Case Study - Architectural Signage at the Li Ka Shing Center, UC Berkeley

Overview
Architectural signage, and more broadly, the field of wayfinding, refer to the specialized subset of architectural design that relates to creating systems for people to navigate spaces. These spaces can range from hospitals and college campuses, concert halls and museums, to parks and business districts. This case study examines the signage system of a large scientific research building, the Li Ka Shing Center at UC Berkeley built between 2009 and 2011. I worked on this signage system while I was a designer at a design firm that specialized in this type of work.

The resources in this system—the rooms inside the building—were created by the architects when they designed the building according to the requirements of the university. They are permanent, generally are used for the same purpose year after year, and are used by a similar set of people time after time (students, researchers, professors, administration staff). The domain and scope of this system are defined by the fact that these signs only make sense in this building with the rooms present in this building. The rooms cannot be moved or exist in another building and the signs would not make sense if they were applied to another building in their current form. The scale of the signage system matches the scale of the building: it is large and complex with hundreds of signs that support many users everyday.

The most interesting part of this organizing system is the resource descriptions, the signs that users interact with when they are in the building.

Tags & TDO Concepts
Information Architecture, Resource Descriptions, Interactions, Tradeoffs

Deliverable/Artifact
A table comparing alternative resource descriptions and their various effects on users, particularly the different types of interactions that could have been supported with these alternative descriptions.
**What is being organized?**

The rooms inside the building are being organized. All of these spaces need descriptions in order to be used as intended (how can a student attend a lecture in room 200 if he cannot find room 200?) or defined (users will not know which room is which unless there is a sign with the name of the room posted outside it). The signs that users interact with are the resource descriptions within the organizing system that allow it to achieve its goals by supporting its users’ needs.

The type of resource description created for this system and the alternative descriptions that could have been created for it provide a rich area for discussion. The resource descriptions are the most accessible part of the system for users. While they spend significant time in the rooms the signs identify, users primarily think about the rooms in terms of their descriptions, for example, when telling someone where to meet him an occupant of a room would say, “I’m in room 202.”

The size, placement, color, content, and material of the signs provide clues about the underlying structure and hierarchy of the rooms in the organizing system. Signs for large rooms, like the auditoriums supported by donors, are larger, made of higher quality materials, and have a more aesthetically driven design. Signs that identify large sections of the building are more colorful and larger than signs for individual rooms so that they will stand out. Similar rooms use signs based on the same template.

For this project static signs were the only suitable implementation of resource descriptions; there was no discussion about alternative types of descriptions. This was partly due to tradition, expectations, and the requirements of the architects to whom we were responsible, and it was partly because signs are a proven and effective means of marking spaces. The signs we created satisfied many needs: they are aesthetically pleasing, easy for users to follow, some hold changeable inserts with temporary information, they convey warnings, and they require minimal upkeep from building staff. They do not, however, support users who have vision impairments or do not understand English well, nor can they offer individualized help to users. We accepted these tradeoffs in order to appropriately satisfy the requirements we were given when we won the contract for the project.

What if we had had freedom to create different kinds of resource descriptions for these locations? Examples of alternative resource descriptions include digital signage that could display multiple languages, pair with users’ smartphones to provide personalized routes to rooms, or offer audio directions. A system that uses colored lights to direct users according to their requested destination could have brought a lively and dynamic atmosphere to another otherwise quiet building that can seem overwhelming at first. A human guide who walks a user to their destination could provide additional information about the building, the cafe next door, or many other things that small signs cannot convey.
Of course many of these systems would have involved tradeoffs of their own, like higher implementation costs and more frequent maintenance requirements.

Despite radically different implementations and experiences for the user, each of these alternative types of resource descriptions would have met the same organizational goal: allowing people to navigate to the appropriate room within the building.

**Why is it being organized?**
The rooms and sections of the building are being organized so that users can locate and navigate to rooms and so that they can refer to these spaces by name or number instead of by long complex descriptions that can be confused.

**How much is it being organized?**
The rooms are being organized completely. Each room has its own sign with some amount of detail about the room: its name or number, its use, occupants (if the same users are occupying it on an ongoing basis), and warnings about any hazardous materials that might be present. There are also signs that do not refer to specific rooms but rather to areas that contain sets of rooms (like “Rooms 100 - 120 ↑”), these help guide people to the right area of the 200,000 square foot building.

**When is it being organized?**
The rooms were all organized when the building was designed as part of its basic layout before any part of it existed physically.

**How or by whom is it being organized?**
The rooms were organized by the architects with input form the university, researchers, donors, and department chairs (the important stakeholders and the eventual users of the building). The important wording for most signs was determined by the architects simply because they numbered the laboratories and classrooms as they laid out the floors of the building. The rooms that were not given names or numbers by the architects were named by donors who gave money for specific rooms to be built; their names are thus associated with those rooms.

Signs for some of the building’s basic elements (bathroom and stairwell signs) and general egress pathways (like exit signs, earthquake evacuation maps, and elevator button panels) were designed according to federal, state, and local regulations to meet mandated safety requirements. The content
and placement of warning signs for laboratories that use certain chemicals or machinery were also dictated by the regulations of external government bodies.

**Other considerations**

Some additional considerations that affected the creation of the resource descriptions were the walkways and pedestrian approaches to the site that had to be accounted for when positioning external signs and the wider aesthetic style of the campus and adjacent buildings.

Like the regulations from external entities, these adjacent systems impacted the organizing system for the rooms in multiple ways: the color palate chosen for the signs complemented the colors of the wood panelling and floor tiles and the location of external signs were envisioned in the context of users approaching from minor footpaths, roads, major pedestrian thoroughfares, and nearby buildings in varying lighting conditions. The physical context of this system had much to do with the final visual appearance of its resource descriptions.
### Case Study Artifact - Architectural Signage at the Li Ka Shing Center, UC Berkeley

<table>
<thead>
<tr>
<th>Alternative Resource Descriptions</th>
<th>User Interactions</th>
<th>Maintenance</th>
<th>Limitations/Tradeoffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital system that allows users to input their destination. System provides personalized directions on the user’s smartphone.</td>
<td>• User can follow a clear route and see the beginning and end of the route at the same time. • User could follow spoken directions from their phone. • Multiple languages could be offered.</td>
<td>• Will require updates as room occupants and uses change. • May require a programmer to complete updates.</td>
<td>• May need multiple input devices at each entrance. • User must have a smartphone and be able to use an input device to request directions. • Requires continuous power supply.</td>
</tr>
<tr>
<td>A human guide is available to walk users to their destination or give them directions.</td>
<td>• Face to face communication can feel very welcoming. • Users can ask a range of questions.</td>
<td>Human guides will need training and will need to be replaced from time to time as guides move on to other work.</td>
<td>• May need to employ multiple people to manage times of high traffic.</td>
</tr>
<tr>
<td>Colored lights along the walls and floor guide users after they input their destination. Each user follows a unique color of light to distinguish their path from other user’s paths.</td>
<td>A static space will come to life with movement and color.</td>
<td>Lights may need to be replaced from time to time or wiring may need occasional repair work.</td>
<td>• Power outages may interfere with use. • Users must be able to see the colors of the lights and use the input panel. • May become confusing if too many people need directions at once. • May need multiple input devices at each entrance.</td>
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| Printed maps available at entrances. | • User can take map with them.  
• Maps are a familiar wayfinding paradigm. | • There will be an on going cost to print maps, even if they are reused.  
• Extra maps have to be stored somewhere. | • May run out of maps at busy times.  
• Could be seen as wasteful of physical resources.  
• Could be expensive to produce in multiple languages. |
| A digital system that scans the Cal 1 Card (campus ID card which has building/room access encoded). System would provide personal audio instructions. (Most of the rooms in the building are card access only.) | Users do not have to input information and they only need to remember to follow their name as the audio system speaks to them. | Cal 1 Cards would need to be kept fully up to date with access rights. | Some users may have access to multiple restricted rooms.  
• Users may lose or misplace their cards.  
• Not all rooms are restricted, system may be unnecessarily complicated for a student attending a lecture in an open auditorium. |