

4 SF GARDEN REGISTRY

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Project Summary

While *Garden Registry* grew out of a multipart project entitled *Victory Gardens 2007+*, it is also part of a lineage of projects created by Amy Franceschini, David Lu, and Myriel

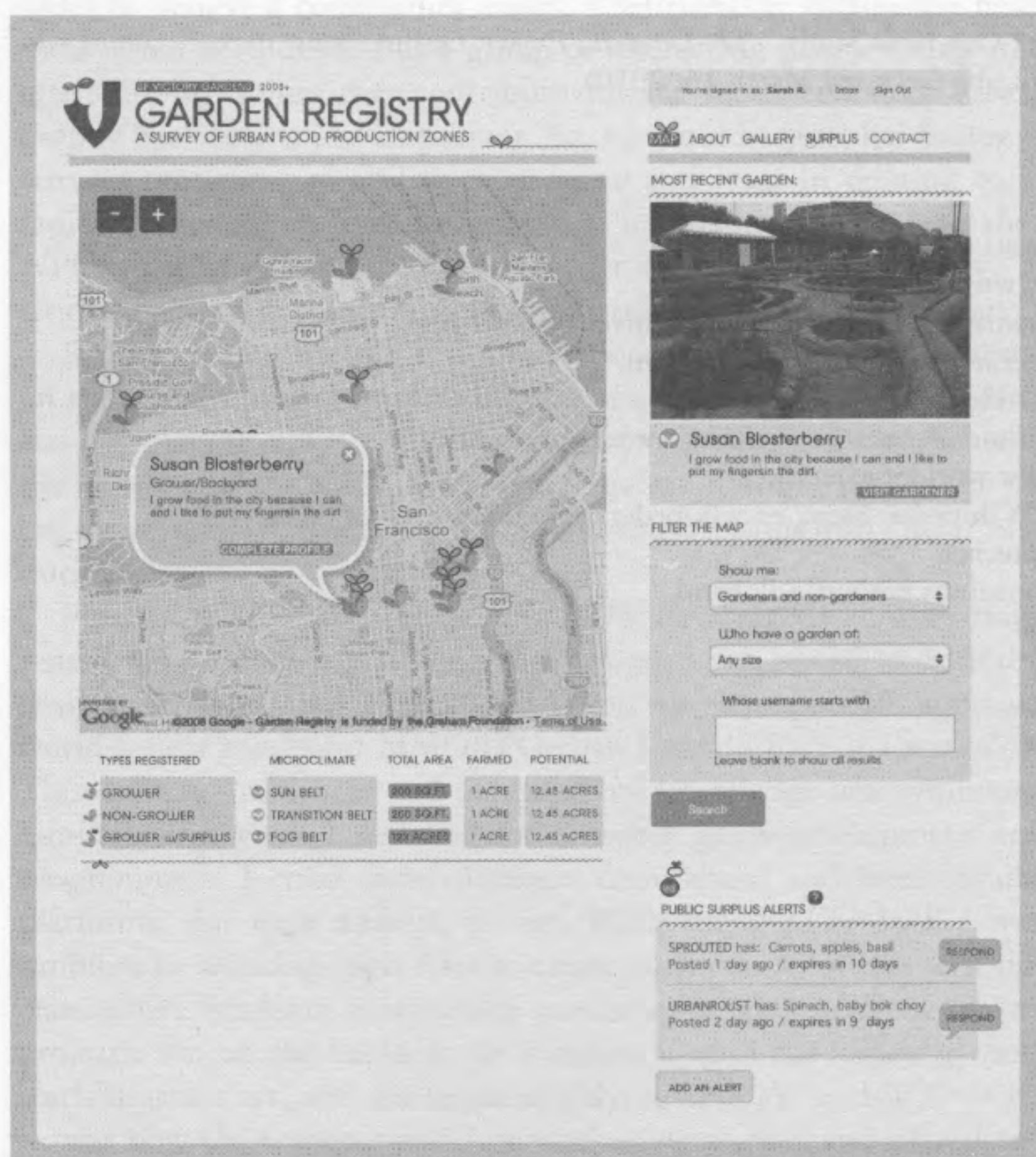


Figure 4.1 Amy Franceschini, David Lu, and Myriel Milicevic, *SF Garden Registry* can be viewed at gardenregistry.org.

Milicevic. Myriel and Amy's *F.R.U.I.T.*¹ was an installation and website that presented information about food miles and the many relationships involved in bringing food from the farm to your table. A fruit stand was presented in the museum space offering wrapped oranges and a computer kiosk. The fruit wrappers were printed with information about local food movements, urban gardening plans, food miles, and an invitation to participate in an online demonstration.

Of Planting, Protesters and Growing a Demonstration

Traditionally, demonstrators meet at a given time, raise their banners and move through the streets to give voice to their injustices, demands, and aching desires. With the *F.R.U.I.T.* project we raised the aching issue of citizens' food illiteracy—including information about how and where food is produced, and how far it traveled. We established an online platform for people to demonstrate for their right to know where their food comes from, featuring personal slogans and urban plans. Cyber demonstrators would not protest by marching down a street, but take root deep in their virtual plaza, holding up their slogans through time, steadily growing in numbers. They could be presented together or sorted by city or features (demonstrators would look differently whether they were city dwellers or rural residents, whether growing their own food, and so on.)

While this demonstration could function as a real meeting opportunity for people to get in touch with others in their city and grow food together, it was first of all a platform of collective voices, and a community that is still growing.

Redrawing the City

When designing the *Garden Registry*, the community aspect and motivation was similar; however, this time the project includes online planting and "real" live cultivating in backyards, rooftops, window boxes, parks, or vacant lots.

The *Garden Registry* surveys urban food-production zones and enables people to contribute their garden plots and data to a collective map. Users share seeds, harvests, and knowledge both online and in the physical world. It does not just show the city as it is, but the process of transformation as both the virtual map and the real city.



Figure 4.2 A hand-drawn map for the *SF Garden Registry*.

Introduction to SF Garden Registry

The Garden Registry is part of a two-year pilot project, *Victory Gardens 2007+*, which was a collaboration between the city of San Francisco, Amy Franceschini, and the Garden for the Environment. The project was initially launched as an art project at the San Francisco Museum of Modern Art, and shortly after adopted by the city of San Francisco as a pilot project to reimagine a citywide urban agriculture program based on the historic Victory Garden programs of World War I and World War II. Through an exciting process of meeting city officials and orchestrating a team, we received funding from the city and two private funders. Through this project, a city food ordinance was developed which states that the city of San Francisco will support urban agriculture with the aim of growing 40 percent of all food within city limits by 2015. We see this project as a creative and effective response to a local issue that can be translated to a global scale.

Victory Gardens 2007+ derives its title from a nationwide program developed by the Department of Agriculture that promoted the cultivation of food by citizens with the aim to reduce pressure on the public food supply brought on by the war effort. In 1943, over 20 million Victory Gardens were producing 8 million tons of food. Throughout the country, people plowed front yards, lawns, back yards, flower gardens, and vacant lots to grow their own vegetables. In the city of San Francisco, vegetable gardens were

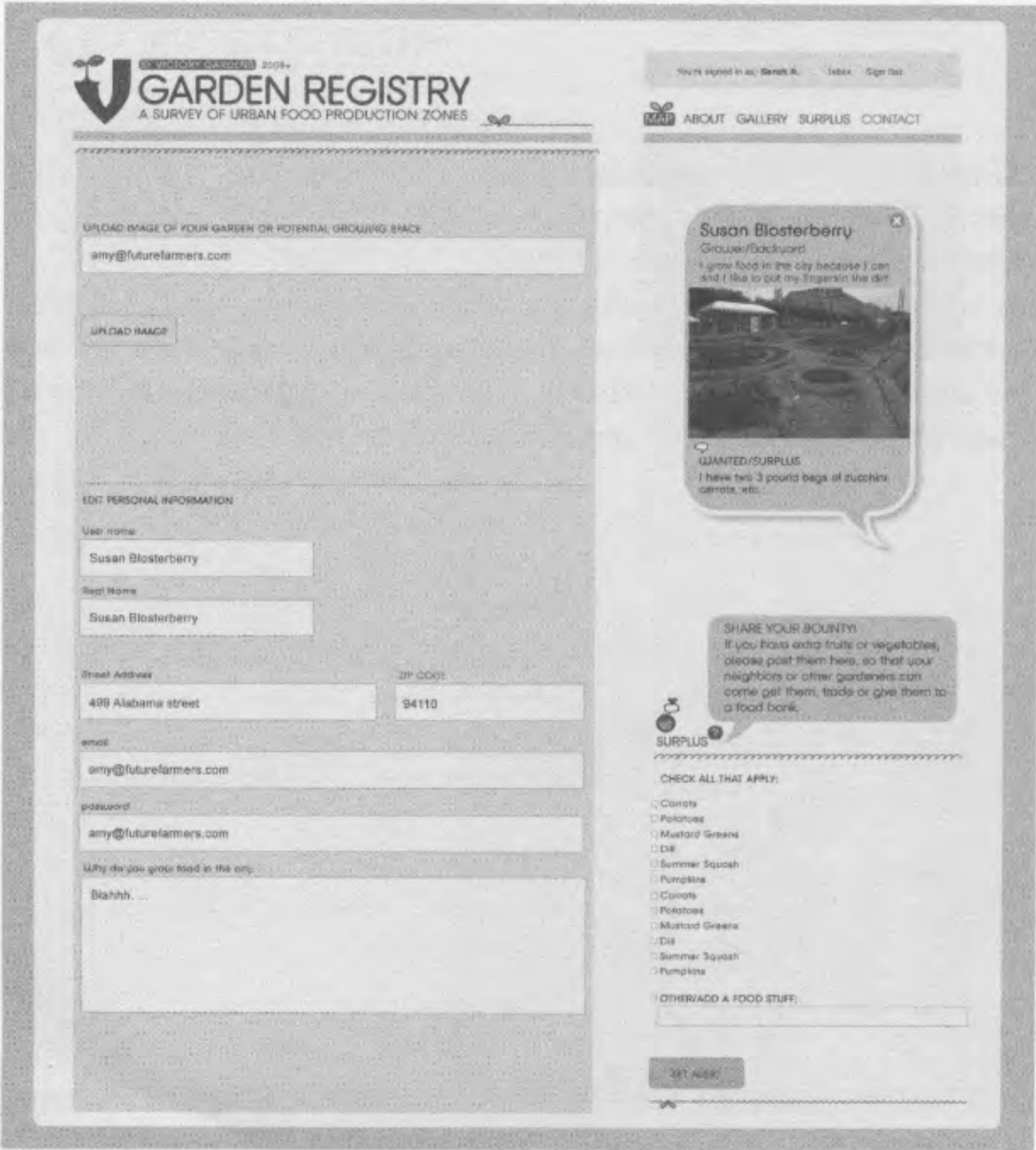


Figure 4.3 Upload Image page on SF Garden Registry.

grown in every park, the lawn of City Hall, and throughout Golden Gate Park. By drawing an example from this period of massive participation, VG2007+ suggests that what might otherwise be seen as a radical gesture is in fact historically proven to be viable.

The *Garden Registry* is one channel for quantifying participation in this new program. In the early stages of research for this project, the San Francisco Department of City Planning provided a 1970 Lot and Block Map that illustrated public and private land use and allocation of open space. From this we could quantify the total acreage of open, farmable space within San Francisco city limits, totaling 1,820 acres. This map inspired the creation of our online tool. *Garden Registry* allows people and planners to see land-use patterns and food production on one annotated map and facilitates exchange by accepting and presenting qualitative input in the form of photos, comments, and discussion boards. A surplus alert allows users to announce surplus food that has been a catalyst for new exchanges and decentralized growing networks.

Developer Backgrounds

David Lu

I met Amy during a media knitting workshop she led at the Dutch Electronic Art Festival in 2003. Our first collaboration, *Portable Portrait Mobile*, featured a computer program that made blind contour drawings of festival goers kind enough to sit for it (the program could “see” via a webcam), while I made hand-drawn portraits and casual conversation. In addition to injecting a human, social element into a project that might otherwise have been a cold technology demo, Amy designed and built a beautiful wooden cart for the piece.

I have always appreciated Amy’s ability to tell a human story in her projects; her *Garden Registry* notion presented a compelling story. The timing was also good. In the summer of 2008, when she approached me with the project idea, I was writing mapping software at Local Projects in New York. I had acquired deep knowledge of the Google Maps API—the application programming interface that allows Google’s Maps to be embedded in any website with a data overlay. I concluded that the locative aspect of the registry could be built quickly and easily, which might leave more time to explore design ideas (appealing to me) or other aspects of the project execution.

Amy Franceschini

I am always looking for a reason to collaborate with David, and for me he was really the perfect person who could realize this piece. David and I have worked together for over seven years, during which time we developed a working rhythm and a common aesthetic ground—a mutual admiration, I believe. Myriel and I met in the same year while she was an artist in residence at Futurefarmers. Together we created *The Great Park Project*, a utopian proposal for a new park to be placed on a former military site in Orange County, California. We created a suite of sculptures, costumes, and proposals for possible uses for this great swath of land, including an online or PDA application called *Ad-Hoc Ecosystem*² that allowed participants to collectively monitor the social, political, and material land use within the *Great Park*.

For me, online tools are an extension of my analog artistic practice. They are a space to continue, reimagine, and document the exchanges set in motion in “real” life and

vice versa. *Garden Registry* is an example of this blurred territory. It quantifies land use and food production, and through this visualization establishes connections and creates a precedent for action between individuals on a local and citywide scale.

Explanation of Technical Components (David)

Previous Experience

A few circumstances influenced my selection of technical components. As mentioned, I had been working with Local Projects on a mapping application that ran on interactive tables in a high-profile space. Google, a technology partner on the project, showed us how to download map tiles and host them locally. Having our own copies of the map tiles meant that we could style the maps any way we liked (within limits). I reused this technique for the *Garden Registry* implementation. One of our information design goals was to reduce the amount of visual noise (colors, unnecessary labels, and so on) baked into the map tiles, and to allow the garden data, painted above the maps, to shine. At the time, very few options existed for customizing map styles, markers, and behaviors. As a result, using the Google Maps API for Flash made sense.

Our Approach

This project evolved organically. The three of us were living in different time zones: Amy in San Francisco, Myriel in Germany, and David in New York City and Cambridge, MA. We were all busy with other projects, which made the collaboration difficult to begin. Communication via iChat and email helped facilitate the remote collaboration. We started by passing Adobe Illustrator files to each other. Our initial work varied from high-level concepts to visual design directions to wireframes. Amy sent out conceptual design sketches and a project brief. Myriel came up with a beautiful concept for a hand-drawn map of the city and its gardens (which would still be lovely to make, now that we have data to work with). David explored visual treatments of Google Maps tiles, which helped set the stage for what the visual design might include. Amy and Myriel riffed on this work and began to craft the visual language for the site. We soon had a minimal set of designs that David used as a baseline reference for developing the software. While he was writing code, Amy revised the visual design. We sculpted this work over time, making small decisions and building on them, together in spirit, while physically apart.

Flash-based Maps with Google Maps API

I knew this set of technologies to be reliable, fast, and easily customizable from a design standpoint. My previous knowledge here also saved development time. We overlaid two sets of data above our maps: gardens and microclimates. San Francisco weather can vary dramatically from neighborhood to neighborhood, so it was important to show where gardens were (and were not) located in relation to the city's microclimates. Drawing the microclimates as shapes above the map turned out to be tedious. The shapes are defined by a set of latitude/longitude coordinates. I had hoped to find an open source set of microclimate shapes, but failing to find a good one meant spending a few days drawing them myself. Constructing city-sized polygons from hundreds of precisely placed street-level vertices was painful. I also made a mistake the first time through, not realizing until it was too late, so I had to start the tedious process anew.

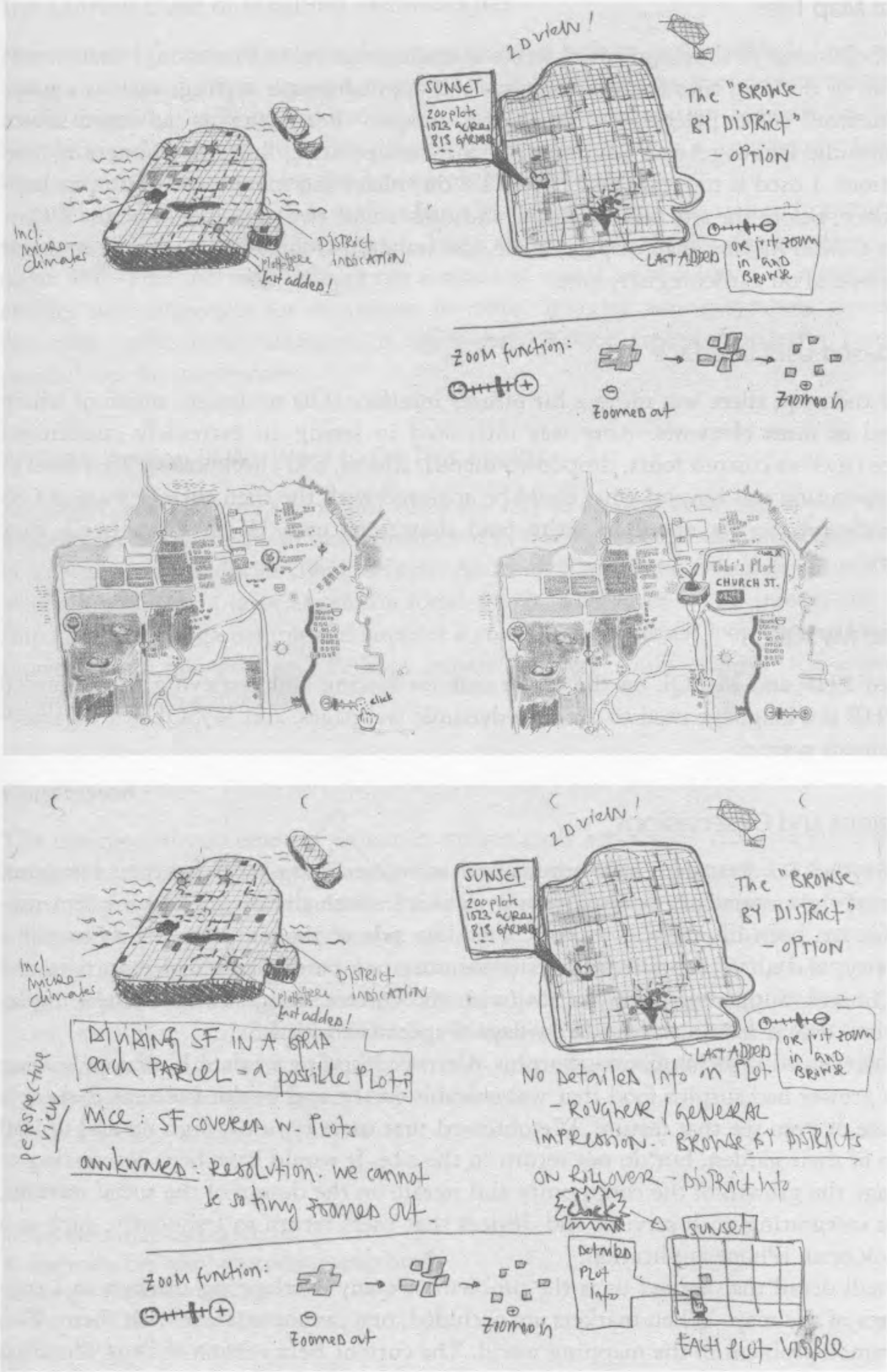


Figure 4.4, 4.5 *Making Hand Drawn Maps:* Redrawing the city on paper should be just as easy as changing the “real” city. We first drew maps by hand including animations with the intention that this vernacular should influence people to feel like the city is not something that should be left to be planned by architects or urban planners but something that can be modified with as little effort as using a colored pencil, a seed, or a shovel.

Custom Map Tiles

At the beginning of development, I wrote a small program in Processing³ that downloaded all of the map tiles for San Francisco and applied simple styling, such as a grayscale, neutral color palette, to the saved images. Processing is an open-source programming language and environment for manipulating images, animation, and interactions. I used it to create new tiles. This download and manipulation process happened once, before the site was deployed, and took about two days to complete. Whenever the *Garden Registry* map displays a tile, the standard Google Maps tiles are replaced by tiles hosted on gardenregistry.com.

Flash-based User Interface

Beyond the map, there was quite a bit of user interface (UI) to design, much of which consisted of form elements. Amy was interested in seeing an extremely customized interface (such as custom fonts, dropdown menus, sliders, and checkboxes). This level of design execution was beyond what could be achieved with the then current state of CSS and JavaScript. So we opted to write (and draw) our own UI in Flash (well, Flex Builder).

PHP and MySQL

We used PHP and MySQL on the server side for storing and retrieving users' garden data. PHP is a language used to produce dynamic webpages, and MySQL is a database-management system.

Limitations and Observations

Cities beyond San Francisco have approached us to create registries for their locations. Because of the amount of customization involved, in both the design and implementation, this has been impractical to offer. The data side of the site is set up to handle a single city, and all of the UI on the site assumes one particular set of map tiles and microclimates. Supporting many cities (with the current design and a revised implementation) would require at least a few days of specialized work.

We developed a social feature, Surplus Alerts, consisting of data blurbs indicating when a grower had surplus food that was sharable in the real world. It seems that users rarely use or even see that feature. We observed that users typically sign up and upload a photo of their garden, but do not return to the site. It would have been interesting to encourage the growth of the community and iterate on the design of the social features, perhaps integrating with services and devices that users return to frequently, such as a Facebook or an iPhone application.

A small detail that annoys us is the problem of many overlapping markers in a confined area of the map. When markers are occluded, one cannot interact with them. This is a common problem in the mapping world. The current Beta version of Bing Maps has a lovely solution that employs summary markers that, when clicked, unpack into individual markers.

Some aspects of the site are the result of limited development time. The gallery, for instance, only lets you see five gardens at a time, and is not a shining example of good information design. The map, too, is fixed width—it would be great if it could take over the screen, to give users the ability to see more gardens (and more of the city) at once.

The Current State of Mapping Technologies

More options for creating and styling custom maps now exist. CloudMade,⁴ for instance, makes it easy to create custom map styles, highlighting or suppressing objects like roads, footpaths, railways, and so on. Polymaps,⁵ a collaboration between Stamen and SimpleGeo, displays multi-zoom datasets over maps, through a lightweight JavaScript library, without the need for third-party plug-ins like Flash.

Mainstream map providers such as Bing Maps are making the switch from bitmap to vector map tiles, allowing certain data layers (labels, streets, colors) to be turned on and off at will. This not only reduces the amount of visual noise present in a map but also enables new languages for expression in maps. Imagine seeing symbols representing real-time traffic move along roads on a map. Vector creates wonderful time-based possibilities for mapmakers.

An Ideal Version (If We Were to Do This Again)

An ideal *Garden Registry* site would allow any city to create its own registry. It would be generic, shedding the Flash implementation in favor of HTML and Javascript. It would be viewable on any device (iPad, iPhone, Android, BlackBerry, Windows Phone), and it would function as a layer above the social graph. This layer would inform city leadership about urban gardening and support a continuous feedback loop among leadership, growers, and non-growers. Perhaps expert growers could mentor less-experienced growers in urban gardening.

Conclusion

The unexpected outcomes of dynamic, online tools are always the greatest reward for doing these types of projects. For *Garden Registry*, the most unexpected outcome was the users' desire to share their surplus food. By learning about our users, we were able to improve their online experience by adding a "surplus alert," allowing users to post information about surplus on the spot. Many of our projects serve as prototypes for larger applications. Since we launched the project we have been approached by several cities, including Philadelphia, Detroit, Vancouver, Ann Arbor, and Seattle, to build a similar tool. Our dream is to build this as an open-source iPhone application that can be shared and easily adapted by any city worldwide.

Notes

1. See www.free-soil.org/fruit.
2. See www.co8.com/greatpark/popup.html.
3. See www.processing.org.
4. See www.cloudmade.com.
5. See www.polymaps.org.

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Links

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www.edwardtufte.com

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Practitioners and Examples

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