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Abstract (for dissemination)	<p>The current deliverable is prepared in the context of WP2, Task 2.4: User Skills Knowledge Base. It describes the objectives, which are to create a broad and horizontal knowledge base that gathers all the possible skills that a professional may have. This knowledge base will be oriented to the elderly, covering their professional skills or those areas in which they have extensive knowledge, and will also cover the potential skills that companies might be looking for. It will describe the methods of user input together with supporting research and reasoning.</p>



**Elders Up!: Adaptive system for enabling the elderly collaborative
knowledge transference to small companies**

AAL-2013-6-131

Deliverable

D2.5 User Skills Knowledgebase

Public

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VERSION HISTORY

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1 Introduction

The main idea behind **Elders-Up!** project is to bring the valuable experience of elderly to start-ups and small companies, addressing intergenerational knowledge transfer to use skills and competencies based on experience. The Elders-Up! project will build an ecosystem for collaboration on which these two groups are the main actors thus strengthening the European experts workforce and maintaining their productivity and usefulness to the society. One of the main challenges which Elders-Up! project aims to reach is to provide the elderly a tool which enables to team up and create work teams. The main innovation of the Elders-Up! system is that it will monitor the end user state through its interaction with the collaborative Elders-Up! workspace in order to:

- Adapt the interface and content of the workspace to the cognitive conditions of the user applying the necessary changes to provide them an easy interaction and usage.
- Engage and motivate the elderly in optimal collaboration in the work team for a prolonged period of time.
- Protect the elderly from fall into apathy and frailty after their retirement by providing them means to keep their minds active and to transfer their valuable knowledge.

The skills knowledge base is a repository of user profiles that contains, as well as other variables, a list of users skills that are to be matched to potential employment opportunities using the Skills Matching Service. The aim of this task is to provide the input mechanism for these profiles for both the elderly user as well as the SME. The system must also allow the input of employment opportunities by the SME.

Considerable thought and research needs to go into the preparation of the input mechanisms (forms) as it is vital that the users do not find them complex or too long which would result in frustration and apathy leading to the system being underused.

2 Technology

The adaptation decision-maker service and collaborative & adaptive workspace will incorporate elements written in device specific java or C++ (to enable the sensors to gather data on the individual devices). However the Skills Knowledge Base will be built entirely in PHP, HTML5, JavaScript and CSS3, to enable cross browser/device compatibility. It will be based on the bootstrap framework to enable the view to adapt to different screen sizes and resolutions.

2.1 PHP

PHP (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

2.2 HTML5

Hypertext Markup Language revision 5 (HTML5) is markup language for the structure and presentation of World Wide Web contents. HTML5 supports the traditional HTML and XHTML-style syntax and other new features in its markup, New APIs, XHTML and error handling.

2.3 CSS

CSS is an acronym for Cascading Style Sheets, a web-based markup language used to describe the look and formatting of a website to the browser, most commonly used in HTML or XHTML web pages but also applicable to XML documents, including plain XML, SVG and XUL. "CSS3" simply refers to the latest incarnation of CSS, with additional capabilities far beyond the scope of the first two generations.

2.4 JavaScript

JavaScript is a scripting language, that is, a lightweight programming language that is interpreted by the browser engine when the web page is loaded.

Scripting can make Web pages more dynamic. For example, without reloading a new version of a page it may allow modifications to the content of that page, or allow content to be added to or sent from that page. The former has been called DHTML (Dynamic HTML), and the latter AJAX

2.5 Bootstrap

Bootstrap is an open-source JavaScript framework developed by Twitter. It is a combination of HTML, CSS, and JavaScript code designed to help build user interface components. Bootstrap was also programmed to support both HTML5 and CSS3. It enables the user interface to automatically adapt to the device it is displayed on.

2.6 MySQL

MySQL is a freely available open source Relational Database Management System (RDBMS) that uses Structured Query Language (SQL). SQL is the most popular language for adding, accessing and managing content in a database. It is most noted for its quick processing, proven reliability, ease and flexibility of use.

All of the data entered will be stored in a MySQL database as well as the taxonomy of skills, ISO lists and other data used by the system. The other modules, namely the skills matching service, adaptive decision maker and collaborative workspace, will then access this data.

3 Skills Taxonomy

3.1 Overview

Taxonomy is the science of classification according to a pre-determined system, whose resulting catalogue is used to provide a conceptual framework for discussion or analysis.

In theory, the development of a good taxonomy takes into account the importance of separating elements of a group (taxon) into subgroups (taxa) that are mutually exclusive, unambiguous, and taken together, include all possibilities. In practice, a good taxonomy should be simple, easy to remember, and easy to use. In web design, taxonomies are often created to describe categories and subcategories of topics found on the website.

The particular taxonomy we are utilising is based on one developed as part of a European project entitled DISCO II.

DISCO – European Dictionary of Skills and Competences is a structured vocabulary for the description of skills and competences in different contexts such as labour market, education, and training, and the recognition of qualifications. DISCO provides a skills and competences classification that is neither linked to occupations nor to qualifications. Instead it functions as a thesaurus of skills and competences that is based on existing international standards and classifications. Thus it represents a terminological basis for the description of skills and competences, occupations as well as personal skill profiles and CVs, job vacancies, and job requirements or for describing curricula, courses, Diploma and Certificate Supplements or learning outcomes in general. Available in ten language versions (CZ, DE, EN, ES, FR, HU, IT, LT, SE, SK), DISCO is meant to support transnational comparability of competences acquired in an educational or work context throughout Europe.

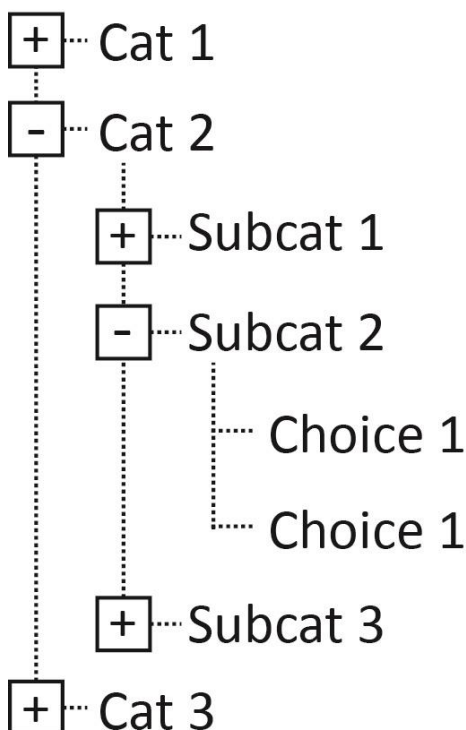
In the EldersUp! Project we are looking to incorporate this dictionary of skills within the skills listing for users and SMEs to use in profiling.

3.2 Skills list input method

Research showed that users would be more likely to embellish on their skillset if presented with a list from which to choose, rather than being given the opportunity to enter text into a text box. The list would serve as a reminder of the possible choices available, some of which they may have forgotten about but were proficient in. And the more precise the list of skills chosen, the more accurate the matching process.

A tree menu is a menu that displays a hierarchy of items that can be expanded or collapsed at the viewer's convenience. Many of the browsers used to manage file systems on a hard drive are in the form of tree menus, allowing people to click buttons to expand various folders within the file system to see what's inside, and a cascading effect can be created with numerous branches of the menu nestled inside of each other. This type of menu can also be used on a website or application which wants to present information in an organized fashion.

Tree elements are called nodes, with the connecting lines termed branches. Relationships between nodes model kinship terminology of family relationships, utilising the terms 'parent' and 'child' to distinguish relationships. Similarly, nodes with the same parent are referred to as siblings. A node with no children is referred to as a 'leaf node'.



Tree menus are useful for several reasons. Because they can be collapsed and expanded, they can be used to display a lot of information without overwhelming a viewer. For example, a travel agent might have a tree menu with the root nodes "Europe" "Africa" and "North America" and when someone clicked to expand "Africa," the nodes "Southern Africa," "Equatorial Africa," and "Northern Africa" could appear, with each node containing further nodes for various nations that could be expanded into regions, cities, and so forth. The alternative would be to display a huge menu which would be daunting to navigate and would display unnecessary information; someone who wants information about the Great Wall of China, for example, doesn't need to see information about Egypt.

Due to the large amount of skills listed, it is important that they are classified correctly and the user is presented with only the relevant skills list appertaining to their choice of initial classification (root node).

3.3 Taxonomy Structure

The initial menu choice will cover the following skill groups:

- Agriculture, forestry and fishery
- Architecture and building
- Arts
- Business and administration
- Computing
- Education
- Electrical engineering
- Environmental protection
- Health
- Humanities
- Journalism and information
- Law
- Life sciences
- Manufacturing and processing materials
- Manufacturing and processing of food
- Manufacturing and processing of textiles, clothes, footwear, leather
- Mathematics and statistics
- Metal processing and mechanical engineering
- Personal services
- Physical sciences
- Security services
- Social and behavioural science
- Social services
- Transport services
- Veterinary

Once the user has chosen a category, the subgroups are shown within that category.

For example if we choose 'Architecture and Building', we are offered the following disciplines:

- Architectural and landscape design
- Building services engineering
- Building site preparation
- Carcass and interior completion
- Civil engineering project planning
- Refurbishment and renovation of existing buildings
- Setting up building structures
- Specialisation in certain construction areas
- Surveying

And when 'Architectural and landscape design' we are presented with:

- Architecture
- Interior design
- Landscape design
- Landscape gardening
- Land use planning
- Light design
- Regional planning
- Town planning
- Traffic planning

At any point within the menu, the user can add the chosen skill by clicking the '+' button next to the skills list. Therefore the user can add broader categories, or individual skills.

In the example above, 'town planning' has a further sub-classification of:

- Parking area planning
- Road planning
- Transportation planning

Whereas landscape design has no further classifications, therefore the user could incorporate interior design within their skills or transportation planning, both of which are leaf nodes and would therefore carry the same weight within the Skills Matching Service.

3.4 Skills Matching Service

To construct the optimal combination of elderly end-users to the skills required by an activity of the start-up company, a technique based on genetic evolutionary algorithms will be developed. In this technique, a population of chromosomes describing the candidate solutions for an optimization problem evolves towards the defined goal by means of mutations. In the Elders-Up approach, a chromosome represents a multidisciplinary elderly workforce while each chromosome gene is represented by an elderly end-user skill and an assigned weight.

A mutation is achieved by replacing an elder end-user from the workforce, while the optimization goal is to provide a workforce whose range of skills optimally matches the skills required to fulfil the company's activity. A fitness function based on skills matching degree is defined and used to evaluate the closeness of the candidate solutions to the defined goal. The genetic evolutionary technique has three main steps that will be continuously executed until a termination condition has been found (i.e. a candidate multidisciplinary elderly workforce optimally matching the required skills is found):

- I. **Initialization** – create the initial chromosomal population by randomly generating multidisciplinary elderly workforce based on the elderly end-users identified in the discovery of skills phase;
- II. **Selection** – using a fitness function, at each step the closest chromosomes (generated multidisciplinary elderly workforce) to the defined optimal goal are selected and further used in the evolution process;
- III. **Evolution** – evolve the selected chromosomes (generated multidisciplinary elderly workforce) by applying the mutations (changing/updating the list of elderly end-users part of the workforce).

4 Research Results

4.1 Research Overview

Results from the cognitive therapy and motivational modelling studies showed that the users prefer sites that respond to their changing physical needs, such as deteriorating eyesight. Additionally, the users require sites that can accommodate their individual pace of working, regardless of whether this is because of physical needs or cognitive issues such as poor attention span or simply learning how to use the internet.

They require simple setting up of preferences, which can be easily changed if required, especially for those with chronic disabilities that fluctuate in intensity. Overall, the users wish to use a site that acknowledges their age in a realistic way, without patronising or belittling their knowledge and life experience. The group preferred to be taught internet use by their own age peers. This is important as many of the users did learn specific skills and creative ways to use the internet from their own peers who had faced similar issues.

Observations of users showed that repeated movements across pages, such as trying to read text but having to scroll down on the right side, were disliked as they induced wrist pain and distracted the user from the content. Use of the internet is not easily assimilated and often requires overt thinking about the actions required to use the site. This is significant as many users rapidly develop familiarity with sites and use latent prior skills to use new sites. Changes to the norm, such as a site being removed for upgrading, provoked fear of hackers or the breaking of the device.

The challenge is to provide a system that is easy to use without looking as if it has been designed for older people in a way that is considered as belittling or patronising. The term “silver surfers” was disliked. We know that women with little formal education and little disposable income are least likely to engage in using the internet, yet this group may benefit the most, considering their longer life expectancy.

4.2 Results regarding input

Other results from T2.3 provided the following feedback

- No predictive text; universally disliked by the users
- One entry box at a time; clear big in size and with easy options
- Large selection buttons with an option to “go back” and “next”.
- Avoid long pages, which require loads of scrolling.
- Only contains what it needs to; all the information requires concentration and excessive information can demand too much of the user leading to fatigue and frustration.
- Easy clear step set-up. Suggest some method of user knowing how far they have got in the process.
- Minimalist styling (“less is more”) and a timeline/position line to help with navigation of site. Suggest some method of user knowing how far they have got in the process. The little delivery van on some websites when ordering items are especially liked. 2 users like the delivery van moving across the top of their screen when ordering their groceries and find this helpful.
- Non-cluttered sites with clear menus and navigation around the site; tiny print at bottom of page is frustrating as users cannot read it and wonder what it is about. Large contact us page.
- Can be used on android-based devices and desktop computers using Microsoft Windows. A few Apple devices but not many as they are too fiddly to use and extension cards cannot be added. Android devices tend to be the larger 10” and above not the phone sized ones. A number of users have abandoned the phone-sized tablets.
- Automatic time out if left dormant for long time.
- Password save option and password reminders without the need to wait for email to allow change of password.

The form design needs to take these points into consideration. Obviously not all of these observations can be addressed (i.e. avoiding long pages) where forms are concerned, however by use of a progress indicator, you can inform the user of their progress so far, and by limiting the number of steps in the process, it does not appear excessively long. Also the password issue could lead to security issues if there is no email authentication.

All of these points need to be considered when creating the interface

5 Form Components

5.1 Form Separation

The Skills Knowledge Base can be split into 3 modules:

- I. User registration form
- II. SME/company registration form
- III. Job opportunity form

The form input elements will take the form of

- Simple text boxes
- Multi-line simple text boxes
- Check boxes
- Dropdown menus
- Multiple selection widget
- Skills Tree Menu

The multiple selection widget enables the user to select multiple items from a drop down (simply by pressing a '+' button on each selection)

5.2 User Registration Form

The user registration form can be split into three sections each indicated by a progress indicator along the top. By only having three sections, the procedure gives the illusion of not being a long one, therefore the users are more likely to complete the form. If we were to split the form into shorter parts, but more stages, then the process would appear much longer when the user is first faced with the document.

The user registration form requires the following fields:

First name: Simple textbox

Surname: Simple textbox

Street address: Simple textbox, multiple items can be included (i.e. House No, Street, Village etc. separated by commas)

Postcode: Simple textbox

City: Simple textbox

Country: Dropdown list, ISO (International Organization of Standardization) recognized list of European countries. The list used was that from http://europa.eu/about-eu/countries/member-countries/index_en.htm

Telephone: Simple textbox restricted to numbers

Mobile: Simple textbox restricted to numbers

Email address: Simple textbox, self-validating to ensure an email address is input

Preferred contact method: Dropdown featuring the three above methods, used to indicate preferred method

Previous employment position: Simple textbox

Languages spoken: Dropdown list of ISO-639 recognized languages. There is also an option to add multiple languages by clicking a '+' button on each language chosen.

Skills required: Skills dropdown accordion style menu containing the skills taxonomy. Inputter is given the option to choose multiple skills by using a '+' button.

Professional qualifications: Simple textbox. There is also an option to add multiple qualifications by clicking a '+' button after each one entered.

Tell us about yourself: Multiline text box. Here the user is encouraged to include a short paragraph about themselves. This may include hobbies and pastimes as well as embellishing on skills chosen within the taxonomy. This box may be parsed with fuzzy logic to extract skills to match the opportunities description.

Availability: A series of checkboxes to indicate availability for each day of the week, both morning and afternoon (14 in total). This is just a provisional availability, as the calendar within the collaborative workspace can be used for specific dates. However,

this allows the user to input specific days of the week and times that they prefer to work.

Profile Image: Upload box that allows the user to upload a picture to be used in their profile (entirely optional).

5.3 Company Registration Form

This form is to be completed by the company registering onto the system for the first time.

Company name: Simple text box

Street Address: Simple textbox, multiple items can be included (i.e. house no, street, village etc. separated by commas)

Postcode: Simple textbox

City: Simple textbox

Country: Dropdown list, ISO (International Organization of Standardization) recognized list of European countries (as per user form).

Contact person's name: Simple textbox

Telephone: Simple textbox restricted to numbers

Mobile: Simple textbox restricted to numbers

Email address: Simple textbox, self-validating to ensure an email address is input

Area of industry: Simple textbox

Brief description of company: Multiline textbox enabling the company to give a brief overview of its services. This information is purely for profile viewing and will not form part of the matching system.

5.4 Job Opportunity Form

This form will be completed by the company to advertise a position/opportunity that is available. The data will then be utilised by the skills matching service to match to suitable users.

Job title: Simple textbox

Job description: Multiline textbox

Skills required: Same skills taxonomy as used by the user in inputting their skills, thus easing the matching service. Inputter is given the option to choose multiple skills by using a '+' button.

Preferred start date: Simple textbox. Due to the nature of the request, this can be as vague or as precise as the inputter requires. For instance they may choose an exact date (14th June 2015) or a text input (ASAP, End February etc.).

Duration: Simple text box. Again the inputter can be as vague or as precise as the opportunity requires

Deadline: Simple text box. Again the inputter can be as vague or as precise as the opportunity requires

Languages required: If the opportunity requires the user to speak another language then that can be spoken here. Multiple languages can be selected by using the '+' indicator.

Place of work: This field is used to determine where the work will take place. In most instances the work will undertaken by the user, in their own environment at a time mutually agreed. However there maybe some instances where elements of the work needs to be undertaken at the client premises. (i.e. office management, engineering, maintenance etc.).

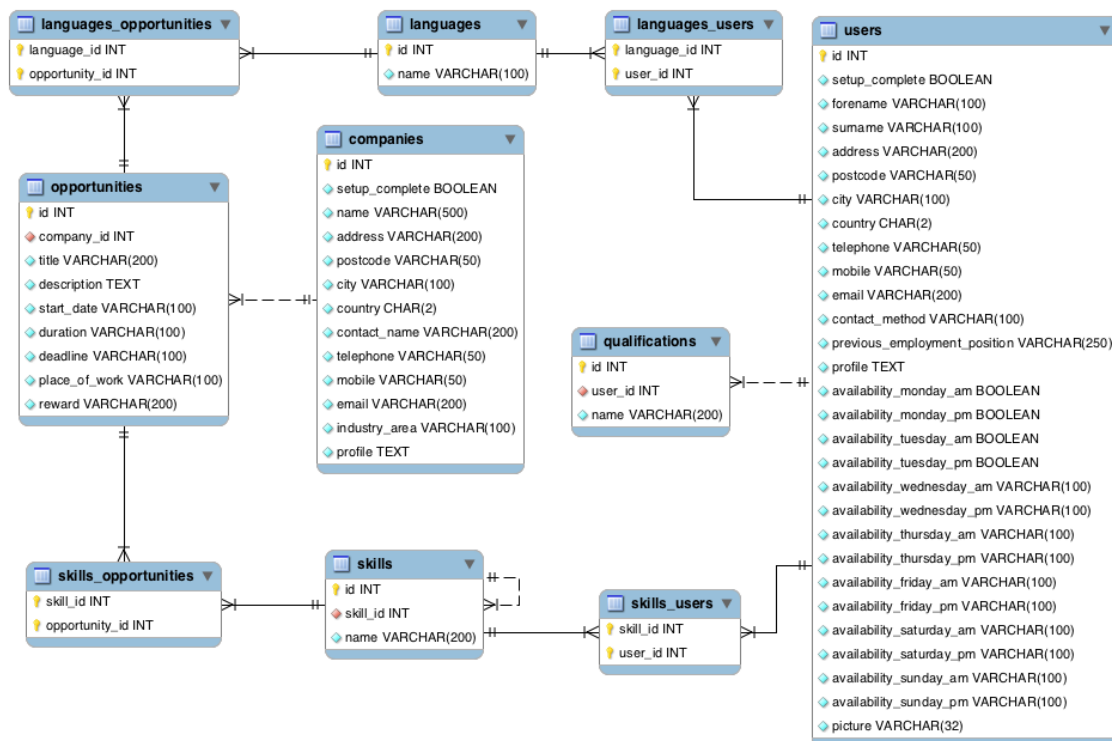
6 Technical Implementation

The user/company profile part of the application will be implemented in PHP using current best practices, including using an MVC architecture with inversion of control and constructor dependency injection.

6.1 Database structure

The database for the application will consist of four primary data tables, storing data specific to users, along with several ancillary tables storing data used by the application itself (e.g. the skills taxonomy and list of languages) and some pivot tables that enable the use of many-to-many relationships.

Where a user or company can make multiple selections (e.g. a user's skills or an opportunity's required languages), the data is stored in separate tables. This is so that the data can be searched on more easily in the Skills Matching Service than if selections were just stored as a comma-separated list of IDs or some other serialisation format in a single column. Similarly, the user availability is stored as 14 separate columns on the users table, rather than a bitmask or other datatype that may become difficult to specify in a search query in the Skills Matching Service.



6.2 Data Tables

The four data tables that will store user-entered data are:

- companies
- users
- opportunities
- qualifications

The `companies` table will store all information required about a company (SME), the `users` table will store a user's (Elderly person's) profile (anything based on a single input), the `opportunities` table will store each opportunity added by an SME and the `qualifications` table will store the users' entered professional qualifications. The `qualifications` table, as well as storing the data of each qualification, also stores its relationship to the user.

6.3 Ancillary Tables

The `languages` table simply stores the languages that can be selected in any language dropdown. The relationships between users, companies and languages is stored using the `id` column of the `languages` table.

The `skills` table stores the full skills taxonomy. It does this simply with two columns and a third for the name of the skill: `id` and `skill_id` are used to create the parent-child relationship (if `skill_id` is set to NULL, this denotes that the skill in question has no parent and is thus a top-level node). Unlike the `languages` table, skills that a user possesses or an opportunity requires are not stored as a simple reference to the skill's `id` column in a `skill_id` column on the `users` or `opportunities` table, instead a pivot table is used.

6.4 Pivot Tables

The pivot tables are purely to provide a many-to-many relationship between two other tables. For example, because a user can possess many skills, but also a skill can be possessed by many users, the relationship can be stored in neither the `users` nor the `skills` table, so a third table is required to model the relationship. This contrasts with the professional qualifications (`qualifications` table) where, each qualification is specific to a user, so the relationship can be stored on the `qualifications` table.

The four pivot tables that will be used are:

- `languages_opportunities`
- `languages_users`
- `skills_users`
- `opportunities_skills`

The naming of the tables follows the convention of listing both table names in alphabetical order, separated by an underscore. They each have just two columns, one for the `id` column of the tables to which they refer and the primary key covers both of these columns.

6.5 Widgets

As much as possible, the application shall use standard HTML inputs in order to accept user input in order to stay as accessible as possible (and allow adaptations to take place as easily as possible).

However, a few nonstandard widgets will be required in order to allow the user of the application to make multiple selections easily. These widgets will be built using template markup and JavaScript to allow the application to dynamically create new fields on the page without requiring submission of a form and a page reload.

Where possible, we try to ensure a consistent user experience throughout the widgets, as they are all performing very similar actions (select and add items to a list). As such, each widget will have a consistent-looking list of selected items, each with a 'remove' button. Additionally to that, the selection inputs should be as consistent as possible between widgets (and also self-consistent to the surrounding inputs on the page) so should be based on the standard HTML and Bootstrap form inputs, and contain 'add' buttons.

Finally, in order to not go against contravene user expectations, if a selection has been made but not actually added to the list of selections at the time the form is submitted, it is to be assumed that this was a purposeful selection and should be considered *as if it had been added* to the list of selections.

6.6 Languages Selector

Languages Spoken

For multiple languages please use the + icon.



The languages selector allows the user of the application to choose from a list of predetermined languages and add them to the list of languages that they speak (in the case of a user profile) or the languages that an opportunity will require (in the case of an SME adding a job opportunity). In essence, the widget is a standard HTML `select` element and a button to allow the user to add another language. When clicked, the button will add the current selection to the pool of selected items and return the `select` element to the 'nothing selected' state. Items in the pool of selected items can be removed by way of a button that is located next to each item.

The `select` element in HTML actually does allow the use of multiple selections. However, it does not have high usability, relying on an amount of technical knowledge of the underlying operating system's conventions on selecting multiple items (control + click for Windows, $\text{⌘} + \text{click}$ for Mac OS). As such, it was decided that a single `select` with a button to confirm adding the selection would be more accessible. As previously mentioned, if a selection is made without having pressed the 'add' button, that selection is used as if the 'add' button had been pressed.

6.7 Professional Qualifications Selector

Professional Qualifications


Use the + icon to add new qualifications.

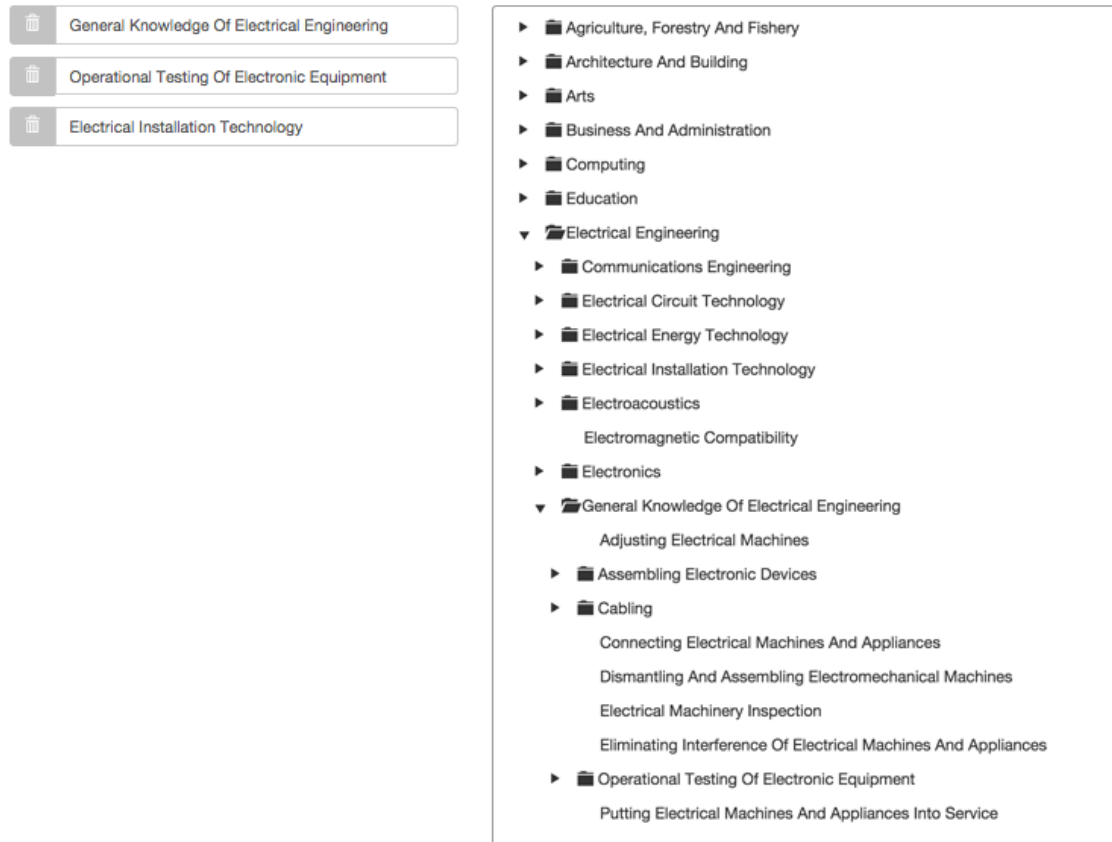


Much like the languages selector, this widget allows a user to add items to a pool of selected items. However, the difference here is that the items being added are not predefined selections – the user may type any text they wish. Again, any text entered into the box when the form is submitted that has not had the 'add' button clicked on it will still be seen as if it had.

6.8 Skills Selector

Skills

To add a new skill, select it from the tree on the right. To remove a skill, click on its  icon.



The screenshot displays a 'Skills Selector' interface. On the left, there are three input boxes, each with a trash icon on the left side, containing the following text:

- General Knowledge Of Electrical Engineering
- Operational Testing Of Electronic Equipment
- Electrical Installation Technology

On the right, a tree view shows a hierarchy of skills. The root node is 'General Knowledge Of Electrical Engineering', which is expanded (indicated by a downward-pointing triangle). Under this root, there are several sub-nodes, each with a right-pointing triangle icon:

- Agriculture, Forestry And Fishery
- Architecture And Building
- Arts
- Business And Administration
- Computing
- Education
- Electrical Engineering (expanded)
 - Communications Engineering
 - Electrical Circuit Technology
 - Electrical Energy Technology
 - Electrical Installation Technology
 - Electroacoustics
 - Electromagnetic Compatibility
 - Electronics
 - General Knowledge Of Electrical Engineering (expanded)
 - Adjusting Electrical Machines
 - Assembling Electronic Devices
 - Cabling
 - Connecting Electrical Machines And Appliances
 - Dismantling And Assembling Electromechanical Machines
 - Electrical Machinery Inspection
 - Eliminating Interference Of Electrical Machines And Appliances
 - Operational Testing Of Electronic Equipment
 - Putting Electrical Machines And Appliances Into Service

This widget also allows adding selections to a pool of selected items, except the method of selecting items is vastly different. Because skills are in a hierarchical structure, a tree widget is required, allowing users to expand parent nodes to see (and potentially select) any of its child nodes.

Expanding and collapsing of a tree node is achieved by the use of a triangle marker to the left of the label, and simply clicking the item's label will select it. For this application we will use the Tree control from the FuelUX library, which is a library of controls that has been developed as an extension to Bootstrap's own offering. Implementation of the multiple selection is still done through application-specific JavaScript, however.

7 Design Elements

Step 1 Step 2 Step 3

Personal Information

Forename

Surname

Street Address

Postcode **City**

Country

Telephone

Mobile Telephone

Email Address

Preferred Contact Method

Fig 7.1 User Form Step 1

Step 1
Step 2
Step 3

Employment and Skills

Previous Employment Position

Languages Spoken

For multiple languages please use the + icon.

+ French

Please select
+

Skills

To add a new skill, select it from the tree below. To remove a skill, click on its icon.

+ Architecture And Building

+ Manufacturing And Processing Materials

- ▶ Agriculture, Forestry And Fishery
- ▶ Architecture And Building
- ▶ Arts
- ▶ Business And Administration
- ▶ Computing
- ▶ Education
- ▶ Electrical Engineering
- ▶ Environmental Protection
- ▶ Health
- ▶ Humanities
- ▶ Journalism And Information
- ▶ Law
- ▶ Life Sciences
- ▶ Manufacturing And Processing Materials
- ▶ Manufacturing And Processing Of Food
- ▶ Manufacturing And Processing Of Textiles, Clothes, Footwear, Leather
- ▶ Mathematics And Statistics
- ▶ Metal Processing And Mechanical Engineering
- ▶ Personal Services
- ▶ Physical Sciences
- ▶ Security Services
- ▶ Social And Behavioral Science
- ▶ Social Services
- ▶ Transport Services
- ▶ Veterinary

Professional Qualifications

Use the + icon to add new qualifications.

+ CIMA

+

Cancel
Save and continue >

Fig 7.2 User Form Step 2

Step 1 Step 2 **Step 3**

Tell Us About Yourself

Dignissimos hic quos modi ea, voluptatibus aperiam, sit eos rem porro nihil voluptate fugit maiores corrupti officils natus, odio dolor! Maxime, dignissimos.

I am an experienced joiner with well developed skills and experience in groundwork, concrete finishing and steel fixing and have worked in the construction industry since 1962. I am also a skilled labourer who has supported many different trades over the years. I have a full clean UK driving licence with entitlement of up to 7.5 tonne.

Availability

Libero nostrum quaerat non deleniti sapiente aperiam. Eveniet, quod quam ipsum distinctio itaque adipisci sapiente vitae atque! Facere, ipsam fuga quae laborum.

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Morning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Afternoon	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Upload a profile image

No file chosen

Fig 7.3 User Form Step 3

Company Profile Information

Name

Smithsco Lrd

Street Address

26 Sand Street, Walsall

Postcode

WS1 2WE

City

Birmingham

Country

United Kingdom

Contact Name

David Smith

Telephone

0121 122 1212

Mobile Telephone

07987 454 6585

Email Address

dave@smiths.com

Area of Industry

Electrical Engineering

Brief Description of Company

Smithsco Ltd carry out all types of installation works associated with distribution networks from package substation installation feed pillar changes, control cabling and relay works through to the provision of high voltage ring-main systems and private networks, Grid transformers, network cabling and earthing/lightning protection.

Parallel this with our excellent project management and planned works management we make excellent partners in servicing your electrical distribution system and ensuring your electrical supply.

Cancel

Save and continue >

Fig 7.4 Company Registration


Create a New Opportunity

Job Title

We are looking for someone to re-write our Electrical components testing systems manual.

You should have had experience in for fault diagnosis and repair of a wide variety of plant and equipment, problem solving associated with innovative machinery. You should be an experienced Maintenance Engineer with both Electrical & Mechanical skills and have proven electrical maintenance experience in medium or heavy industry. You should have a relevant electrical qualification, 17th edition would be ideal.

Skills

To add a new skill, select it from the tree on the right. To remove a skill, click on its  icon.

- ▶  Agriculture, Forestry And Fishery
- ▶  Architecture And Building
- ▶  Arts
- ▶  Business And Administration
- ▶  Computing
- ▶  Education
- ▶  Electrical Engineering
- ▶  Environmental Protection
- ▶  Health
- ▶  Humanities
- ▶  Journalism And Information
- ▶  Law
- ▶  Life Sciences
- ▶  Manufacturing And Processing Materials
- ▶  Manufacturing And Processing Of Food
- ▶  Manufacturing And Processing Of Textiles, Clothes, Footwear, Leather
- ▶  Mathematics And Statistics
- ▶  Metal Processing And Mechanical Engineering
- ▶  Personal Services
- ▶  Physical Sciences
- ▶  Security Services
- ▶  Social And Behavioral Science
- ▶  Social Services
- ▶  Transport Services
- ▶  Veterinary

Preferred Start Date

Duration (Approx.)

Deadline

Languages Required (If Any)

For multiple languages please use the  icon.



Place of Work

Reward

Fig 7.5 Job Opportunity Form

8 Conclusion

The skills knowledge base successfully allows the user to register their profiles, and SME's to do likewise. It also allows SME's to enter potential employment opportunities into the system. All of this data can now be accessed by the skills matching service to perform skills matches.

At the time of writing of this document the Skills Knowledge Base has reached a stage of initial testing. The recommendations made by the initial user studies have been implemented and the system and database should provide a good basis on which to build the other modules.

However the system may well be amended to incorporate future testing results and recommendations, in order to provide the optimum user experience.