fresh tilled soil
Initial Findings
Research Review

Initial analysis of **site analytics**, followed by...

- **19** in-depth **interviews**
  qualitative feedback and issue prioritization

- **10** moderated **card-sorting** sessions
  quantitative and qualitative understanding of mental models and IA challenges

- **114** unmoderated IA **tree-testing** sessions
  contextual feedback and evaluation of initial solution hypothesis

**Participants included:**
- faculty
- faculty liaison
- academic staff
- administrative staff
- IT providers at schools
- HUIT staff
- students
Site Analytics Findings

Review of site analytics, inbound traffic, and on-site search from 7/20/2015 – 7/20/2016

Search is dominant

63% of traffic comes from organic search (mostly Google), only 28% direct and 9% referral. Most common search terms are “software”, “vpn”, and various specific software programs.

<table>
<thead>
<tr>
<th>Search Term</th>
<th>Total Unique Searches</th>
</tr>
</thead>
<tbody>
<tr>
<td>software</td>
<td>260</td>
</tr>
<tr>
<td>vpn</td>
<td>248</td>
</tr>
<tr>
<td>endnote</td>
<td>244</td>
</tr>
<tr>
<td>microsoft office</td>
<td>232</td>
</tr>
<tr>
<td>matlab</td>
<td>192</td>
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<tr>
<td>stata</td>
<td>183</td>
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<tr>
<td>accellion</td>
<td>181</td>
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<tr>
<td>spss</td>
<td>173</td>
</tr>
<tr>
<td>service now</td>
<td>150</td>
</tr>
<tr>
<td>papercut</td>
<td>132</td>
</tr>
</tbody>
</table>

Searches for “vpn” appear to spike several times during the year: Dec 20th-25th, Feb 7th-13th, and May 22nd-28th. These may be associated with times that students, faculty and staff expect to be leaving campus for vacation, and are thus researching how to set up VPN access in order to continue work.
Interview Findings

**in-depth interviews**

Hour-long interviews with 19 members of the Harvard community, including IT, administrative, and academic staff.

**Issue #1:**
Site is overwhelming, lacks focus

**Issue #2:**
Site doesn’t connect users to the right resources as well as it could

**Issue #3:**
Navigability is challenging, leading users to rely on Google searches or personal connections
Issue #1:
Site is overwhelming, lacks focus

Interview responses:

“There’s a lot of use of pull-downs. Things are buried. There’s just **so much information**, there’s a tendency for things to get buried.”

“Trying to service both internal and external users might be part of the weakness today. Are you HUIT staff? A department administrator? Or just faculty or staff looking for help with email? If the site knew this, it would make it much easier than just **throwing everything at them at the same time**.”

“It’s **such a huge group**, you could spend your whole time not knowing that Harvard Phone is part of HUIT. If you’re having issues with one area, you want to know where you can go. I know this today just by asking people.”
Issue #2:
Site doesn’t connect users to the right resources as well as it could

Interview responses:

“"I don’t think website is horrible, there’s a lot of good things there. Everything they support should be able to be found on their website, and that’s not the case today, like with wikis and WebEx information. It just needs to be more connected with the other HUIT websites, and have more information on it.”

“My ideal vision is that we have One Harvard where we are effectively using resources for IT, not being redundant, keeping in mind that the HUIT website should really focus on this One Harvard idea. Keeping the voices of other schools and partners in mind.”
Issue #3: Navigability is challenging, leading users to rely on Google searches or personal connections

Interview responses:

“We use hard links for the website for things we need, and I’ll Google a lot. I bookmark things because *if I went to the site, it would take a long time for me to find it.*”

“It comes down to *who you know* rather than what you know.”

“I *find it easier just to Google* and when I talk to IT, they’re Googling too. Even the IT people tell me to Google. There’s so many branches of IT and you never know who to go to for what, and they’re always reorganizing IT.”

“You have to be on certain [email] lists and if you’re new *how do you know to be on a certain list*, like to tell you if VPN isn’t working.”
Card Sort Findings

10 moderated card-sorting sessions

Hour-long tool-assisted interviews with 10 members of the Harvard community, including IT providers, administrative, and academic staff, and a faculty liaison.

Working with a moderator, users dragged content blocks from the list on the left into self-defined categories. If the user didn’t understand what the content meant, or felt it was not applicable, the content was sent to the relevant pre-defined category (the gray boxes on the right).
Common User-Generated Categories

- Login and Identity Management
- Email & Calendars
- Information Security
- Academic Web Sites & Web Publishing
- WiFi & Networking
  - WiFi
  - Networking Services
- Phone/Telecom
- Software Tools & Services for:
  - Students
  - Faculty
  - Staff/Admin
- Purchasing Hardware
  - IT Procurement
  - Buy/Lease Computers
- Library, Data and Research Services
  - Library Services
  - Data Services
  - Digital Media
  - Research Computing
- Administrative, Personnel & Finance Systems
- IT Infrastructure
- IT Training & Learning
- IT News & Events
- Business Applications & Services

**TAKEAWAY:** Users generally categorized site content the same way it is organized today, indicating that the current IA structure is relatively intuitive.
Commonly Excluded Content

“I don’t know what this is”
- Administrative Systems Design and Implementation
- Collection Management Applications
- Network Load Balancing
- IMAP Configuration
- Gartner Research
- ICEMail
- Network Strategic Lifecycle Planning

“This doesn’t apply to me”
- Security Vulnerability Assessment, Penetration Testing, and Code Analysis
- Digital Arts and Humanities at Harvard
- Consulting and Planning on Library Technology
- Managed Hosting Services
- Network Design and Consultation
- FAS Research Computing
- SharePoint for Harvard

**TAKEAWAY:** Users indicated that more technical IT resources were not understood or not relevant, suggesting that this content might not be useful for this audience.
IA Hypothesis
If the current site structure is close to the way that users intuitively organize this information, why do people still find the site hard to use?
HYPOTHESIS:

It’s not a structure problem, it’s a flow problem.

The service hierarchy does a good job of showing the full breadth of services, but gets overwhelming when someone is trying to accomplish a specific, focused task; they must imagine a conceptual path through to the end, rather than being guided. Even if the path coincides with their intuition, it is still mentally taxing.

Including a more task-oriented path through the site with user-centered language will help guide people to the solutions to their self-service problems. The beginnings of this structure exist in “Resources for...” and “I want to...” modules, but these are not visually promoted.
Experimental Results
HYPOTHESIS:

It’s not a **structure** problem, it’s a **flow** problem.

Result: The evidence does **not** confirm this hypothesis.

Although we saw increased completion rates on many tasks, the failure rate and time-on-task remained high, suggesting a **different or more fundamental** problem is the root cause of navigation issues.
Tree Testing

unmoderated IA tree-testing sessions

self-guided, task-driven navigation through the existing and proposed IA by members of the Harvard community, including IT providers, faculty members, a faculty liaison, students, a student liaison, and academic, administrative, and HUIT staff

Task 1 of 12

You are unable to get on the Harvard wireless network. Where do you look for help?

huit.harvard.edu

- Resources For...
  - Resources for Students
  - Resources for Faculty
  - Resources for Staff
  - Resources for IT Service Providers

Users were given specific tasks, and asked to navigate through the current and proposed information architecture to find the specified content.
RESULTS:

Despite an 18% improvement in overall task completion rates, neither time-to-find nor directness of route improved, indicating continued issues with the navigational model.

**Existing IA**

- **Success**: 52%
- **Directness**: 77%
- **Time Taken**: 7.84 mins

**Proposed IA**

- **Success**: 61%
- **Directness**: 76%
- **Time Taken**: 8.75 mins

The tasks that saw the most improvement were those where users were asked to get help with a **specific problem**, where they tended to use the task-focused **“get help with a problem” path** to find the correct result. *(see Appendix for details on selected tasks)*
If an improved hierarchy and task-driven flows don’t fully address the navigability problems, what could be the root cause?
**FINDING #1:**

For the quantity of content we have, many users are uncomfortable navigating a tree structure at all, even one that corresponds well with their intuitions.

**Post-Test Feedback:**

Too many layers to find what you're looking for. HUIT website needs to be rebranded and rebooted. Colleagues and staff just don't have the time to do the research and instead they call for help. Simplify the website, make it a more flat organization structure. Key to a good website is to find something in 30 seconds or less.

For me having a robust search engine on the site works best. I find that the category titles aren't always good indicators of the sub categories. If you have to go more than a couple of levels down into a site it becomes a tedious effort.

**Hints from initial interviews:**

“There's a lot of use of pull-downs. Things are buried. There's just so much information, there's a tendency for things to get buried.”

“Trying to service both internal and external users might be part of the weakness today. Are you HUIT staff? A department administrator? Or just faculty or staff looking for help with email? If the site knew this, it would make it much easier than just throwing everything at them at the same time.”

“It's such a huge group, you could spend your whole time not knowing that Harvard Phone is part of HUIT. If you’re having issues with one area, you want to know where you can go. I know this today just by asking people.”
FINDING #2:

Users **really** want to use search as a primary method of interaction and discovery.

Post-Test Feedback:

For several tasks, such as how to setup/access VPN, I **would have started by searching "VPN" as opposed to clicking around the website.** Sometimes I get confused by where I used to find information and where it is now. For example, I used to go to the NOC for VPN access information, but that doesn't seem to be the case anymore. I also sometimes get confused by what parts of the HUIT site are for HUIT staff versus the entire University.

Ugh. That was difficult and didn't get easier (for the most part) with familiarity. I had to do way, way too much clicking around. This exercise has reinforced for me that what I currently do is best. I **google for the information I'm looking for.** If I can't find it, I call the Service Desk.

For several of these tasks, I **would absolutely start with a Google search instead.** I also think it is interesting that for several of the tasks I'd expect to have a direct link from the home page -- and that is actually true right now for half of the tasks. I recommend that the most important tasks are highlighted on the home page to keep navigation to a minimum.

I **tend to use search fields heavily** rather than try to guess the hierarchy/content strategy of a website.

I use the search function to find most everything and that is my issue with the site. Example - what may exist on security.harvard.edu may not be found on huit.harvard.edu. You need to know it exists there. Vastly improve searching algorithms.

Rather than a tree of choices, the entire website should be well indexed by something like Google site search, and **i would rather have a search box prominent** on an "I need help" page.

For me **having a robust search engine on the site works best.** I find that the category titles aren't always good indicators of the sub categories. Also if you have to go more than a couple of levels down into a site it becomes tedious.

This was a painful survey. I don't think this is how people use the internet. I access the HUIT website, but entirely through google. I hit the org chart frequently, but I don't go to the site, I search google for "huit org chart" and grab the first hit. **Clicking through menus is horribly inefficient.** All resources should be reachable through a reasonably simple google search. If it's not, you should worry more about SEO -- it may be super-buzz-wordy at the moment, but it is for a reason -- that's how people use the internet.
FINDING #3:

Some of the site content **distracts from users’ core expectations** of finding service and support.

Post-Test Feedback:

Putting news at the top of that menu is **very self-centered**. Chances are that’s not what most people are coming to the website for.

For several tasks, such as how to setup/access VPN, I would have started by searching "VPN" as opposed to clicking around the website. Sometimes I get confused by where I used to find information and where it is now. For example, I used to go to the NOC for VPN access information, but that doesn't seem to be the case anymore. I also sometimes get confused by what parts of the HUIT site are for HUIT staff versus the entire University.
Recommendations
## Recommendations Summary

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Goal</th>
<th>Recommended Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audience focus</td>
<td>Reduce overall per-audience content load to aid navigation</td>
<td>Break the HUIT website up into multiple audience-focused sub-sites</td>
</tr>
<tr>
<td>Improved search</td>
<td>Quickly drive users toward the right content when they search</td>
<td>Make search more prominent and provide curated results for common queries</td>
</tr>
<tr>
<td>Visual clean-up</td>
<td>Once users have found the right page, allow them to easily scan and consume the content</td>
<td>Reduce visual clutter, navigation and sub-modules across the board</td>
</tr>
<tr>
<td>Smart shortcuts</td>
<td>Reduce search and navigation needs for most common tasks</td>
<td>Add and improve homepage shortcuts to common services and user needs</td>
</tr>
<tr>
<td>Self-serve path</td>
<td>Create an easy and quick alternative to the help desk for getting questions answered</td>
<td>Provide self service options (if possible) before creating a support ticket</td>
</tr>
</tbody>
</table>
**RECOMMENDATION #1:**

**Audience focus.** Pull out the HUIT “meta-site” into its own strategically-focused property, and provide sub-sites focused on help and professional IT resources.

<table>
<thead>
<tr>
<th>Sub-site</th>
<th>HUIT</th>
<th>IT Professional Resources</th>
<th>IT Helpdesk</th>
<th>Services &amp; Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audience</td>
<td>HUIT staff, university stakeholders, job seekers</td>
<td>IT professionals at Harvard</td>
<td>Staff, students, faculty</td>
<td>Staff, students, faculty, IT professionals</td>
</tr>
<tr>
<td>Goals</td>
<td>Communicate IT strategy, roadmaps, and initiatives</td>
<td>Provide guidance and resources</td>
<td>Solve IT problems</td>
<td>Provide audience-relevant services and tools as needed</td>
</tr>
<tr>
<td>Example content</td>
<td>About HUIT, IT Community, CIO Council, IT Strategic Plan, HUIT News</td>
<td>IT infrastructure, load balancing, ASDI, IT Academy</td>
<td>Two-step verification, WiFi setup, service dashboard, application-specific help</td>
<td>Canvas, HarvardKey, Office365, downloads, data services</td>
</tr>
</tbody>
</table>

The core organizing principle should be around **audiences**. A user-focused content model will greatly increase content relevance and discoverability.

*In phase 2, depending on further audience and task analysis, we may find that there is a need to break out additional categories (e.g. Digital Publishing, IT Security) to their own sub-sites.*
RECOMMENDATION #2: Improved search. Emphasize site search functionality and manually curate results for common queries.
RECOMMENDATION #3:

**Visual clean-up.** Greatly reduce visual clutter (including sidebars, subnavs, etc.) to allow users to focus on the most important and relevant page content.
RECOMMENDATION #4:

**Smart shortcuts.** Highlight most common tasks on the homepage (similar to today, but with more visual emphasis)
RECOMMENDATION #5:
Self-serve path. Provide a last-chance self-service option before contacting the help desk.

Current

Proposed
What’s next?

NOW

• Decide on shifting overall HUIT content strategy toward an audience-focused model (see Recommendation #1).
• Determine KPIs and targets for new content strategy.
• Analyze impact to existing properties, structure future audience-focused content, and identify areas where content does not yet exist to support user needs.

NEXT

• Analyze current technology platform(s) and editorial processes for ability to support new content strategy and search functionality.
• Improve search functionality (see Recommendation #2).
• Implement recommendations #3, #4, and #5 to improve short-term usability within the current content model.
• Create necessary audience-focused content (especially around help desk self-service solutions) — ongoing process

LATER

• Implement new audience-focused content model and launch sub-sites
Appendix
Detailed tree testing results
TASK #1

You are unable to get on the Harvard wireless network. Where do you look for help?

Before:
- Success: 9%
- Fail: 17%
- Skip: 13%

After:
- Success: 61%
- Fail: 34%
- Skip: 13%
TASK #1

You are unable to get on the Harvard wireless network. Where do you look for help?

Before:
You are unable to get on the Harvard wireless network. Where do you look for help?

After:
You need to place a computer equipment order for your office. Where do you go to do so?

Before:

- Success: 9%
- Fail: 17%
- Skip: 35%

After:

- Success: 26%
- Fail: 46%
- Skip: 9%
TASK #6

You need to place a computer equipment order for your office. Where do you go to do so?

Before:
You need to place a computer equipment order for your office. Where do you go to do so?
TASK #9

Your office printer stopped working! Where do you go to get help?

Before:

![Before chart](chart1.png)

- Success: 9%
- Fail: 83%
- Skip: 9%

After:

![After chart](chart2.png)

- Success: 47%
- Fail: 53%
- Skip: 0%
TASK #9

Your office printer stopped working! Where do you go to get help?

Before:
Your office printer stopped working! Where do you go to get help?