administrative departments providing most phase one services.

Fourth, the need to have one person responsible to the executives and the campus for the management of the project is extremely important. John and I had worked together on many projects in the past and have a very good working relationship built on trust and knowledge of each other's strengths and abilities. Even so, management of the project was very difficult with two of us doing parts of it. Additionally, the involvement from the e-University task force in the beginning of the project was disruptive. Having one person who can make decisions and move quickly to implement those decisions was key to making this project on time.
Fifth, obtaining broad input and feedback from as many different people and groups on campus was an important lesson learned. There are so many groups and individuals that participated and had their hand in this project in some way. Because of this and the huge number of presentations given to every group on campus we could think of, people were well informed and had a chance to input their ideas and give input in the process. This definitely made for a better, well accepted product on campus.

Closely related to the previous lesson learned is the involvement of departments and colleges on campus in the creation of UT Direct. Their involvement was key to both acceptance of the project as a priority and acceptance of the final product.

Another lesson learned is how important it is that the project manager and people in lead positions speak with a unified message when working on a cross-campus project. There were several instances of miscommunication when project management, e-University task force members or senior members of the development team would communicate one message that was inaccurate, incomplete, or inconsistent. Clearing up the miscommunication was time-consuming, often full of emotion, and was not effective in moving the project towards completion.

Finally, one of the best lessons learned (or illustrated) by this project was that the quality of the people, ideas, focus, and leadership from the top, directly impacts the quality of the end product. There is no way that this project could have come in on time with almost 40% more functionality than promised and had the success that it has had without top-notch, high quality people and ideas throughout the project. I believe we were able to garner some of the finest IT resources on campus to write the infrastructure of UT Direct. This made a huge difference in our ability to deliver UT Direct.

XV. Lessons learned - from developers on the project

After UT Direct was implemented in August, I sat down with developers from the project and asked them what lessons they had learned on the UT Direct project. Following are the major points they made:

(1) The use of milestone dates throughout the project were key to the on-time delivery.
(2) The creation and use of the Infrastructure Coordinating Group (ICG) to evaluation and recommend solutions to problems faced on the project (largely technical problems) was very valuable. Having Senior developers in such a key position of helping to guide the project was important.
(3) When development was at its peak, the use of computer labs to program in groups with all infrastructure developers present at the same time was a huge productivity enhancement.
(4) Involvement earlier in the project by the key senior developers would have been beneficial.
The lengthy requirements determination phase of the project was frustrating and demotivating for the team. Once the developers could start with the design and development phases, things went quickly and morale immediately improved.

Developers would have preferred being involved in the implementation date being set as opposed to having the implementation date given to them. Not knowing how the project would be accomplished is something they would have liked to have determined prior to a date being set.

For users of the infrastructure developer template, they would have liked for a more polished, complete template to have been published rather than one that changed often as bugs in browser software were found.

XVI. What went well and what I would do differently if I had it to do over again

There are several things that I would do differently if I led this project again. Many I have mentioned in the course of this report, specifically in the "Lessons Learned" section. There are a few I have not mentioned that I will document here.

First, I would have taken on responsibility for communicating with the Faculty and not have left that important part of the project to Academic Computing to handle. The primary reasons I would have taken this on include:

•  the ability to handle Faculty issues with as much attention as were given to staff and students,
•  the consistency and quality of the approach to communication with the Faculty would have been there as they were with other groups,
•  the message being sent to the Faculty regarding the UT Direct project would have been clear and focused, and
•  the timeliness with which the Faculty would have been involved would have been planned, organized and executed so as to take into consideration their issues before implementation occurred.

I believe that if I had handled the Faculty communication issue at the project management level, we would not have seen as much resistance from individual Faculty members and many would not have been left feeling like a hidden agenda was being carried out. Faculty involvement is a huge issue as they are likely the most difficult population to satisfy but the attempts made to communicate with them were poor and inadequate at best.

Second, I would have one person responsible directly to the Executive Leadership Team and in charge of the project from the beginning. By May, this was achieved and the project went much smoother but a lot of unfocused, unproductive energy was wasted in the first months as the result of many people trying to drive/coordinate the project.
APPENDIX A

Full UT Direct services (service sponsors/owners noted in parentheses)
UT Library OnLine - UT Library Services (General Libraries)
Exam Schedule - Final Exam Schedule (Student Records)
Class Listing - Student Class Listing (Student Records)
Grade Report - Student Grade Report (Student Records)
Registration - Student Registration (Student Records)
Registration Access - Bars - Display Registration Access times & Bars (Student Records)
CIS Results - Course-Instructor Survey Results (Measurement and Evaluation Center)
Credit by Exam - Placement and Credit by Examination (Measurement and Evaluation Center)
Degree Audit - IDA - Interactive Degree Audit (Student Records)
Graduation Survey - Graduation Survey (Student Records)
Campus Wide Events Calendar (Administrative Computing Services)
Alumni-Donor Menu (Development Office)
Housing Status - View Housing Status for Specific Session (Housing and Food Services)
Where's My Check - Information on checks written by UT (Office of Accounting)
Financial Aid - CASH - Check Aid Status Here (Student Financial Services)
Tuition and Fees - Tuition and Fee Information (Office of Accounting)
Housing Pmnt Hist - H & F Payment Bill History (Housing and Food Services)
What I Owe (Office of Accounting)
Financial Summary (Office of Accounting in collaboration with many others)
UT Direct Home Page (Administrative Computing Services)
Stickie (Administrative Computing Services)
Address Change ((Administrative Computing Services/Student Records)
Quick links (Administrative Computing Services)
Customization (Administrative Computing Services)
Official notifications (Administrative Computing Services)
Campus information (Administrative Computing Services)
Channels (Administrative Computing Services)
Search (Administrative Computing Services)
Site Maps (Administrative Computing Services)
Help (Administrative Computing Services)

UT Direct "Affiliate" services
Academic Calendars
TEX Phone Services
Transcripts
International Ofc. - The International Office homepage
ROSE - Registrar's Online Services
UT Austin Catalogs - University Academic Catalogs
Registrar's office - Office of the Registrar home page
Course Schedules - Course Schedule and Class Availability
Course Web Sites - Course Web Sites (Blackboard sites only)
IF Accounts - Personal, individually funded computer accounts for Internet access, printing

USENET Account - Usenet News Account. If you have a non-UT Internet Service provider

Admissions - UT Austin Office of Admissions
Apply to UT - Admissions Application
Application Status - Check Status of Admissions Application

Freshman Admission - Information for Entering Freshmen who are US Citizens or Permanent Resident

Transfer Admission - Information for Undergraduate Transfers (US Citizen or Permanent Resident)

Graduate Admission - Admission information for Graduate Students
International Adm. - Admission information for International Students
Re-admission - Information for former students who wish to return to the same program
Law School Adm. - Admission information for the School of Law
Transfer Credit - Automated Transfer Equivalency System
Webmail - Web-based e-mail that lets you read your UT e-mail from a Web browser

Home pages for following colleges:
- Architecture - School of Architecture
- Business - Red McCombs School of Business
- Communication - College of Communication
- Continuing Ed - Division of Continuing Education
- Education - College of Education
- Engineering - College of Engineering
- Fine Arts - College of Fine Arts
- Graduate Business - Graduate School of Business
- Graduate School - Graduate Studies
- Law - School of Law
- LBJ School - LBJ School of Public Affairs
- Liberal Arts - College of Liberal Arts Student Services Home Page
- Library and I.S. - Graduate School of Library and Information Science
- Natural Sciences - College of Natural Sciences
- Nursing - School of Nursing
- Pharmacy - College of Pharmacy
- Social Work - School of Social Work

Earnings Statement - Earnings Statement for faculty and staff
Job Search - JAM! - Jobs And More (student financial aid related)
Student Accounts - Payment information, FAQ, and More
EID Help Suite - A way to find and maintain your UTEID