DOCUMENT 2a: Narrative – Accessibility

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BACKGROUND

Our target population – low-skilled irregular workers – have so much to gain from modern computerized tools working on their behalf. But, paradoxically, they often have the most challenges to face in embracing any online system.

We experience a constant tension between the desire to fully empower and create opportunities for each work-seeker (which requires them to input a lot of data) and a wish to keep interfaces as simple as possible. To resolve this we have worked to exploit the functions of public agencies in our markets; bodies like workforce boards have staff dedicated to helping those who struggle in labor markets. And within the Kauffman project we have bolstered sustainable models of less official support.

## Accessibility for users with physical impairments

Most of our challenges are generic: handling of visually-imparted information for users accessing via a screen reader for example. We adhere to best practice such as using wording alongside icons so the icon is not key to navigation or using universal symbols such as the "house" symbol for a homepage tab. Our icons come from the [Font-Awesome](#) library which is an emerging standard, likely to be machine readable by many assistive devices.

Our unique challenge involves grids. To give workers genuine control over their hours we divide their time into 30-minute increments then allow them to change any of those blocks to available or not available on any given date. We do this ten weeks ahead; 3,360 half-hours.

For a typical user, this enormous complexity iss intuitively communicated. By asking them to pick a week and using simple blocks of color to indicate the state of each half hour. They can click any cell and drag the cursor along to change the state of a block of adjoining cells. Patterns of non-availability that are not compliant with an individual's legal controls are then rejected with an explanatory note when they try to save the grid. (For example a worker under 18 may have to take a minimum two days a week without availability for work.)
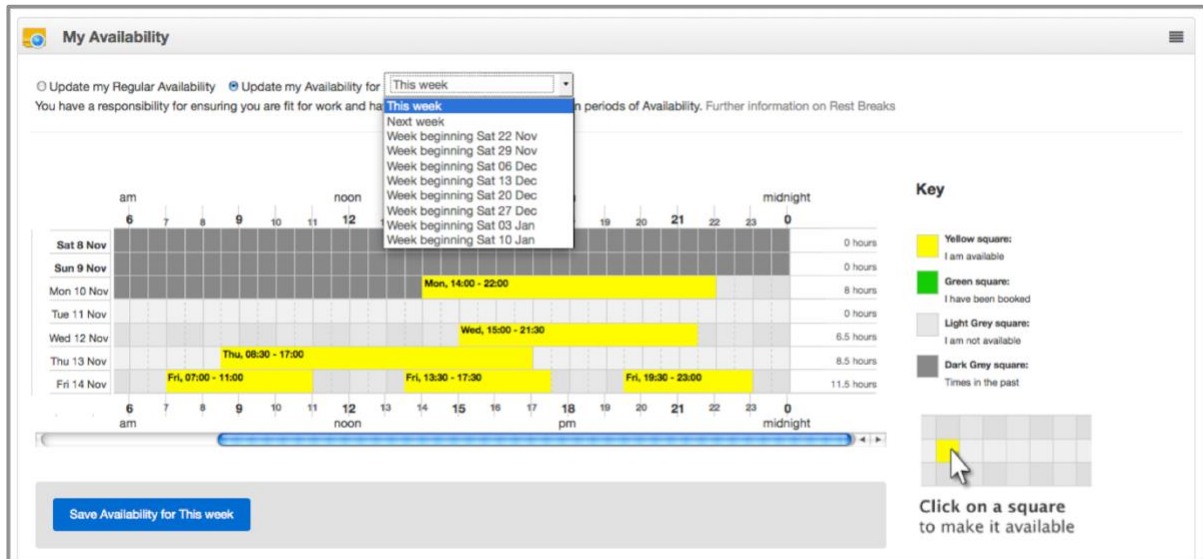
We have a second, less granular grid for buyers of labor. It aggregates hours of availability for workers eligible and legally compliant for a particular type of work at a given location. We heatmap the cells to instantly alert the user to where the deepest pockets of worker availability are located. Again, we believe it communicates extremely dense information in an intuitive way.
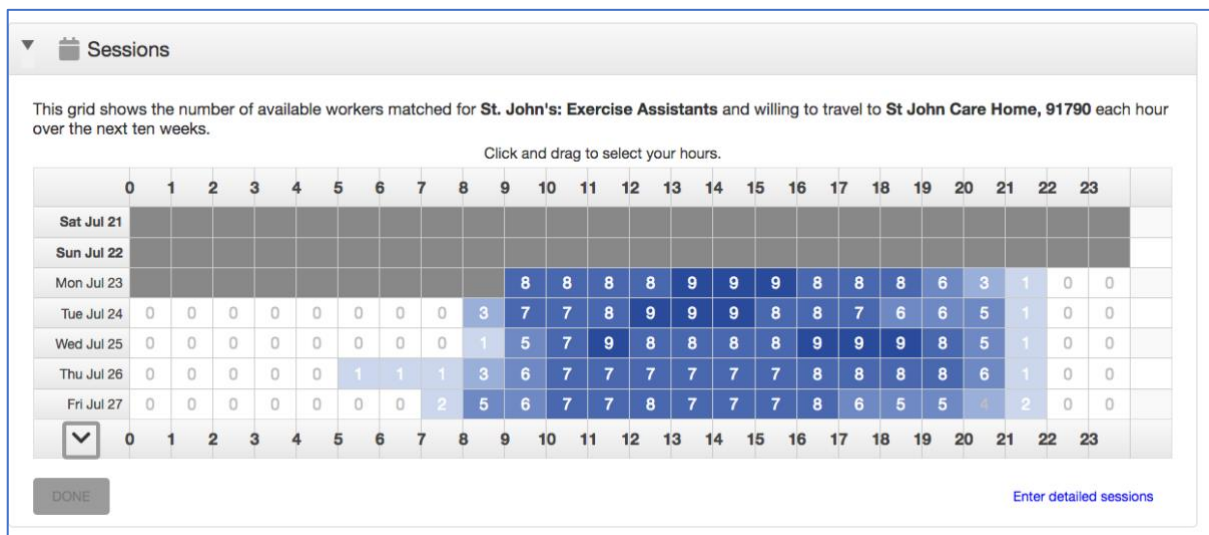

The convention of clicking on a cell then dragging right or left to change the state of an adjoining block is repeated. In this grid, it defines the hours the user plans to book. The precise workers behind the numbers on those cells are then revealed for possible selection.

These grids also have to deal with clocks going backwards and forwards. Again we believe this is handled in an immediately communicable way. When the clock goes forward two cells on that week's grid are black and skipped in any dragging.
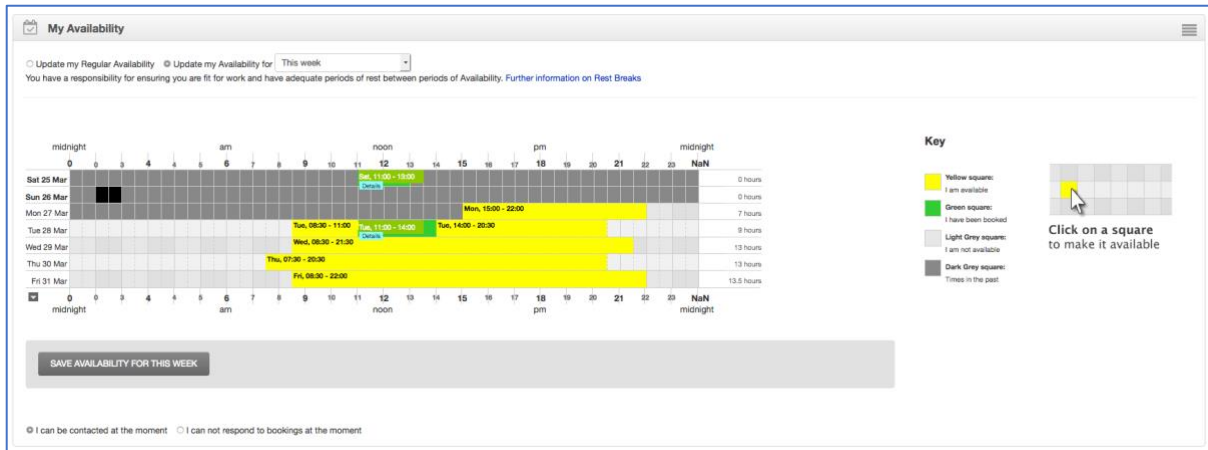
When clocks go back in fall, the grids resize to incorporate an extra hour with all calculations handling a 25 hour day:
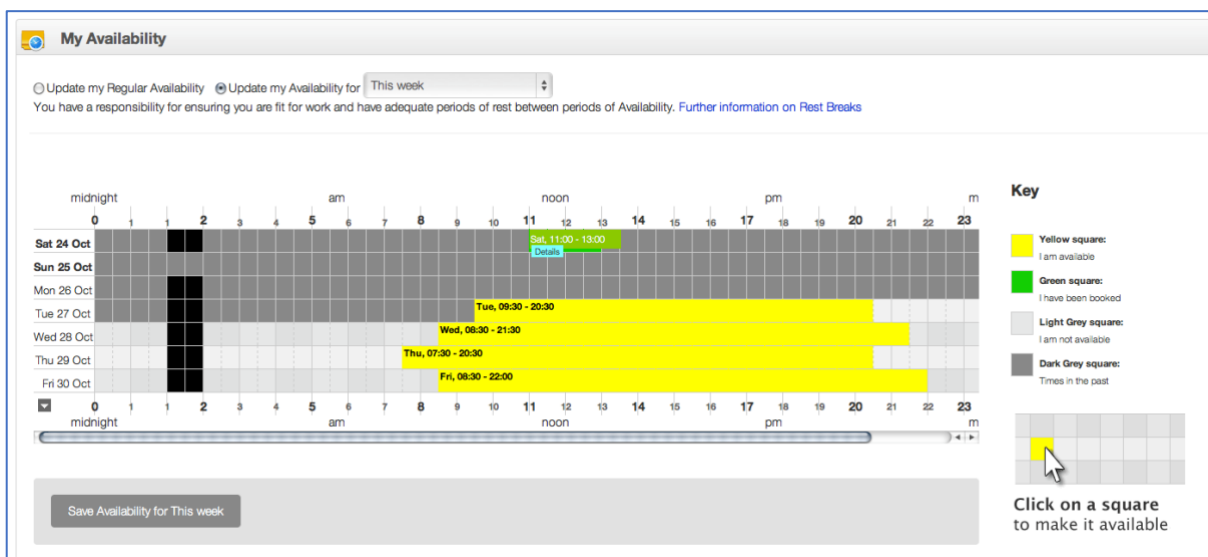
These grids however work poorly with screen-readers. They can be set to read the state of each cell but a mechanical read through the state of 336 squares is impossibly time consuming and hard to comprehend. We have scoped a module able to describe a grid intuitively *("You currently have two big blocks of availability on Tuesday, and four hours on Friday; which day would you like to change availability for?".)* This would be challenging and resource intensive. We want to build a better specification for behavior and have reached out to experts at a London University to better scope a fundamental issue for any market offering users such granular control over their time.

In the meantime we have adapted the site to work within the suite of tools in the Userway Accessibility widget. This ensures compliance with WWCAG and Americans with Disabilities Act guidelines. It is accessed from an anchored icon, always in the same place on every screen across the whole system.

Clicking the icon, offers a menu of options which the system can remember for each user. For example someone who needs pages desaturated to be clear will need to only enter that once. The Userway menu is show below.

Userway generated persistant problems with our grids. In some cases it appeared to stop them loading. Developers this related to which server the transaction was assigned to and the state of some part of its operating code. This was progressively resolved by our team as the system was moved onto Amazon Web Services.

Language limitations

Again, wording is a challenge unique to our type of empowering, broad-ranging, marketplace. We aspire to bring all wording on our screens down to the level of Year 10 (14 year olds). But a market like ours is typically introducing new concepts to users. For example the idea of "availability" (hours an individual could work) is often confusing. Many people in our population are accustomed to being called and told what work they will be doing or when or just offered a binary choice: "these are the hours, will you do them: yes or No?".

Another sticking point is "My Terms", the screen on which we encourage work-seekers to set rules to ensure they are compensated for travel distance from home, the period of notice for any booking, short session lengths and so on. Their individual preferences are used to dynamically price them for any booking for which they have not agreed to a pre-determined pay rate. The idea is to ensure they can be more expensive for a far-away assignment for instance.

This is an alien concept for many workers given the almost total absence of control they have over work and terms at present.

We are now handling languages other than English through Google Translate. This serves the site well with few complications. However, our grids are again a challenge in some languages. The issue is how mid-day is communicated.
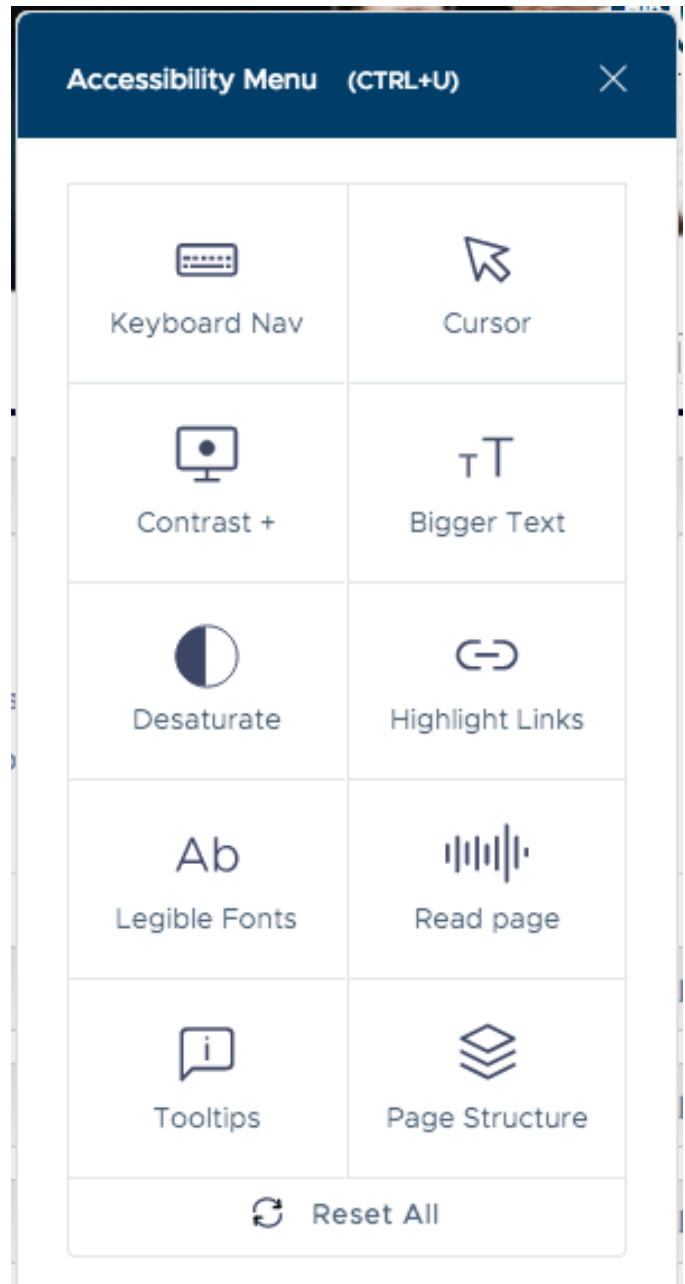
In English, it shows as 12PM, the accepted nomenclature:
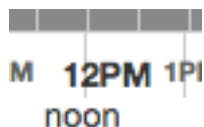
In some languages – most worryingly Spanish – it shows as 24.00 which most users will read as midnight.
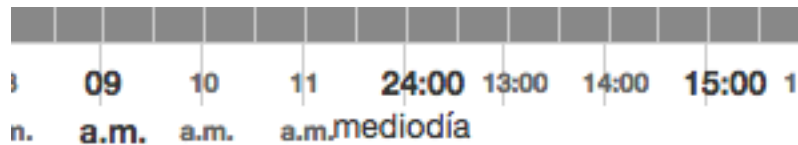
This appears to be a coding error at Google. ("mediodia" correctly identifies the slot as "noon"). We have alerted Google but not received a response.

Out of date equipment

We cannot assume our users hare blessed with the best smartphones or fastest connection speeds. We experimented with holding functionality back to satisfy those with unsupported browsers or slow-loads. But we have decided it is too much a compromise and either denies other users intuitive displays which make their lives easier or demands tortuously, unserviceably, complex code.

Our mobile app works well on older phones. But for those trying to access with unsupported browsers we recommend a trip to the public library. Our focus on enabling human support (below) can be helpful on this route.

Non computer literacy

Commercial hourly labor markets typically target the web-savy. We aim at individuals who may be uncomfortable with technology. We see enabling human support as key to their needs. Our emphasis on the role of public agencies in this labor market is helpful in this respect.

Our work on Checks/Roles (outlined in document 1A) supports this. We anticipate schemes such as "Peer Navigators"; pools of flexible work-seekers comfortable with technology interactions who are inducted in how to support someone who is new to computers. A person who is struggling might, for example, be given ten one-hour bookings with a "Peer Navigator".

That person is not an official in a far-off office but someone from the same community, possibly with a similar background such as time incarcerated. The person has been trained to take a mentee through how a computer works, how to register for work, how to handle a first booking and so on. Meetings can be scheduled at public locations with the Navigator completing a pro-forma on progress at the end of each session.

We see this kind of low-cost, human, solution as preferable to advanced technological attempts to over-simplify a system that needs to understand before it can truly deliver for the individual.