University of Glasgow | Department of Computing Science

A Website Translation Service -

www.betheltranslations.com

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Abstract

Since the writing of the earliest manuscripts and documents there has been a need for translation so that the people of the world could understand what had been written or said, in their own native language. Translation is just as relevant today as it was thousands of years ago, although the processes have modernised considerably. The focus of this project is to create an online presence and document delivery system for a freelance Glasgow-based natural language translator. Our goal is to improve upon the translation websites currently available and to give a unique, modern and fresh feel to translation.

Education Use Consent

We hereby give our permission for this project to be shown to other University of Glasgow students and to be distributed in an electronic format. **Please note that you are under no obligation to sign this declaration, but doing so would help future students.**

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A foreword from our client, Joëlle Cimatche.

"When I first met Dr Karen Renaud a few years back, little did I know I would need a website of my own as a translation marketing tool since I have been a member of a number of professional websites for translators and interpreters. But over the years those marketing avenues have proved insufficient which caused me to think it may be time to have a website of myself.

So last year I got back in touch with Dr Renaud and we discussed the prospect of my professional website. She arranged a meeting with a team of the students who would be entrusted with the project of designing the website. During that meeting, I was supposed to suggest my expectations to the team but in reality, I had no idea how the website should look like. All I needed was a website as a marketing tool. Computer science has always been a mystery to me, so talking about a website was a daunting experience I was not prepared to face.

But shortly after the meeting had started, the team took turns in coming up with attractive ideas concerning how they believed a good website should look like. I was speechless. Those ideas were based on the languages I work in, methods of payment, and how professional my dealings with current and future clients should be.

From the beginning of the project to the end, the team has been very patient as I had to juggle between my work and family lives among others, and could not always meet the deadlines when it came to provide them with the necessary information pertaining to the website. They have shown a high level of skills, team work and kindness that resulted in what to me is an advanced type of professional website. While my heartfelt thanks go to the team as a whole I want to express my gratitude particularly to Alasdair who offered to temporary host the website while in the making and Stephen (the spokesperson for the team) for his promptness in answering my emails and putting up with my ignorance of Computer science.

Thank you again for this cutting edge gift that you served me on a golden plate. I am for ever indebted to you guys and am already bragging over it to my friends. I wish you all the very best in your studies and future career."

-Joëlle Cimatche, Translator at BethelTranslations.com

Chapter 1

Introduction

This article assumes a basic general computing knowledge from the reader. If any words or phrases are not understood, consult the glossary of terms (Section A) at the end of the document. All content is owned by the authors of this document or is otherwise referenced in the bibliography.

1.1 Background

As part of our degree in third year we are tasked with a team project. This relates to computing disciplines new to us and draws on knowledge gained from the preceding two years at University. Teams were randomly assembled at the beginning of the first semester and our team received this project, to create a website providing a document translation service for a real client. It was a pleasing allocation mainly due to the latter part of the task: the fact we would be working with a real client.

There are many translation services available on the Internet already, a simple Google search for online translation returns around one hundred and fifty-nine million results. We have looked into various different forms of translation and interpretation websites during our research and have found pros and cons from each. This vast number of existing websites creates a desire to compete with what's already available, by striving to improve on the other site's shortfalls. We believe one of the key factors that makes a modern website successful is a minimalistic design: one that offers simple and effective functionality and is aesthetically pleasing. The combination of these factors means users are more likely to use the website after stumbling across it in a search and this will, ultimately, give our client a larger customer base. To clarify, we are not trying to re-invent the wheel with our project. We have used frameworks and other open-source components in the development of our website. The system is mainly built around the LAMP structure, i.e., Linux + Apache + MySQL + PHP. We believed that these choices would lower the costs of an eventual upgrade of the system, as opposed to having used some more exotic technologies that come at the cost of losing the robustness and stability that we needed. We aimed to maintain a user friendly look and feel at all times, and believe that this is something we accomplished well. One of the facts that encourages this notion is the fact we have created a simple 3-stage process in which users can register, upload documents, and request languages to translate to.

1.2 Aims

Our aim was to develop a cutting edge software system to facilitate a functional document translation service for a free-lance translator. It should allow customers to upload documents, request one of the available languages to translate to, and submit a request for translation. The translator should then be able to review those submitted documents and send a quote to the customer for the job to be translated. If happy, the customer should then be able to pay for the job(s) via PayPal, and then receive their translated document after a specified period of time. Additional required features of the website will be discussed later.

1.3 Motivation

This bespoke web-based service builds on our client's existing business model, with the specific aims to bring about an expansion in her company, while also facilitating an improvement to her working practice as a whole.

Listed below are a few important points on why using a software system to manage documents and to keep track of discussions and tasks has advantages over the current manual system, and why our client has been motivated to seek a software solution:

- It makes **planning** deadlines easier, since computers are better than humans at taking large amounts of data and comparing, adding, etc.;
- It makes **file management** easier;
- It increases **productivity** - due to the two above points, the translator now employs an organised system and has more time to devote to the translations

By having all the job details clearly stated and planned, the customers are encouraged to pay more attention and to take it more seriously. It also introduces the notion of accountability on both sides - customer and translator. Having a detailed log of all the documents delivered to customers makes keeping track of all the activities easier to do. By using an electronic payment system, the risk of having unpaid jobs is eliminated. It also gives the business a more professional look and leaves our client less vulnerable to hacking attacks as opposed to other methods of payment. One of the principal requirements of our website is support PayPal for payment of services.

Separately, Bethel Translations is also a worthwhile use of our time for many reasons. We are helping to produce a system that will be used by a local businesswoman with a young family. This provides a great sense of achievement for our team as something we are building is helping others in their daily life. The experience we have working with a real external client will be invaluable come graduation and when we are seeking employment. Having already been through an entire software engineering process will be a great asset to us. This project gives us a chance to learn new skills

with web frameworks and website development languages such as PHP, HTML and CSS, which again is advantageous in the jobs market and for future projects. Additionally, there is motivation to succeed and to be better than the competition. As discussed there are hundreds of thousands of other translation services - this means that for our service to succeed there must be an advantage to using our system over another. This has motivated us into finding the best possible solution for our client and the website.

Our project lives on the Internet. Ten years ago, the Internet was everywhere, but now it's even more so. It's a rapidly evolving area where new technologies and new techniques are developed very quickly. These have been made easy to use by anyone, regardless of: computer knowledge, nature of their device (mobile or desktop) or their operating system. All they need is an up-to-date web browser - arguably an easy requirement to fulfil, since most of them update automatically. From this we can surmise there is a large audience within the reach of our project. This is a considerable motivating factor for everyone in the team.

1.4 The Translator

An essential part of our requirements gathering process was the first meeting with our client, the translator, Joëlle Cimatche. Our team had been forewarned by our supervisor that the translator was not very "technically minded", so we endeavoured prepare questions that did not assume a particular aptitude for computers. It's fair to say that after reading the initial brief for the project we made assumptions as to the needs of the translator, addressing the problem from our viewpoint. Realising we should expect to review these assumptions during the process of working on the requirements capture is a valuable lesson for future employment. Working with an individual or organisation, firmly on the periphery of Internet technology adds it's own challenges, particularly during the requirements capturing process. During the meeting, we discovered our client had a very basic understanding of word processing applications and the Internet. This presented us with an additional challenge. We couldn't simply relay technical jargon to the translator and expect her to provide useful feedback. Not only that, our team would have to create a very easy-to-use administrative interface to the website that she could pick-up easily.

As we advanced the development of the website, we were careful to be very clear and straightforward when updating the client on our progress. We accomplished this mainly through emails containing concise, clear and jargon free status updates on the website progress. These updates had been sent at important stages of development such as the transition from the design inception to the early implementation. The essence of our approach was to produce a website which delivered the requirements of our client. When we felt there was a need to query the client on certain aspects of the web-site's implementation, we emailed her without hesitation and she was quite often happy to accommodate these changes. It seemed that she was prepared to grant us some degree of trust with creating her website, which certainly helped, but we still sought her opinion of most changes that took place. Arguably then, communication with our client has been crucial to the design of this website. Our communication was put to the test when we needed the client to sign up for her own web server. We had to prepare a lengthy, detailed and broken down walk through of how to purchase website hosting. For an average user of the Internet, this task would have been far less demanding. However, our client's expertise in this domain required far more patience. **Figure 1.1**

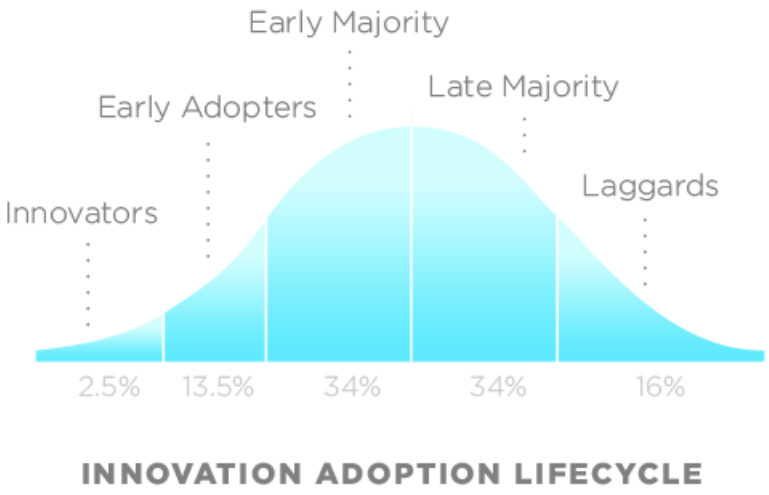


Figure 1.1: Roger's bell curve, citewik

helps to illustrate the challenge we had. Known as Roger's Bell Curve, it describes an "adoption rate curve" for a percentage of users of new technologies. Relating this to our situation, our client would be at the far right end of the spectrum, in the 16% of users described as "Laggards" in the graph.

Another point to consider is how users actually come to accept and use a new technology, and the factors that influence such a decision. **Figure 1.2**, otherwise known as the Technology Adoption Model (TAM) provides a graphical realisation of this. [**?**] The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it, notably:

- Perceived usefulness (PU) - This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance".
- Perceived ease-of-use (PEOU) - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

From our early meetings with our client, we believe we can make well informed assumptions about these two aspects. Since the client has especially contacted the University to ask for such a website to be implemented, and the fact she currently has no online presence already, it is our understanding that she believes this website or new system will definitely enhance her job performance. We have some reservations about her perceived ease of use however. As is explained earlier, she is very inexperienced with Internet technologies in general and may not feel entirely comfortable when faced with the new system for the first time. It is our main task to achieve simplistic, user friendly design that she can learn to use as quickly as possible and overcome any early doubts about the system. We believe that the website brings benefits to her work-flow, that far outweigh our initial challenge of working with a novice user, although it is certainly a trade off we have to be mindful of.

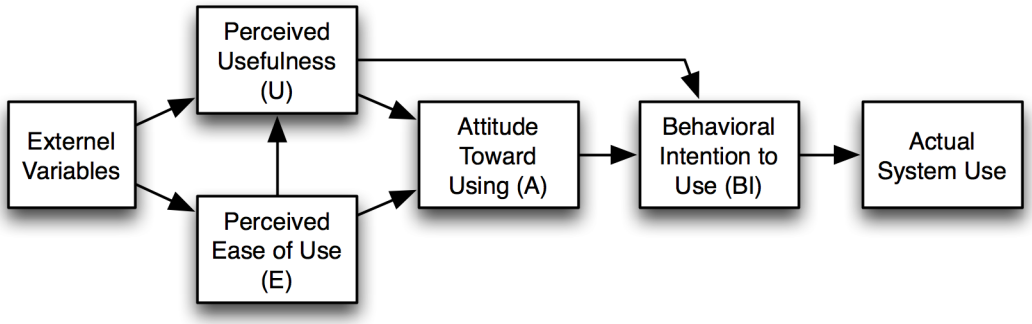


Figure 1.2: Technology Adoption Model, [**?**]

Reflecting on our experiences in our project, working with the client has not been exceptionally easy. One of our main challenges is that our client is a novice computer user. Quite ironically, it has been a task for us to translate regular computing jargon into layman's terms in order for them to understand. This was critical in our requirement gathering process. In spite of this additional challenge, which teams working on other projects might not face, at no point did we feel this was discouraging. When we eventually graduate and face real world software projects, it won't always be technically minded people like ourselves we deal with, it will people who are more similar to our client. It will provide us something to draw upon when we are asked to recount our experiences in future interviews. The opportunity to work with a real client could serve us as great preparation for working life.

1.5 Preliminaries

To understand this report it is necessary to understand that we do not have to implement a translation algorithm. We are providing customers with an interface to send documents to be translated by a professional translator for a fee, and then returned in the chosen translated language using the same web interface. To understand the process that we have devised it would be advantageous to have a simple understanding of how a database works. As mentioned earlier, we have adopted several frameworks in our project development. These include Bootstrap (CSS, HTML), CodeIgniter and PHPMyAdmin (all of which are discussed in Section 2 later). These frameworks provide advanced functionality which will, in most instances, not be necessary for our project and will not be utilised. Conversely, it allows us to demonstrate that we are professional software developers and that we are capable of software re-use.

1.6 Outline

The remainder of this report will go into more detail on the background research of our project, expand on our motivation and set out our group organisation and project plan. After this we will detail our design ideas and methodologies, before moving on to document our implementation, testing and evaluation. We will then discuss any problems encountered and the results of our evaluation before revealing the final status of the project, giving a detailed outline of the deployed site including any graphics and information relating to Bethel Translations.

Chapter 2

Design

2.1 Requirements Gathering

At the beginning of our project we met with the client and our supervisor to discuss the project requirements. Our client currently works for an agency, on a largely ad-hoc basis, and is looking to create her own translation business. To this extent she wishes to have a website built to allow her to gain an online presence in translation and to digitise the process of receiving and sending documents. We were armed with a long list of questions and ideas for the meeting and a transcript is included as an appendix.

As software developers naturally would when creating anything from scratch, our team looked for similar websites already in existence. We identified common useful features of each, those features that were not so useful, and listed some we thought could be useful but simply did not exist in any of the sites we examined. One recurring theme we noticed in a majority of similar translation websites was that the home page was very cluttered and full of text. Due to this, the process that the user had to follow to obtain some translation of a document was not very clear. Instead, they were met with various registration options, other services and annoying advertisements. **Figure 2.1** is a prime example of such bad design practices. It is cluttered, unclear and unattractive to potential customers. The most intriguing thing about the website in particular is that is ranked *first* in a Google search for the term ”document translation”. Rather alarmingly it seems this site has prioritised search engine optimisation over actual usability, or they have spent most of their budget paying to be rated first. Whilst being rated first is an advantage to the amount of business received, it should not detract from giving the user a usable and enjoyable experience. It was encouraging to realise that there was certainly room in the market for a document translation service that was simpler, better designed and more intuitive to use.

From previous modules in our degree, namely Information Management 2 and Interactive Systems 3, our team had experience of applying Jakob Nielsen’s heuristics to obtain a successful user interface. We wanted to develop the idea that our website would display the minimal amount of information to a user by providing the registration, document upload and language selection elements on a single page, in a simple 3 step process. Our interface would then fall in line with the principle that user interfaces should have an aesthetic and minimalist design. [**?**] We believe this is an extremely important aspect of any modern website based on the way that users make a decision

Figure 2.1: Online document translator, [**?**]

of whether or not to use the services offered by the website. For example, imagine a user enters a web-search for "Translation service" and clicks our website in the results page. If the page they are met with looks too complicated or confusing in nature, the user simply clicks "Back" on their web browser, and goes to the next appropriate web page. If, however, the website looks clean, simple, and easy to use, the user would be more inclined to investigate further. We believe that our 3-step process found on the home page encourages anyone that requires a translation service for the provided languages to at least try for a quote, if not go through with the whole process.

With this approach in mind, we began to create some wire-frames in order to form a solid idea of how this 3-stage process would appear on our website. **Figure 2.2** illustrates our early attempt at doing so.

The layout is intuitive, flowing and simple to approach. In this early design we have divided the page into two sections. In section 1 the user is presented with a concise block of text detailing the main functions of the site. Subsequently, in Section 2 the user can enter their contact information, add one of more documents, set the requirements and submit the request for a quote.

There is no overwhelming web-form that some other websites utilise. It is minimal and it is undemanding. The majority of the registration process happens automatically when the user clicks "Get your quote". at which point the system registers the user (pending email validation), uploads their documents to the file store, before placing the job in our client's pending work queue. The implementation of such functions are discussed later in Section 3.

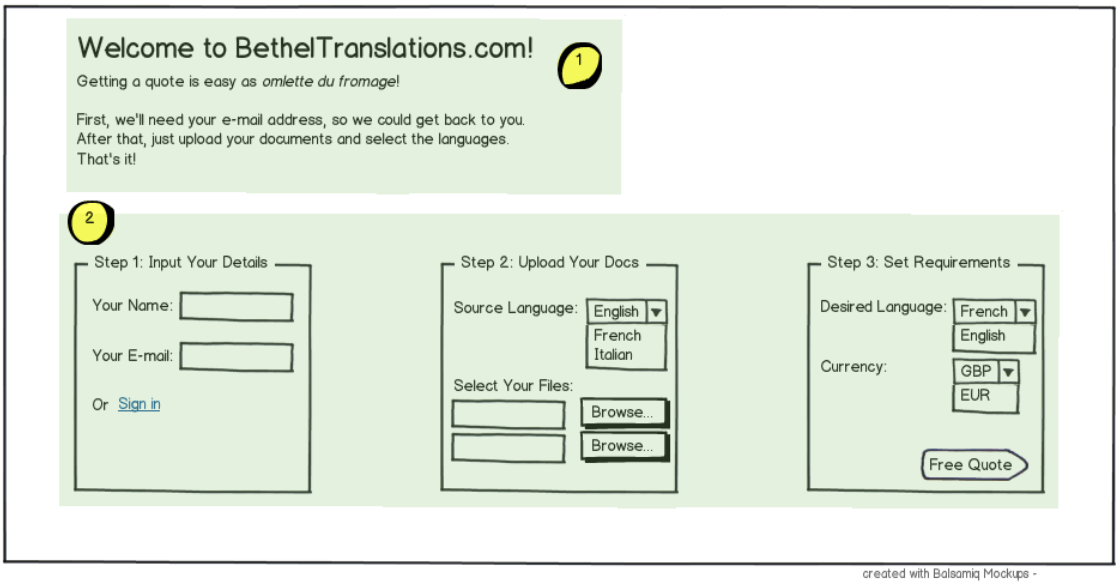


Figure 2.2: The 3-step process

2.2 User Analysis

With this 3-step process as our main design factor of the website, we began to consider the main user groups of the website, identifying the needs of two main user classes: **customer** and the **translator**

The clients are the users of the service, the visitors of the website. However, as far as the system is concerned, not all visitors are clients, because, in order for a visitor to become a client, he must register with the service. So we decided to have a visitor as a category with a registered user a sub-category. A registered user would then possess all the same abilities as a visitor with some specialised capabilities:

Visitor

1. Rationale: The visitor is just browsing. An anonymous visitor of the website.
2. Background: ”I need to get some documents translated. I came across this website and before I register or send any of my documents, I want to make sure that I’m dealing with a serious service.”

- He/She is a potential client, therefore the steps which he must make in order to become one must be as clear as possible.
- His/Her **goal** is to inform himself/herself about the service. In order for him/her to transition to being a customer, he/she must be convinced that the service provided is of great quality, so the system’s goal is to make itself trustworthy. Also, a clear privacy policy regarding e-mail addresses and the documents should be available, since they might contain sensitive data.

Customer

- Rationale: The customer is a registered user of the system.
- He/She has the same goals as the visitor, but, now that he/she is registered, he/she trusts the service a bit more. He/She has access to all the documents that he/she ever submitted for translation and can view each of the **job statuses** for which his/her documents are contained within. He/She can view documents he/she has paid for, and up to a certain period of time, download both the original copy and the translated copy. He/She can also view some other useful statistics on his/her previous jobs.

Administrator/Translator

- Rationale: The translator is the one answering all the translation requests.
- "As a translator, I must review the documents that my clients send me and quote them. If they accept the quote, I must also translate them and let them know when the work is complete."
- His/Her goal is to answer all of the client's requests.

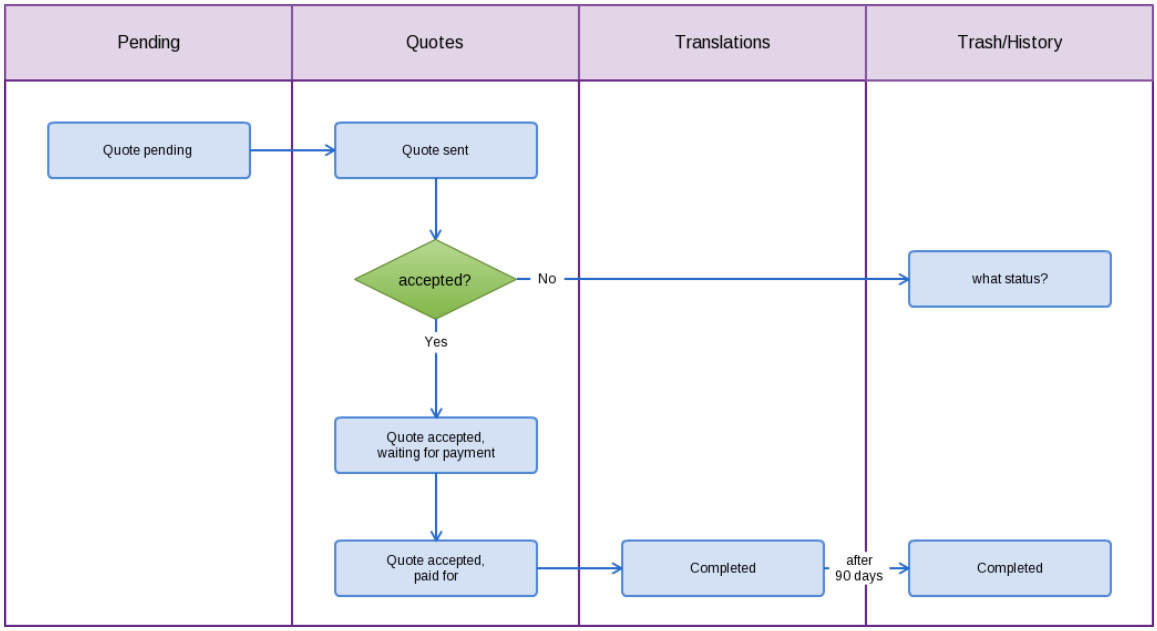


Figure 2.3: The transition of jobs through "statuses"

Building upon the needs of these user classes, we chose to design a flexible system that provided functionality for all of these goals. Our main focal point would be the transition of **jobs**. In the context of our system, a job is what the website creates when the user uploads one or more documents for translation. Clients (registered users) would submit and pay for them. The translator would review, download the original files before uploading the translated versions. We considered the transition of jobs throughout the life cycle of a translation, as job statuses, and produced a sequence that is illustrated in **Figure 2.3**.

The diagram is much self-explanatory, but to summarise: Jobs that are submitted by the clients are placed in a **pending** work queue. The translator is able to review these documents before sending

a quote to the client. After a job has been quoted, it is placed in the **Quotes** queue. Quoted jobs are held in this queue until they are paid for via PayPal. Once this has happened, they are moved to **Translations**, which is a breakdown of completed jobs. After a period of 90 days, jobs are moved to the **History** section, the attached files being deleted permanently.

The transformation from this design plan to a viable user interface that is built upon these job statuses is described later in Section 3.3.

2.3 User Process

This section will illustrate the typical activity flows for a client and the translator, respectively. For the client we will try to describe the minimum number of stages they would likely undertake in order to use the translation service; while for the translator we will attempt to show a typical work session involving multiple activities.

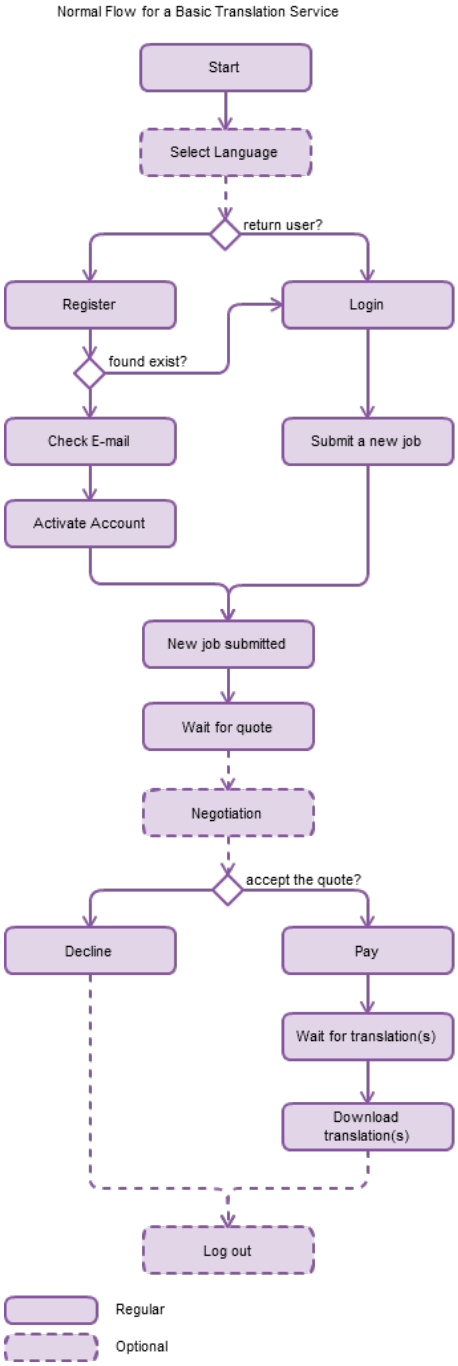


Figure 2.4: userProcessClient

First the client will have the option to switch among 3 displaying languages, namely English, French and Italian.

To use the translation service, one must first register by: inputting name and e-mail address, uploading one or more file(s), and setting translation requirements (source/desire language, currency and due date). Note that uploading is required so that only those who are actually going to use the service are allowed to register. Also, e-mail activation is required to finish the registration. If the system finds that the inputted E-mail address has been registered, the client will be asked to login.

Either by finishing the registration process or by submitting a new job (uploading file(s) and setting requirements) after login, a new job is submitted.

Meanwhile the translator will quote the job and a negotiation on details such as price or due date will possibly happen during this stage (it is optional, however).

If the client decides to accept the quote she/he will need to pay immediately through PayPal or could just leave it as quoted. Then the file(s) will (hopefully) be translated by the due date and a download link of the translation(s) will be offered in the client dashboard.

If the client decides to decline the offer, the translation service process will be cancelled.

Other than those above, the client may:

Navigate the links on the main menu: read the About page (information about the service and the translator); read the Testimonials page; contact the translator in the Contact page through the contact form; request other services (Edit and Proofreading, Over-the-phone Interpreting and Video Remote Interpreting) in corresponding Service page through the contact form.

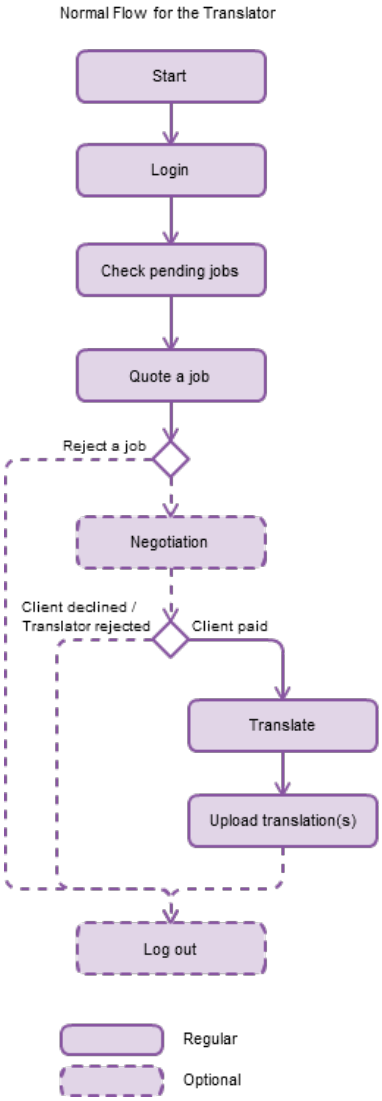


Figure 2.5: userProcessTranslator

First the translator will be directed to the admin dashboard, in which she/he will (probably):

Check all pending jobs, and pick one to quote.

The quoting process will include: check the job requirements, download the files uploaded in the job, read through the documents, set a quote and confirm it in the dashboard. During this process, the translator may reject a job within any stage.

A negotiation between the translator and a client may happen during or after the quoting stage. They may communicate via e-mails.

If no rejection or declination happens, the translator will then be waiting for the client to pay. Only after the payment is successful an actual translation process will start.

Finally the translator will upload the translated documents to the server through the admin dashboard.

Other than those above, the translator may:

Check processed jobs with different status in Quoted, Accepted, and Declined sections in the admin dashboard respectively. Also all recent translations can be downloaded through Translations and all past translation records can be found in the History section.

View the statistic data for the website in Site Statistics.

Navigate the links on the main menu: read the About page (information about the service and the translator); read the Testimonials page.

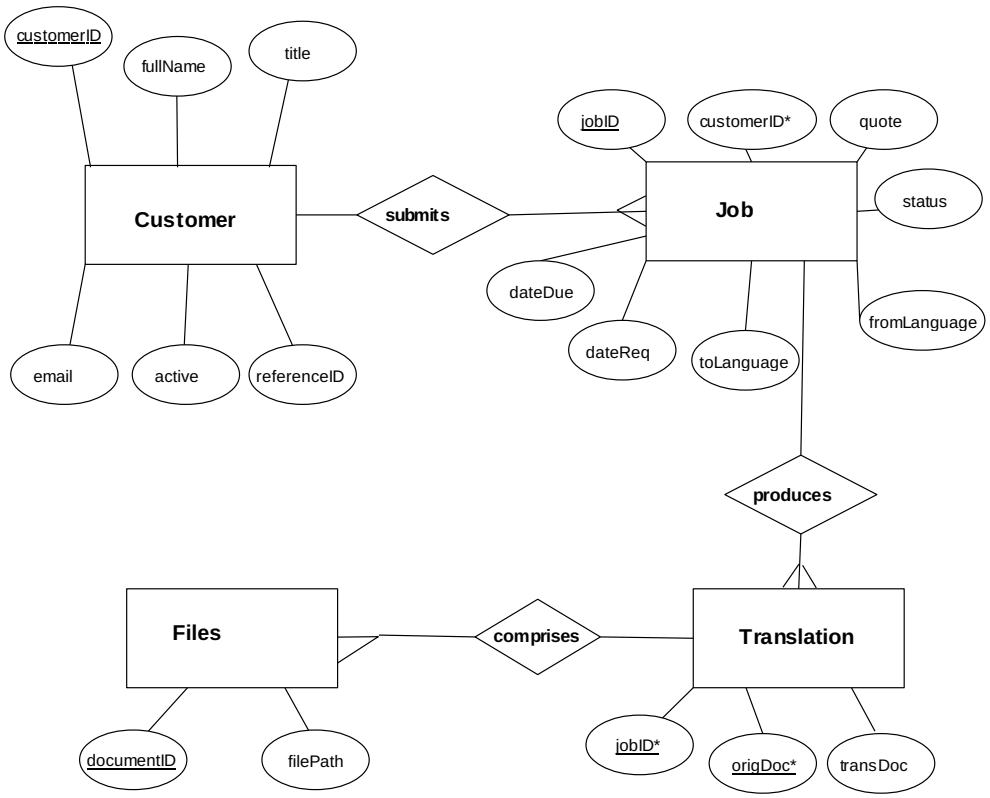


Figure 2.6: ER Diagram for Bethel Translations

2.4 Database Model

Our database structure was designed after we had thoroughly revised our user registration and job transition processes, detailed before this section. We envisaged there being four separate entities: one for **customers** to become registered, one to represent **documents** being submitted, another for the **jobs** that are comprised of submitted documents and finally one for the documents once they have been **translated**. The attributes of each of these entities and the relationships between them is illustrated in **Figure 2.6**

The majority of activity for these tables occurs in the first three entities, as they are all populated in some way during the 3 stage process discussed earlier.

Discussion of the database schema, namely how we implemented the entities in the diagram, are listed as part of Chapter 3.

2.5 System Architecture

The authentication sequence diagram (Figure **??**) illustrates how the registration process takes place. First, the user fills in their details and presses the "Register" button. Their information is then sent to the `register()` method in the `Auth` controller, where data validation is performed. If the information appears to be invalid, the method will send an appropriate error message back to the browser. Otherwise, it will pass the details to the libraries responsible for each piece of information:

- **Tank_auth** - for creating a new user account;
- **Jobs** - for creating a new job for that user;

Further checking is done within the respective methods of those libraries, and in the case of something going wrong at the database level, an error is returned to the `Auth` controller, which passes it on to the browser.

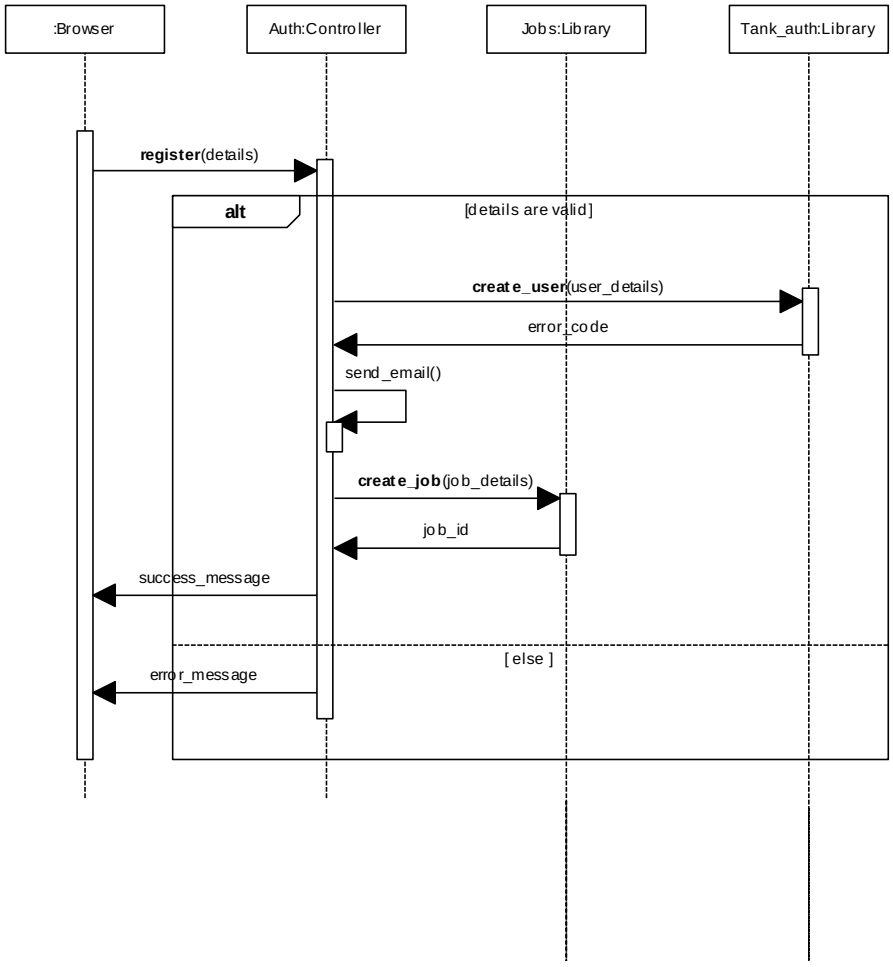


Figure 2.7: Sequence diagram for authentication

2.6 System Design and Wire-frames

After laying out the process of the website we focused on organising the content of the wire-frames.

2.6.1 Information Architecture

Based on the user analysis discussed in section 2.3, we split up the website into two abstract sections:

- **Static Advertisement pages**, which are available to all visitors, and describe the service, means of contact, and other such information.
- **Dynamically generated User dashboard**, the section of the site available only to registered users, and which allows them to follow the progress of their translations

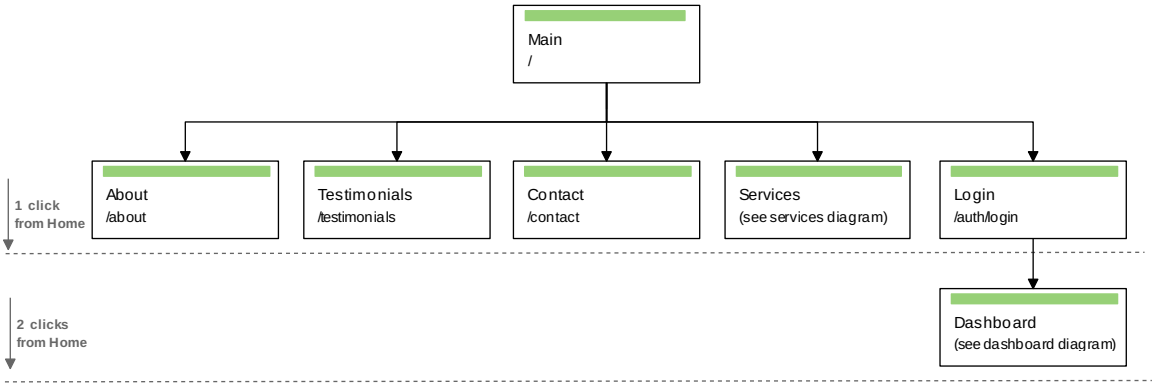
During the initial requirements capturing process, our client only offered document translation, however during the implementation stage she obtained certifications for other related services as well. We were now required to include pages describing her interpreting, and proofreading services. Since the first one is the main service, we decided that the front page of the website would present only an overview of all of these, while focusing on the document translation. The other services would have their own separate pages describing them.

The main function of the **user dashboard** is to give a clear view of the statuses of the different jobs a customer has. With the jobs life-cycle flowchart (Figure **??**) in mind, we thought that the best approach is to have one page per status, as shown in Figure 2.7.

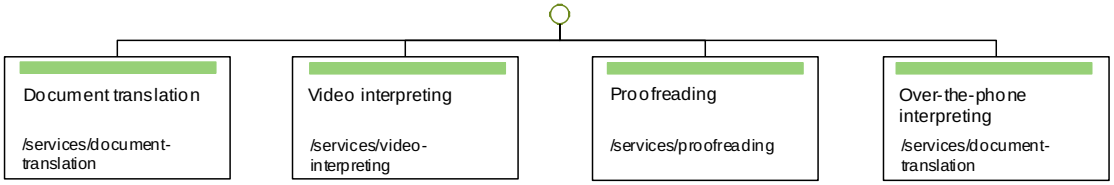
Page	Job Status
Pending	Just submitted, awaiting for a quote
Quotes	Has been quoted, awaiting for client action
Accepted	Client has paid for the job
Declined	Client has declined payment
Translations	Has been translated, ready to download
Jobs translated, but older than 90 days	History

Figure 2.8: Relation between a job's status and the section of the dashboard it is found in.

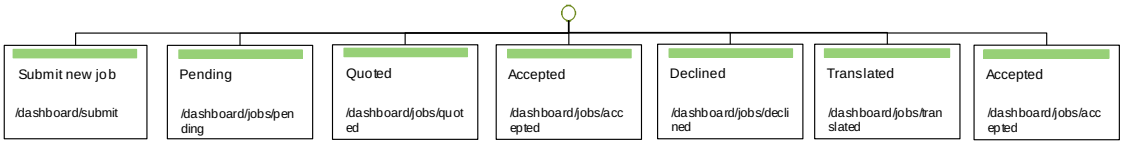
After this evaluation, we have built a website structure diagram (Figure **??**). Everything is 1-3 clicks away.



(a) Main



(b) Services expansion



(c) Dashboard expansion

Figure 2.9: Website structure

2.6.2 Wire-frames

Wire-frames are blueprints of the website, representing every important page and their structure and behaviour. They focus more on what elements would a page contain, and their place on the page, rather than a refined design. Therefore, these sketches take form of rough drawings of the final design, avoiding specific details such as images or colours, as they can generally distract the reader from their main purpose - is analysing the layout of that particular page, rather than the visual design.

Conventions used in the wire-frames:

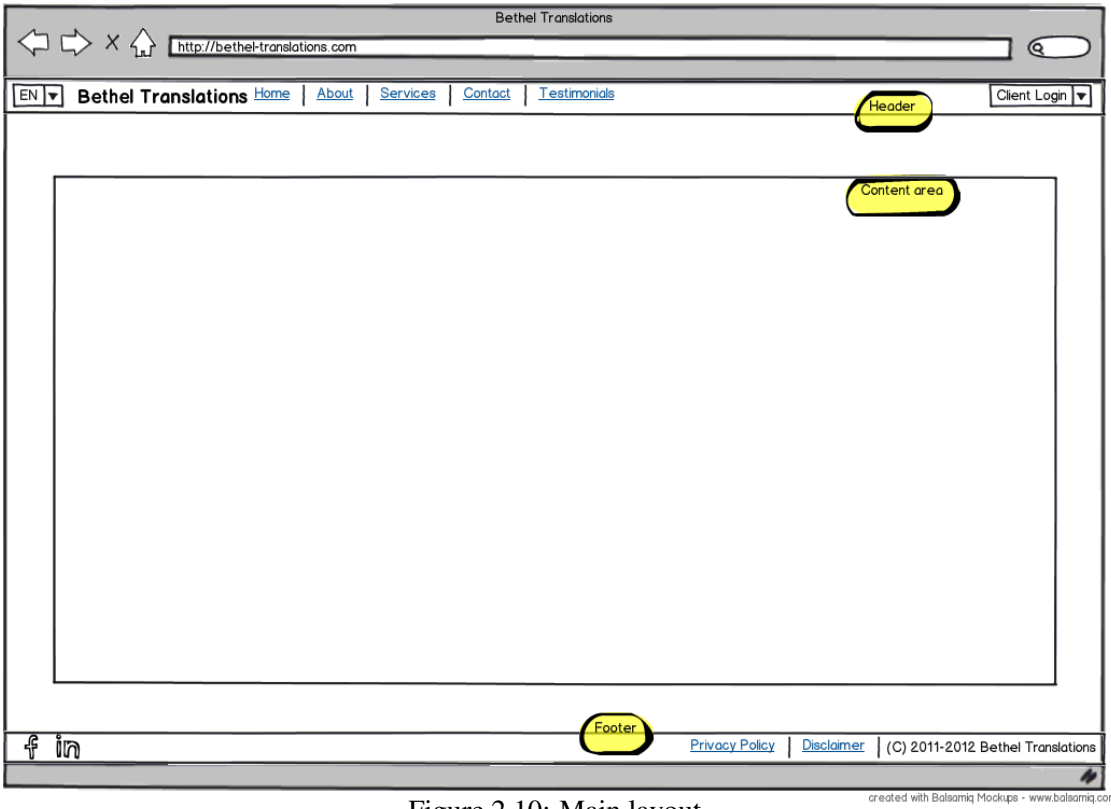


Figure 2.10: Main layout

- **Green background** and/or **yellow labels** - are used to indicate specific groups of content that will be referenced in the document.
- **links** - blue text and underlined

By the nature of their content, the pages can be categorised into static and dynamic. Static pages display the same information for all users, regardless of their status (logged in or just visiting, client or administrator). About, Testimonials and Contact are such pages in the system described here. On the other hand, dynamic pages draw some data from the database and display it accordingly. In this case, the dynamic pages are the ones in the dashboard (both client and admin) since the information there is specific to every client.

Template

All the pages have this basic layout comprised of the following sections:

- Header
- Content area
- Footer

The **header** and the **footer** sections will remain unchanged across all pages and the rest of the content goes in the **content area**. This is a good design practice because it keeps the entire website consistent. In terms of technological benefits this will increase the speed of loading the website due

to lower bandwidth requirements. The browser does not need to reload the header and footer every time, as it only loads the new sections. The browser will cache these sections, improving the site's efficiency. The rest of the sketches of the pages illustrated here will only show the content area.

The header contains:

- **the name and/or logo of the website.** This is key as it promotes the translators brand. Bethel Translations should be prominent to all clients so that they know what website they are on, they can use this to recall the services it provides and also recognise the quality of the brand at the same time.
- main navigation menu

Within the pages, primary navigation is provided on the top of the screen, in a horizontal list of text links. In the dashboard navigation is provided on the left, in a vertical list of text links.

- Home
- About
- Services
- Testimonials
- Contact
- Login - this link must stand out, since it is of a higher importance and the page linked is of a different nature than the rest, so it is separated from the others.

Footer:

- copyright notice, if needed
- links to legal documents (e.g.: Privacy policy, terms of use, etc)
- awards or certifications (translation services related, PayPal certification)
- contact information (actual information or just a link to the 'Contact page)
- link to the business Facebook page

Main page

From our earlier decision of creating a simple three step process and implementing this on our homepage, we took our wire-frame and refined it to come up with the **Main Template** (Figure 2.9).

The site-wide header (labelled 1) and footer (labelled 3) can clearly be seen to be simple and uncluttered.

About

This is the page the users would go to in order to find out more about the service. Contains a few paragraphs that detail goals and accomplishments. The page needs to answer some possible questions that the users might have regarding the business:

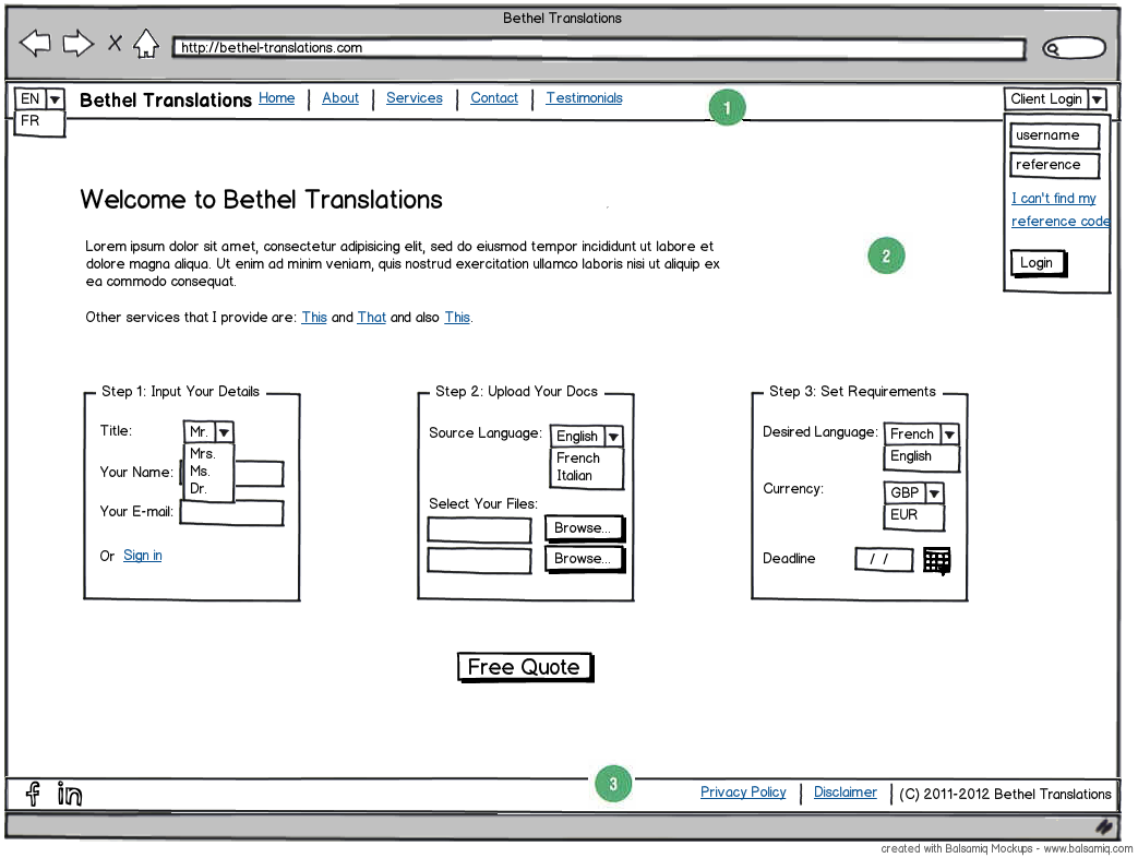


Figure 2.11: The Main Template

- Who is behind it?
- What are they doing?
- When did they start doing it?
- Where are they?
- How are they accomplishing what they claim to do?
- Optionally an image, or even a short video, to enhance trustworthiness.

Testimonials

Testimonials from happy customers will likely add to the level of trust prospective customers have with this business. The business owner would ask her clients for feedback and permission to publish it on the website. Then she can pick which ones would suit her and post only a fragment on the website, along with some details of that client (name, company, occupation).

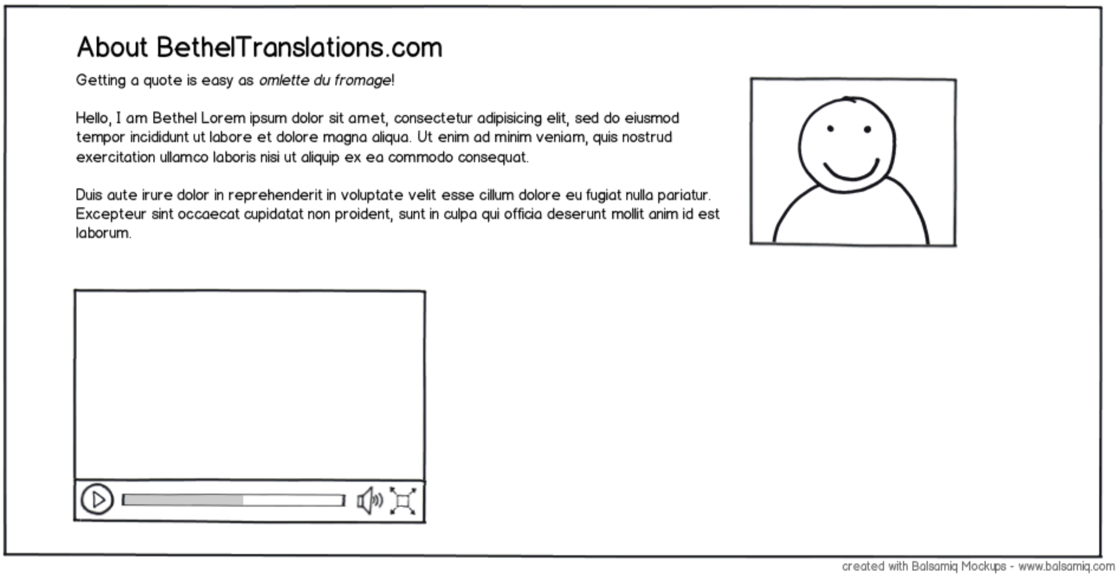


Figure 2.12: The About page

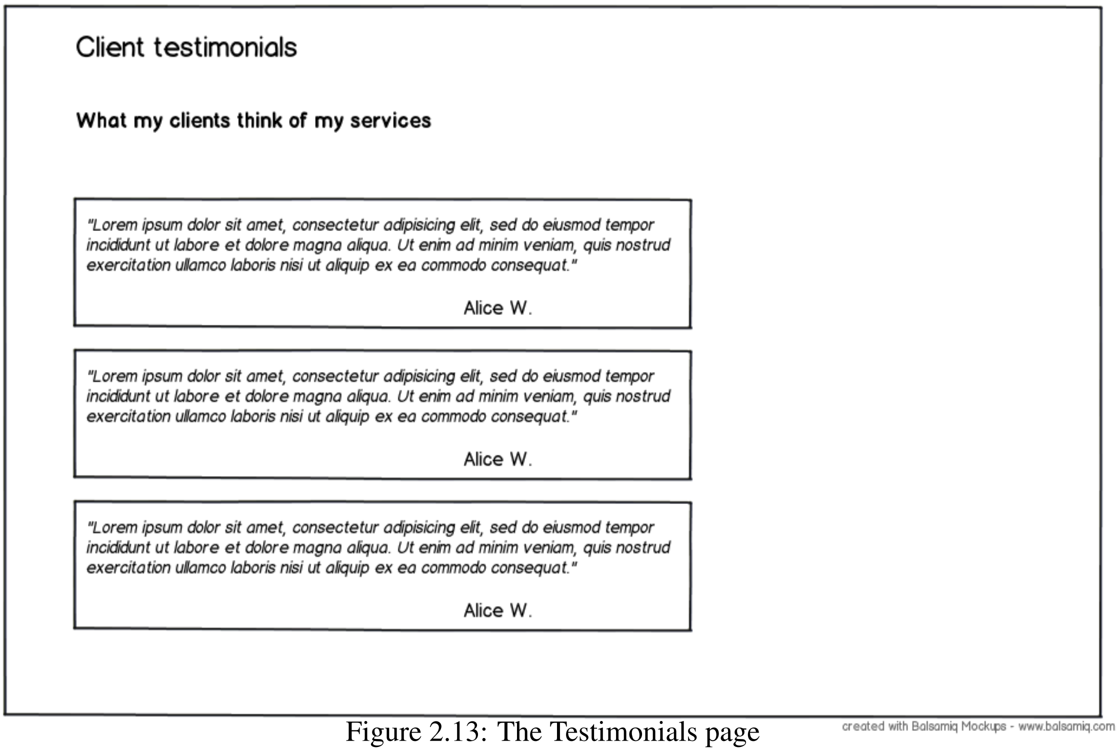


Figure 2.13: The Testimonials page

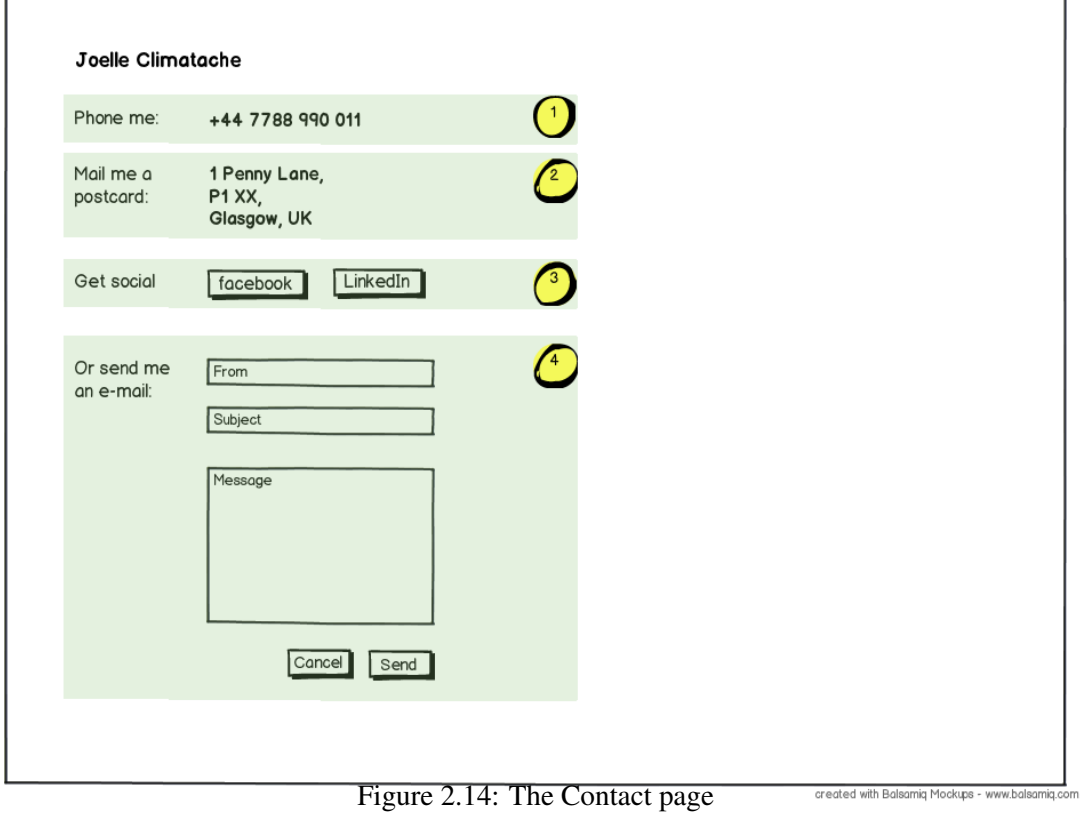


Figure 2.14: The Contact page

Contact

Having other contact methods (phone number, physical mailing address) also add to the credibility of the business. “A company with no address is not one you want to give money to.” [Jakob Nielsen]

1. work telephone number
2. physical address
3. social media pages
4. contact form (by e-mail)

2.6.3 Summary

From the images and diagrams in this chapter we have constructed the blueprints for a modern, stylish, and most significantly - user friendly website. Ultimately the website we want to build is one the client can fully use, without any reluctance. The next chapter, 3, describes how we transitioned from design to implementation, and the methods used in doing so.

Chapter 3

Implementation

In this chapter, we describe how we implemented the system from our design plan and detail the technologies used in doing so.

3.1 Development Environment

Bethel Translations, like all modern websites, makes use of multiple technologies in order to provide both the rich user interface and the handling of the various background operations which are integral to a system such as this. These two distinct entities form part of the client/server model[**?**].

Utilising this model for our design, the client domain includes all of the programming code which runs in the user's web browser, whilst the server domain encompasses the logical operations performed on the web server.

Programming for the project was split between several web-orientated languages. The central development language was PHP for developing the controllers and models. HTML5, JavaScript and jQuery were used in the views. As mentioned previously we employed the use of two frameworks, namely CodeIgniter and TankAuth. CodeIgniter provided the Model-View-Controller architecture PHP framework for the website, and TankAuth is an open source authentication library for CodeIgniter.

As we learned from the Distributed Information Management course we studied this year, web-development is ever-changing and to stay current developers must adapt to using new technology. As a result of this we have coded the views using the newest HTML5 standard. This will allow future developers to maintain the site with ease as adding new modern features will be simpler.

Another thing we learnt from our Distributed Information Management course is that it is desirable to separate out our concerns when developing in a web environment. This led us to using the open source Twitter Bootstrap [**?**]. Bootstrap is "simple and flexible HTML, CSS, and JavaScript for popular user interface components and interactions". During the implementation stage, Twitter released an upgraded version, version 2.0, of Bootstrap and we upgraded to this version when it was released in early 2012.

For implementation purposes we set up an online SVN using Google Code. This version control system allowed us to keep track of changes, report and resolve issues, and maintain a wiki of useful pieces of information that we needed to keep and track.

Further to this we also set up a test server to allow us to view our site live on the web as we developed it and to test any changes as we made them.

3.2 Prototype

One of the many benefits of the client/server model is the opportunity to completely separate development of the user interface from the background processes. We were able to quickly implement a mockup of the interfaces, while not worrying about the actual processes which would happen behind the scenes. A static representation of the design for the site was developed in order to allow our client to see early on exactly how the site would look and operate once it was fully operational.

3.3 User Interface

In this section we will discuss the user interface, particularly in terms of the structure of the site, and the navigation steps taken in order to browse it.

3.3.1 Structure and Navigation

The overall structure of the application is relatively simple, as shown in the website structure diagram (Figure **??**). Everything is 1 to 3 clicks away.

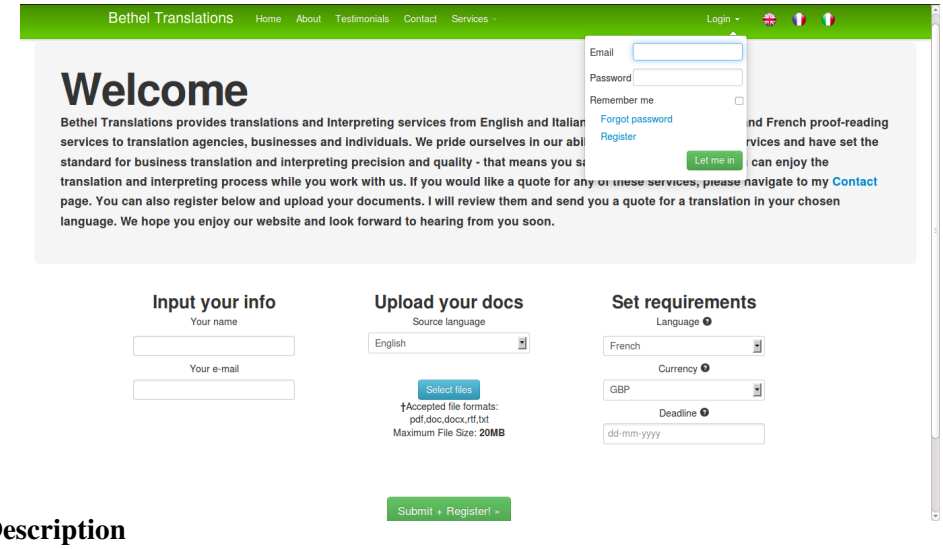
Pages are displayed in a single browser window, with the exception of some modal windows that hover over the main page to show notifications. The modals contain no browser controls. Links are provided to close them.

3.3.2 Page Descriptions

This major part of the document contains detailed descriptions of each screen from the Bethel Translations website.

Some of the similar pages are omitted in order to avoid redundancy.

Welcome Page



- **Description**

  This is the landing page of the website.

- **Navigation**

  This is the default page a potential customer will see when visiting the website. One can always come back to this page with the text link “Home”. However, the registration process will not be shown for a logged-in user. Instead, they will see a message that directs them to the dashboard to submit new jobs.

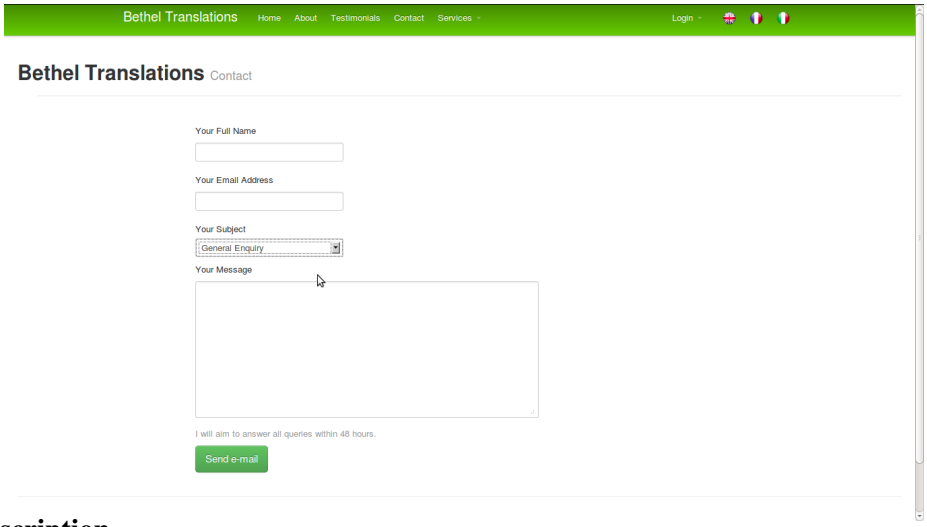
- **Main Elements**

  – ‘Main Menu Bar’
  Type: Text links
  Content: Links to the About page, the Testimonials page, the Contact page, and the Service pages. Links to versions of the website in different languages.
  Behaviour: The user is directed to the destination of a particular link.

  – ‘Login’ / ‘My Account’
  Type: Drop-down box
  Content: (For ‘Login’) Fields ‘Email’ and ‘Password’ to input login information; check-box ‘Remember me’ to provide cookie feature; text link ‘Forgot password’ directing to password resetting process. (For ‘My Account’) text links ‘Dashboard’ and ‘Logout’.
  Behaviour: ‘Login’ is shown by default. ‘My Account’ is shown for a logged-in user.

  – ‘Register’
  Type: Field
  Content: Fields to input registration information and job requirements; button to upload files; button to register and submit a new job request (this request will only be presented to the translator after the user activates his account).
  Behaviour: Disappears after a user logged in. A modal telling the user to activate his account will pop up when submitting.

Contact Page



- **Description**

  The contact page is the page that a customer may use to contact the translator for general enquiries or getting a quote for services other than document translating that the translator offers.

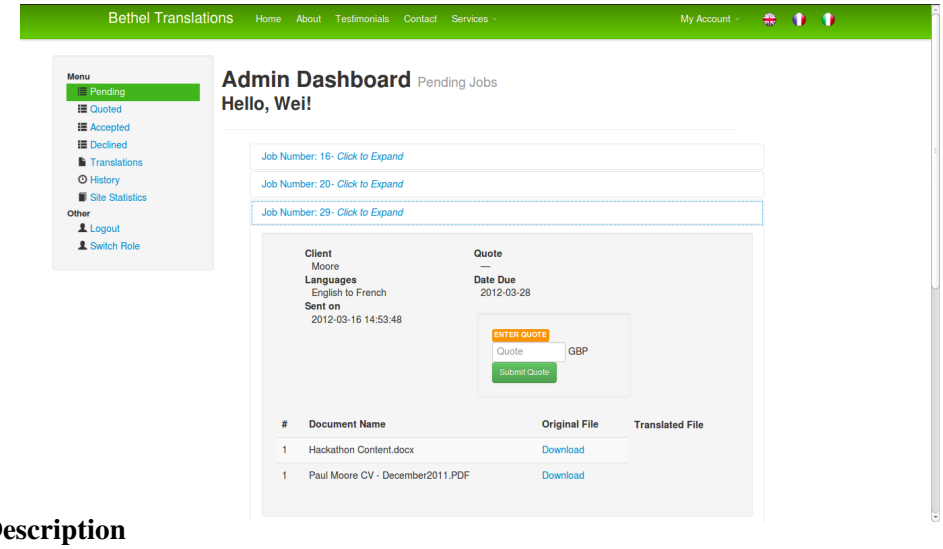
- **Navigation**

  A user can get access to this page through the text link ‘Contact’ on the main menu bar.

- **Main Elements**

  – ‘Contact Form’
  Type: Form
  Content: Text fields to input user information; drop-down box to choose a enquiry subject; text field to leave messages to the translator.
  Behaviour: Full name and email address will be automatically filled for a logged-in user. An enquiry email will be sent to the translator.

Administrator Dashboard - Pending/Quoted Jobs



- **Description**

This page lists all pending/quoted jobs to the translator. Information of each job will be shown in separate boxes. The translator can download the documents for a job and set the quote for the job here.

- **Navigation**

  The translator can get access to this page through the text link 'Pending'/'Quoted' on the side menu bar in the admin Dashboard.

- **Main Elements**

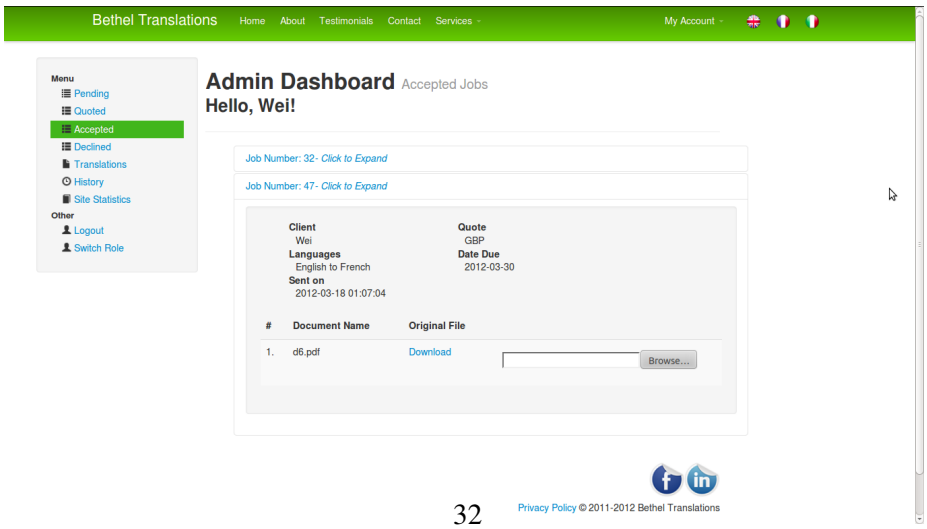
  – 'Side Menu Bar'
  Type: Text links
  Content: Links to different sections of the dashboard. And the link to logout.
  Behaviour: The user is directed to the destination of a particular link.

  – 'Job Information'
  Type: Text
  Content: Information of the job including client name, source and desired languages for translation, submit date, due date, and a quote
  Behaviour: If the job is quoted, a quote will be shown, or otherwise a dash line.

  – 'Set/Update Quote'
  Type: Field
  Content: a field to input the quote and a button to confirm
  Behaviour: A job will be moved from the pending list to the quoted list if the translator submit the quote for that job in 'Pending'. The quote of the job will be updated after the translator click on 'Update Quote' in 'Quoted'. An email will be sent to the customer stating the the job has been updated.

  – 'Download'
  Type: Text link
  Content: a download ad link for a document in the job
  Behaviour: -

Admin Dashboard - Accepted/Declined Jobs



- **Description**

  This page lists all accepted/declined jobs to the translator. Information of each job will be shown in separate boxes. The translator can download the documents for a job and upload the translated documents for an accepted job here.

- **Navigation**

  The translator can get access to this page through the text link 'Accepted'/'Declined' on the side menu bar in the Admin Dashboard.

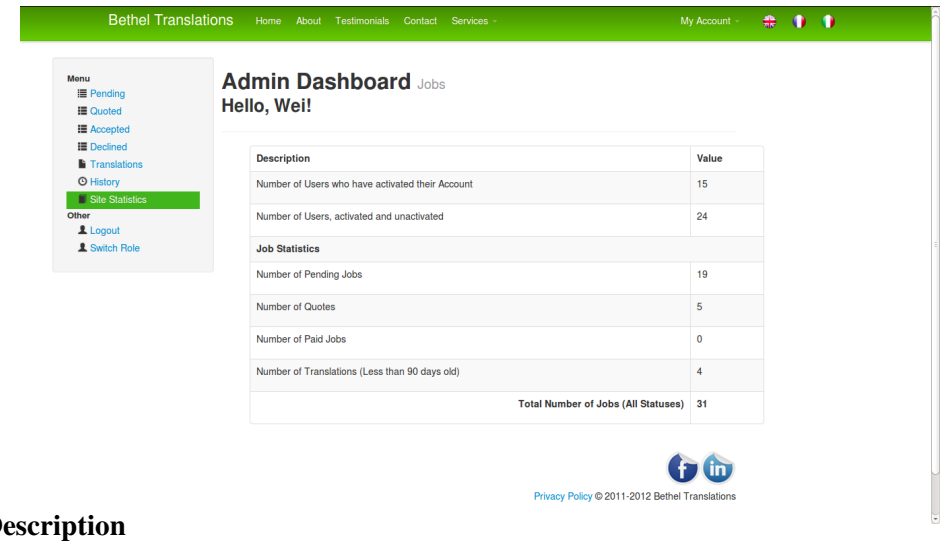
- **Main Elements**

  – 'Job Information'
  Type: Text
  Content: Informations of the job including client name, source and desired languages for translation, submit date, due date, and a quote
  Behaviour: -

  – 'Download'
  Type: Text link
  Content: a download link for a document in the job
  Behaviour: -

  – 'Upload'
  Type: Upload Field
  Content: A field to choose the document to be uploaded.
  Behaviour: Only shows for accepted jobs. The accepted job will be moved to translations after the uploading is completed.

Admin Dashboard - Site Statistics



- **Description**

  This page lists statistic informations about the numbers of users and jobs with different status in the website.

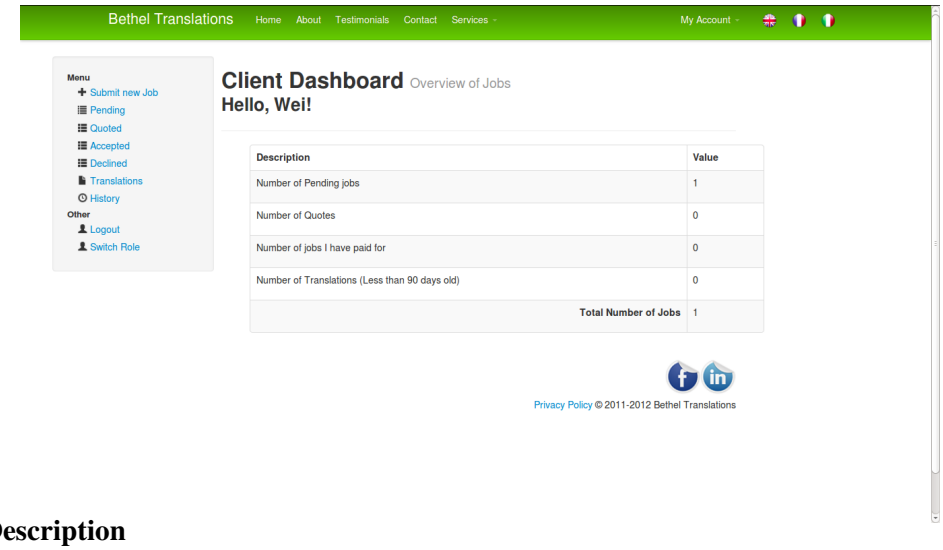
- **Navigation**

  The translator can get access to this page through the text link ‘Site Statistics’ on the side menu bar in the Admin Dashboard.

- **Main Elements**

  – ‘Statistic Information’
  Type: Text
  Content: Text fields showing informations about the numbers of users and jobs with different status in the website.
  Behaviour: -

Client Dashboard - Overview



- **Description**

  This page lists statistic informations about jobs with different status for the customer.

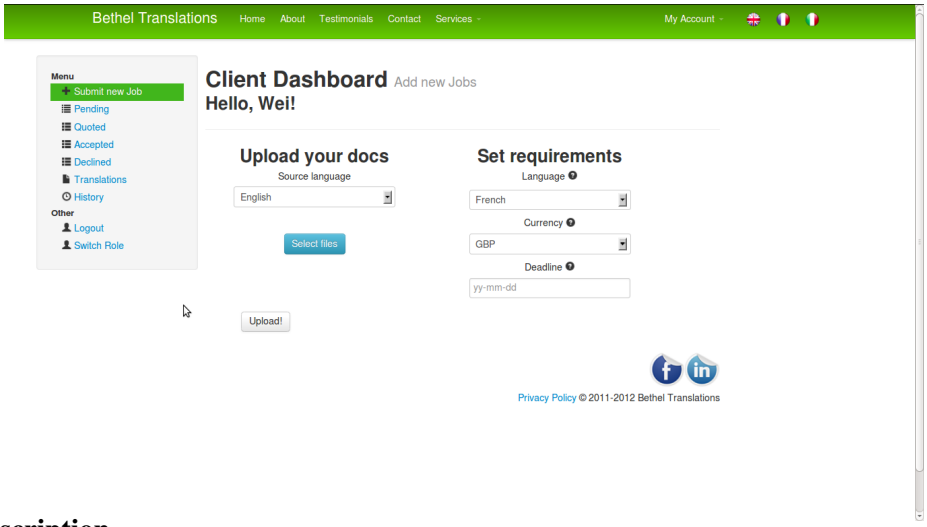
- **Navigation**

  This is the landing page when a customer come to his dashboard through the ‘Dashboard’ link on the main menu bar.

- **Main Elements**

  – ‘Statistic Information’
  Type: Text
  Content: Text fields showing informations about jobs with different status for the customer.
  Behaviour: -

Client Dashboard - Submit New Job



- **Description**

  This page is used to submit a new job by customers of the website. Except from first time customers (who will use the registration process on welcome page), they will be asked to come here in order to submit a new job.

- **Navigation**

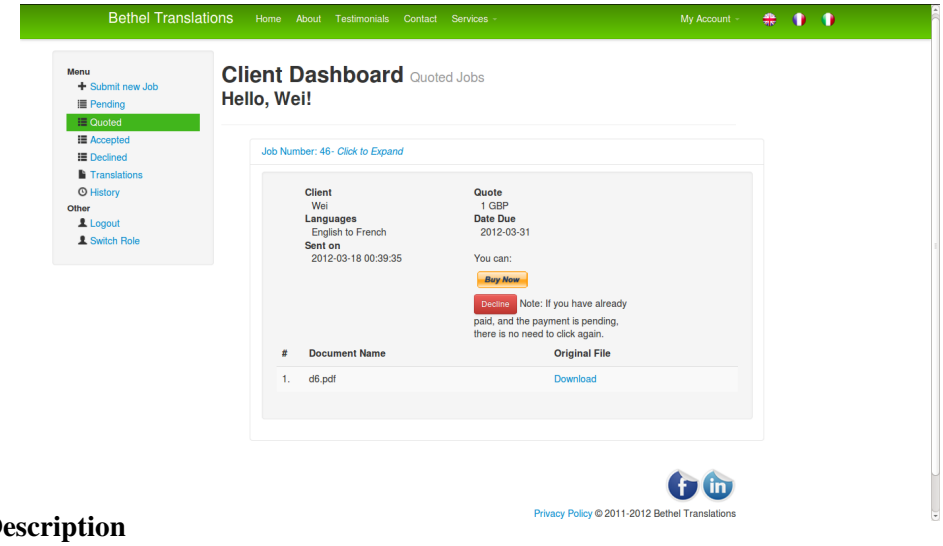
  The customer can get access to this page through the text link 'Submit New Job' on the side menu bar in the Client Dashboard.

- **Main Elements**

  – 'Set requirements'
  Type: Fields
  Content: Fields to select requirements for 'Source language', (desired) 'Language', 'Currency', and 'Deadline'
  Behaviour: -

  – 'Upload'
  Type: Button
  Content: A button to select files to be uploaded and a button to upload and submit a new job.
  Behaviour: A new job will be submitted after all the requirements are set and all files are successfully uploaded.

Client Dashboard - Quoted Jobs



- **Description**

  This page lists all quoted jobs to the customer. Information of each job will be shown in separate boxes. The customer can accept or declined the quote here. The customer will be required to pay in order to accept a job.

- **Navigation**

  The customer can get access to this page through the text link 'Quoted' on the side menu bar in the Client Dashboard.

- **Main Elements**

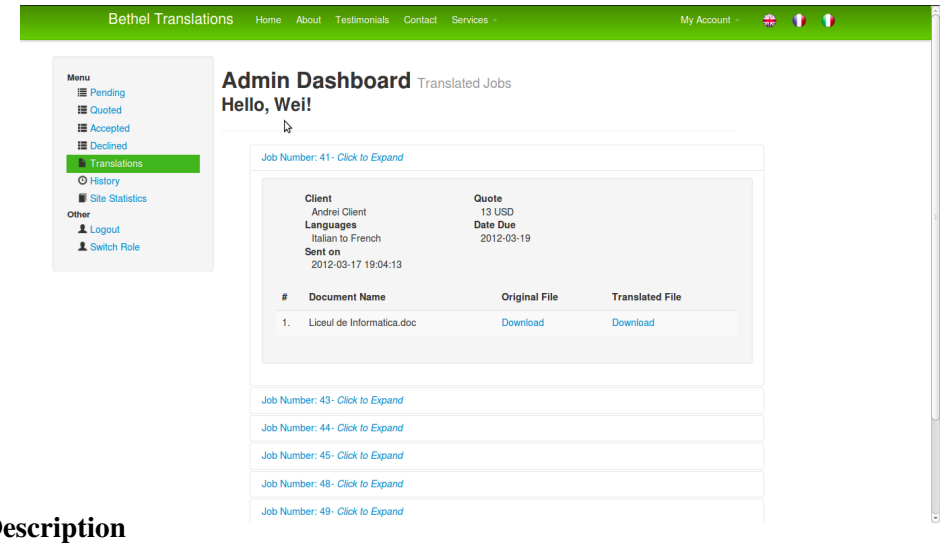
  - 'Job Information'
    Type: Text
    Content: Informations of the job including client name, source and desired languages for translation, submit date, due date, and a quote
    Behaviour: If the job is quoted, a quote will be shown, or otherwise a dash line.

  - 'Accept Quote'
    Type: Button
    Content: -
    Behaviour: The customer will be redirected to PayPal's secure payment system after click on it. Once he paid the job will be moved to 'Accepted' section, as well as in the Admin Dashboard.

  - 'Declined Quote'
    Type: Button
    Content: -
    Behaviour: Once the customer confirm to decline the job will be moved to 'Declined' section, as well as in the Admin Dashboard.

  - 'Download'
    Type: Text link
    Content: a download link for a document in the job
    Behaviour: -

Client Dashboard - Translations



- **Description**

  The translated jobs will be shown here for the customer to download the documents.

- **Navigation**

  The customer can get access to this page through the text link ‘Translations’ on the side menu bar in the Client Dashboard.

- **Main Elements**

  – ‘Download’
  Type: Text link
  Content: Download links for the original documents and the translated documents in a job
  Behaviour: -

3.4 Database Schema

Having mapped the Entities involved with Bethel Translation - were able to integrate them in to the database using SQL create table statements. Storing this as a script on the development server we used allowed us to simply run it when we moved the website to the production server and have the tables ready to use. This enforces a highly recommended software engineering process in that you should always reuse code wherever possible [**?**] (*pg 425*). Not only that, we have a script that is essentially *portable* - so it could in theory be executed on any web server and create the tables required for Bethel Translations to function. The process of moving the website from testing to production is described in more detail in chapter 4

Customer

```
DROP TABLE IF EXISTS ‘customer‘;
CREATE TABLE IF NOT EXISTS ‘customer‘ (
‘customerID‘ int(11) NOT NULL,
‘fullName‘ text NOT NULL,
PRIMARY KEY (‘customerID‘)
```

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

Document

```
DROP TABLE IF EXISTS ‘document‘;
CREATE TABLE IF NOT EXISTS ‘document‘ (
‘documentID‘ int(11) NOT NULL auto_increment,
‘filePath‘ varchar(256) NOT NULL,
PRIMARY KEY (‘documentID‘)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=11 ;
```

Job

```
DROP TABLE IF EXISTS ‘job‘;
CREATE TABLE IF NOT EXISTS ‘job‘ (
‘jobID‘ int(11) NOT NULL auto_increment,
‘customerID‘ int(11) NOT NULL,
‘status‘ enum(’QuoteReq’,’QuoteSent’,’QuoteAccept’,’QuoteDeclined’,’Paid’,’Translated’,’Complete’) col-
late utf8_bin NOT NULL,
‘quote‘ int(10) default NULL,
‘dateRequested‘ timestamp NOT NULL default CURRENT_TIMESTAMP,
‘dateDue‘ date NOT NULL,
‘fromLanguage‘ enum(’english’,’italian’) collate utf8_bin NOT NULL,
‘toLanguage‘ enum(’french’) collate utf8_bin NOT NULL,
‘currency‘ enum(’gbp’,’eur’) collate utf8_bin NOT NULL,
PRIMARY KEY (‘jobID‘),
KEY ‘customerID‘ (‘customerID‘)
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_bin AUTO_INCREMENT=934247 ;
```

Translation

```
DROP TABLE IF EXISTS ‘translation‘;
CREATE TABLE IF NOT EXISTS ‘translation‘ (
‘translationID‘ int(11) NOT NULL auto_increment,
‘jobID‘ int(11) NOT NULL,
‘name‘ varchar(256) collate utf8_bin NOT NULL,
‘origDoc‘ int(11) NOT NULL,
‘translatedDoc‘ int(11) default NULL,
PRIMARY KEY (‘translationID‘),
KEY ‘origDoc‘ (‘origDoc‘),
KEY ‘translatedDoc‘ (‘translatedDoc‘)
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_bin AUTO_INCREMENT=5 ;
```

Chapter 4

Deployment

The deployment of a system involves configuring the software to operate in an operational environment. It involves different degrees of complexity regarding the configuration changes that need to be made, depending on the project itself. This chapter describes the process followed by the team as we transported the website from one server to another: from a testing server used in development, to a professional web hosting company that the translator would be responsible for managing after the project deadline.
Ian Sommerville [**?**] (*pg 385*) describes that software developers should "provide built-in support for deployment that will reduce the probability that system administrators will make mistakes when configuring the software". Since ours is a website developed within a web application framework, it is relatively easy to make the changes to accommodate this process. As the project neared the end of development stages, such that most functional requirements of the system had been realised, more consideration was given to non-functional requirements. It was intuitive for us that the changes be categorised into sections that generally match the non-functional requirements of the system.

4.1 Findability

Although the translator would already have clients lined up to use the website for translation services, it was still a requirement of the system to make it findable on the Internet. The Internet is the greatest platform for advertising new companies, and the website we have developed is no different. It is intuitive then to consider how potential customers might try and locate the service if they require it. Undoubtedly, the majority of users would perform a search of "document translation" using their favourite search engine. The challenge for us, therefore, is the increase the visibility of Bethel Translations on these search engines. The terminology concerned is "page ranking". That is, the higher a page is located in the results of a search engine query, the more likely a user is likely to click through to it.
The process of increasing the visibility on search engines is known as SEO (Search Engine Optimisation). We looked at methods of improving this aspect of the website. The key principle to successful SEO is using meta-tags to increase findability via a search engine. A meta-tag is extra information contained within the HTML that is easily readable by search engines when users enter a search query. For example, we included meta tags such as:

```
<meta name="description" content="Translation from English to French">
```

With these meta-tags in place, it helps search engines match pages to queries such that if a user entered "English to French translation", it should increase the page ranking of that relevant page for BethelTranslations. Including meta-tags to improve SEO is not as magical as it may seem though. The best way of increasing page visibility on search results is simply - time. We believe that the system we have created has provided the translator with a means of creating a viable online business, partly due to our simple aesthetic of user

interface, and partly due to our research discussed in the 4.4 section later. Therefore, over time, the website can and should become more popular.

4.2 Security

As software engineers we would be naive to believe that we should not concern ourselves with the security of the website we had developed. A result of increasing the number of users to the site means there is a greater security risk. The main concern with a site like this one is spam bots. Spam bots deliberately try to misuse the site to gain access to customer information, flood the translator with phishing emails and various other malicious requests.
We identified two areas of the site that could potentially be targeted by spam bots: the contact page, and the main document submission/registration page. Initially it was considered to prevent spam bots from abusing these forms by implementing captchas. A captcha is an interactive form that presents some audio-visual information that only a human can interpret and provide the system with the confirmation that they are using it for genuine purposes. However, there existed a simple solution than this one: hidden form validation. It is a simpler and far less intrusive approach that exploits the way spam bots use forms. It also meant we didn't have to concern ourselves with cross browser compatibility which can be a headache with including captchas in a website. In our HTML for the aforementioned pages, we included two input forms amongst all the other genuine ones. The difference with these two forms is that they include the "hidden" tag. The general form of these is:

```
<input type="hidden" value="">
```

There is a simple beauty to this method of anti-spam bot detection: the genuine users are never aware of the existence of it. However, spam bots will typically fill in every html form they can find in order to achieve their goal. Some simple JavaScript check that looked at the value field in the code snippet above was then enforced. If the hidden forms were filled in, the page wouldn't allow the registration or contact query to go through.

4.3 Marketability

The challenge of encouraging potential customers to try the website does not end with them finding it, although that is a major part of the problem. Once they have navigated their way to the website, it is extremely important that we entice them somehow into committing to the process of signing up and submitting documents for translation. We believed we had accomplished this somewhat already via our simple, aesthetically pleasing interface design. At the end of the development phase, however, the translator had sent us some plain text for some of the static pages contained in the website. These included vital information on things like the other services she offered and information about her experience as a translator. The team modified this plain information into styled pages that were consistent with the rest of the website. Phrases such as "free full quote" were emboldened. We aimed to emphasise some attractive features of the service as subtly as possible. These changes may seem trivial on first impressions, but one of the usability studies we looked at [**?**] suggests that giving a little thought to the potential customers and how they interact with the website can benefit it hugely.

4.4 Reliability

Another extremely important aspect of the deployed system would be to ensure it was reliable. In the Professional Software Development lectures, we are taught that software maintenance accounts for **over 90%** of

the workload in software engineering projects. Since we would not be responsible for maintaining the system after deployment, and given the inability of the translator to do this herself, we hand picked a rigorous server for the website to be hosted on. This decision was reached after careful evaluation of available hosting plans. The hosting company we decided on was Krystal Hosting [**?**]. In brief, it offers affordable, competitive plans and is situated in a "bunker data-centre". We were able to find an excellent plan for the translator that involved, among other great perks, 50GB of storage and email accounts. We realised the latter to be important to her as she was intent on sending emails under a company name, not her own personal account. The hosting company is well reputed and states that it has a system in place to take frequent backups of data, excellent physical security and round the clock customer support. We were more than happy to recommend this company for Joelle to host her website on purely because of the reliable service on offer and, thankfully, the agreement was mutual.

4.5 Configuration

The final section of this chapter provides a summary of the steps followed to port the website code base over from development to production.

The actual deployment of the website consisted of a number of important steps:

- **Setting up the database** - the database schema was kept under version control as an SQL file, which was used in an installation script that would create the tables.
- **Uploading** and **configuring** the application on the server - this was very straightforward, since we only had to upload the files from our testing server to the Bethel Translations one. CodeIgniter natively supports configuration files for its modules, but only one of them was actually related to the domain name on which the application was installed and needed to be changed.

Chapter 5

Evaluation

First feedback with Karen including wire-frames etc - Jan 25
Second feedback session with Karen incl more complete website design - Feb 9th

Successful evaluation of a software project is paramount. Without it, developers are left to their own volition, assuming all the decisions they've made are the correct ones. Developers cannot presuppose every vector of user behaviour, neither can they recognise every error in the source code. Carefully observing and recording user interactions with the system is a valuable tool in pin-pointing errors of judgement and failures in implementation.

In this project, retaining customers throughout the process right up until payment is the main priority. Transactions involve multiple staged exchanges between our client and the customers. Feedback was crucial in order to confirm that our decisions made at the design stage stood up to the challenges of everyday use.

5.1 User Testing

Although we performed periodical evaluations of the system throughout the development process, it was necessary to coordinate a comprehensive evaluation strategy to fully road test our system once it was largely feature complete and operational. The majority of the testing took place in the Computing Department's Level 3 Lab in the Boyd Orr building. At the same time, selected individuals out-with the university were invited to take part in the evaluation.

Evaluators were given instructions on how to access the website and a task sheet to complete. Immediately following the evaluation, participants were invited to fill out an online questionnaire, detailing any problems encountered throughout the session and offering the ability to leave and suggestions.

Six people in total completed the evaluation, of which five were present during the lab session. Overall, the responses were very favourable, and we will list the full results in appendix E.3. Below are some highlights from the evaluation process, with attention drawn to notable results and issues raised.

5.1.1 Interface

The general consensus taken from the evaluation is that the vast majority were happy with the '3-steps' design and processes involved in purchasing the translation service. Particular credit was given to the client

dashboard. Users found interacting with and tracking their documents intuitive and the interface responsive. The colours used, layout of the pages and the browser features employed (such as expanding areas of the dashboard) were all appreciated by the participants.

5.1.2 Problems

Some issues were raised during the tests, particularly from the lab evaluation session. Most notably, the PayPal stage was a block to participants completing the task's asked of them. Due to an incorrectly set PayPal API key, they were unable to action a payment against their translation job. This didn't detract to severely from the evaluation thankfully.

5.1.3 Suggestions

On top of the praise directed at our accomplishments, some suggestions were made through the feedback questionnaire. Listed here are the most pertinent ones, with any progress made to them.

- **Explanation of pricing options -** one user felt there wasn't enough information given on to the pricing policy, in particular whether or not the selected deadline influenced the price per word. Although having this information on the main form would detract from the simplicity we have achieved, we feel that this is a valid concern. One solution would be to make use of tool-tips, or an information area which relates to the context of the current position in the form.
- **Hard to find Login button -** one user reported it was difficult finding the login button. Although it was situated in the top right corner of the site, as familiar to most users of the Internet, it was slightly ambiguous due to the styling of the HTML element. Upon reading this report, we enlarged and re-styled the login elements.
- **Problems with the ambiguity over passwords -** originally we planned to avoid username/password combinations by utilising a reference code, similar to a flight booking reference. In the end this proved more troublesome than was worthwhile, so we changed to a standard logging-in mechanism. In some places of the site we still referred to the 'reference code' leading to confusion for some of our volunteers. We have since remedied this flaw in the deployed site.
- **Automatic logging in after account verification -** users reported annoyance at having to enter their details following clicking the verify link in the email sent to them. Although is is a regular occurance on older websites, it is technically possible to achieve this. The authentication library, TankAuth, doesn't support this natively, but a solution has been posted which allows this extra functionality. We will implement this in due course.

5.2 Client Evaluation

Due to our client's busy schedule, she was unable to complete a full evaluation of the administrator section of the website during the project's time-frame, however her plan is to trial the website for a month or so, and then deliver feedback to the team. This way the client will have sufficient time to get used to her new way of working at her own pace, and return valuable feedback after reflection. It's also worth noting that there are only one or two slight differences between the user and administrator experiences, and we have already performed rigorous evaluation of the client side processes.

Chapter 6

Conclusion

When we started the project in September we didn't know each other, every member had varying knowledge of web development techniques, and we were worried about not meeting the clients requirements. This ensured that the project tested each team members intelligence and desire to learn. The following section revises the main aims, summarises the achievements and what we learned, and then suggests possible future work for the project.

6.1 Aims

To conclude - our aim was to develop a cutting edge software system to facilitate a functional document translation service for a free-lance translator. We have successfully met this target. Although we as developers know that parts can be improved upon, our client is extremely happy with the product we have created for her. This does not simply mean we can stop the development process, however it gives us a great sense of accomplishment to know that we have completed the tasks on schedule and to the specified design requirements.

6.2 Achievements

Now that we have reached the conclusion of our project there are several parts that we see as achievements. That we have a working and complete system is a great achievement. In September we had hopes and ambitions of what the website would do. As time progressed and as we learned our limits due to using new programming languages, there were times when it seemed like the project may never have reached a stage where we could consider it complete. We are extremely glad to have a working product to be able to give to our client.

A second achievement is on a personal level for the team. We as a group did not know each other before the project. That we have come together and worked well as a team to achieve our end goals can be seen as an achievement as we have successfully completed the task we were given, together.

6.3 Future Work

- Languages

Since our client, the translator, did not have enough time to translate the website into languages other than English, for the time being we are only presenting an English version. However we have already fully implemented a localization system for the site. Literal text is stored in language files and not part of the source code. Based on the user's preference, the correct language is automatically injected into the final web page. As soon as we are provided complete translations of the text used throughout the site, we will happily support multiple languages in the interface.

- Currencies

  Presently, the translator has only requested support for paying in 3 different currencies, namely Dollars, Euros and Pounds Sterling. However, it is always possible to support payment using multiple other currencies. PayPal already offers the ability to automatically convert prices into many currencies on behalf of the client.

- Payment Types

  We will consider adding Bacs[1] as a payment method alongside PayPal as a possible extra feature for future work.

- User Profiles

  One thing we may provide in the future is more detailed tracking of users in the administrative dashboard. With this enhanced functionality, the translator would be able to select a particular user and view their past business history. This is achievable with the modular approach we took to handling data in our application.

6.4 Contributions

As is discussed in the project plan, the team had a very open and agile approach to the project. All members of the team have worked on various parts of the project. We realised the dissertation was one of the major parts of the project and it was therefore decided that every member of the team would work on this document, irrespective of what part of the project they had worked on previously. Individual Contributions are summarised in the paragraphs below.

Alasdair Campbell contributed to the project in the following areas, among others:

- Implementation of File Uploads
- Implementation of Database
- Implementation of Language Functionality
- Refactoring
- Writing of Evaluation Section of Dissertation
- Proofreading and redrafting the dissertation

Stephen Hayton contributed to the project in the following areas, among others:

- Main communicator with translator
- Transforming translator feedback to website refinements
- Writing of Deployment, Introductions and some Appendices of Dissertation
- Maintaining the style of website through CSS and JS updates
- Fixed issues mainly with erroneous inputs to site

[1] `http://www.bacs.co.uk/`

- Some UI fixes for cross-platform compatibility

Andrei Mustata contributed to the project in the following areas, among others:

- Implementation of Registration, Documents Transitions, Authentication.
- Advocated use of Twitter Bootstrap.
- Written Implementation of Dissertation.
- Made the Prototype and Wire-frames.
- Carried out daily testing of new features.
- Carried out final deployment moving from test server to Bethel Translations server.

Paul Moore contributed to the project in the following areas, among others:

- Writing of Project Plan, Introduction, Development Environment and Conclusion areas of Dissertation
- Maintaining the style of website through CSS and JS updates
- Implementation of Contact page and Navbar Login
- Implementation of Site Statistics
- Carrying out the Evaluations
- Organisation of Project Demonstration and Final Presentation

Wei Zhang contributed to the project in the following areas, among others:

- Led the progress presentation
- Taking minutes of weekly meetings and making sound records for important meetings
- Research and the implementation of the PayPal feature (with Andrei)
- Researched other websites and brought up the basic idea of the 3-steps process on the main page
- Writing Design and User Process section of Dissertation

6.5 SVN Commit Graph

The following graph shows the SVN commit record in a visual style. It shows that no one member of the team carried out more work than was a fair share to be allocated to them, athough the graph cannot actually show the scale of work undertaken in each commit.

Any externally owned items referenced throughout this document have been sourced at the web addresses/-textbooks below.

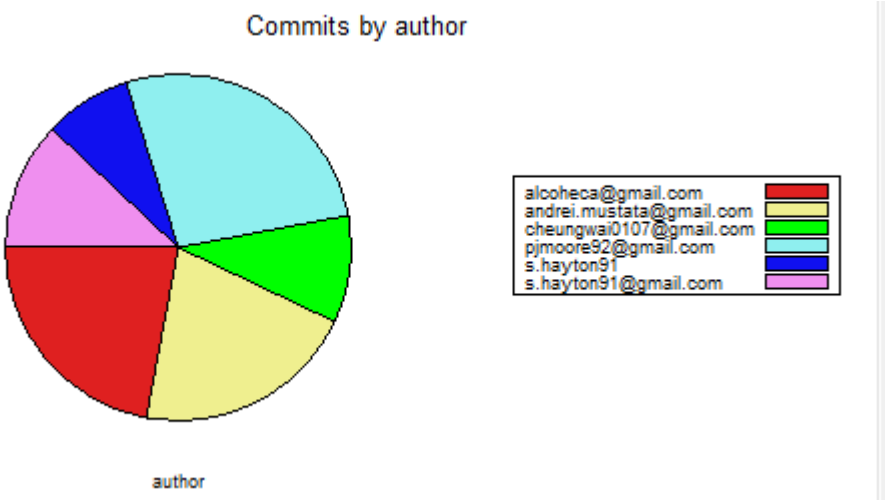


Figure 6.1: SVN Commit Graph by Author

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Appendix A

Glossary of Terms

- **API** - Application Programming Interface. The source-code level specification for interactions between computer systems.
- **LAMP** - LAMP, (Linux, Apache, MySQL and PHP), is an acronym for a solution stack of free, open source software
- **Open source** - Computer software for which the code is freely available
- **Programming language** - A programming language is an artificial language designed to express computations that can be performed by a computer.
- **Requirement gathering** - Determining the needs of a client through any form of communication.
- **Software project** - Using the surrounding context, a software project aims to create application(s) using programming language(s) by adhering to project management principles.
- **Web application framework** - A software framework that is designed to support the development of dynamic websites
- **Web scripting language (*PHP, JavaScript*)** - A scripting language is a programming language that allows control of one or more applications.
- **Website development** - The process of constructing and maintaining a website.
- **HTML** - Hyper Text Markup Language - a language for creating elements within a webpage.
- **CSS** - Cascading Style Sheets - a file or collection files used to style HTML elements.

Appendix B

Project Plan

B.1 Introduction

B.1.1 Identification

This is the Project Plan for the Website for a Translator project by Team O.

B.1.2 Purpose and Description of Document

This project plan sets out all the details of the project and defines all the necessary work that must be undertaken to fulfil the project. It will be used as a reference guide by the team to make sure that the project stays on time, and that all tasks that need to be undertaken happen according to schedule, in the correct order to achieve completeness.

B.2 Resources, Budgets, Schedules and Organisation

B.2.1 Work Breakdown Structure

Task 1	Group Organisation
Description	A document will be written following discussion with the team as to how the team will work and what our methods of communication, storage and backup will be.
Outcomes	The team will have clearly defined roles and each member will be able to contact all members of the team in defined ways.
Deliverables	Team Organisation Document.
Risks	Team members may be disappointed with role or may not agree on structure.

Task 2	Scheduling and Planning Meeting
Description	A meeting will be held with the team to discuss our planning methods and scheduling of resources.
Outcomes	The basis of a project plan.
Deliverables	None
Risks	Certain events might be scheduled when a team member is unavailable.

Task 3	Project Plan
Description	A Project Plan will be written which the team can use to keep track of the state of the project. This will allow sufficient division of human resources to different aspects of the project.
Outcomes	Project Plan
Deliverables	Project Plan
Risks	None

Task 4	Research
Description	As a pre-requisite to requirements gathering we must research the current trends in web-development and research what works and doesn't work in a user friendly website.
Outcomes	The team will have an understanding of what current design practices are in use and what we must achieve to be competitive in the market.
Deliverables	None
Risks	None

Task 5	Requirements Gathering Interview
Description	An interview plan will be written, consisting of the objectives of the interview, questions to be asked and identification of the roles in the interview. During this task our initial research will be brought together, including the discussion of the use cases involved in the task. It will then be reviewed, edited and approved before going to interview the translator.
Outcomes	The team will have a firm understanding of what the translator wants the website to achieve and will be able to continue the process of development in a now fully informed manner.
Deliverables	None
Risks	If we do not ask the right questions we may not gather enough information about the system and will have a flawed understanding of what we must achieve.

Task 6	Specification and Requirements Document
Description	Following analysis of the interview write-up, create a requirements document from the specification as set out by the translator.
Outcomes	Formalised requirements document.
Deliverables	Requirements Document
Risks	Client may change their mind or team may have received inaccurate requirements.

Task 7	Prototype
Description	Creation of a paper prototype to show to the translator to confirm that the requirements gathering process was correct and that we have a deep understanding of what the translator wants from the system.
Outcomes	Confirmation of correct requirements or list of amendments needed to match requirements.
Deliverables	Paper Prototype
Risks	The prototype may consume too much time if the plan is not followed, therefore causing delay in meeting deadlines.

Task 8	Revision of Requirements
Description	From the Paper Prototype task the team will have received a list of things that need changed to match the translators requirements. These will be incorporated into the requirements document.
Outcomes	Requirements updated to what the translator wants. Team now has correct understanding
Deliverables	Revised Requirements Document
Risks	Translator may see this as an opportunity to add further functionality to the specification.

Task 9	Static Page Implementation
Description	Implementation of the basic site, with only static pages and template.
Outcomes	Basic Website live on site
Deliverables	None
Risks	The implementation may consume too much time if the plan is not followed, therefore causing delay in meeting deadlines.

Task 10	Dynamic Page Implementation
Description	Complete implementation, including all document uploads, client and admin dashboards, PayPal implementation and Contact forms.
Outcomes	Full version of website available online
Deliverables	None
Risks	The implementation may consume too much time if the plan is not followed, therefore causing delay in meeting deadlines.

Task 11	Testing
Description	Members of the team with less involvement in the development of the website will now fully test the site to check that the implemented functionality matches the requirements stated.
Outcomes	The team will have a list of known faults that need to be fixed and an understanding of what works well and what does not.
Deliverables	None
Risks	Although some members of the team will have had less involvement in the development, everyone has some understanding. The team have a biased view of what should and should not happen. This could lead to testing that is not 100 percent effective.

Task 12	Translator Evaluation
Description	The translator will be given a list of tasks and a questionnaire to complete in order to fully evaluate the site we have developed.
Outcomes	The team will learn what the client likes or dislikes about the website.
Deliverables	Evaluation Report
Risks	Ethics Approval

Task 13	Customer Evaluation
Description	Both potential and fake customers will be given a list of tasks and a questionnaire to complete in order to fully evaluate the site we have developed.
Outcomes	The team will learn of what works and does not work about the site, getting feedback on why certain parts did or did not work.
Deliverables	Evaluation Report
Risks	Ethics Approval

Task 14	Dissertation
Description	A full report of the project, including: design; implementation and evaluation conclusions. This is to allow our supervisor and reader to learn about what we did, how we did it, and what did or did not work in our project.
Outcomes	Completed Dissertation
Deliverables	Dissertation
Risks	Dissertation may not be to acceptable standard, may be too long or too short or contain irrelevant material.

Task 15	Project Presentation
Description	We will present a detailed description of how we went about taking this project from an idea to a completed piece of software. This will include a demonstration of the completed software.
Outcomes	Project Presentation
Deliverables	None
Risks	Not all team members are keen public speakers - this may detract from the quality of the presentation.

B.2.2 Resource Estimation and Allocation to WBS

We have five team members available to us. It is expected that each member will spend around 5 to 8 hours a week on project giving us a sum total of 25 to 40 man hours spent on the project each week.

Other resources, as given to us by the Computing Science department, include a computer laboratory where we can undertake the necessary work to complete the project and access to a meeting room in Level 7 where we can have our individual team meetings.

Allocating these resources will be done on an ad-hoc basis in order to meet the deadlines and deal with the tasks according to the project schedule. One person will take overall responsibility, but everyone has an equal part in completing the tasks in the project plan.

B.2.3 Schedules

Following our brainstorming session relating to all the tasks that we will have to carry out in order to achieve our goals, we subsequently created a Gantt chart to graphically display how we should progress through the weeks of the project.

#	Name	Duration	Start Date	End Date	Resources	%	Predecesso
0	Milestone List						
1	Group Organisation	2 days	Fri 09/23/11	Mon 09/26/11		100 %	
2	Scheduling and Planning Meeting	1 day	Tue 09/27/11	Tue 09/27/11		100 %	1
3	Project Plan	2 days	Wed 09/28/11	Thu 09/29/11		100 %	2
4	Research	21 days	Fri 09/30/11	Fri 10/28/11		100 %	3
5	Requirements Gathering Interview	1 day	Wed 10/05/11	Wed 10/05/11		100 %	
6	Requirements Gathering	14 days	Wed 10/05/11	Mon 10/24/11		100 %	
7	Specification and Requirements Document	6 days	Mon 10/24/11	Mon 10/31/11		100 %	
8	Prototype	12 days	Mon 10/31/11	Tue 11/15/11		100 %	
9	Requirements Revision	6 days	Fri 11/18/11	Fri 11/25/11		100 %	
10	Static Page Implementation	14 days	Fri 11/25/11	Wed 12/14/11		100 %	
11	Dynamic Page Implementation	53 days	Tue 12/13/11	Thu 02/23/12		98 %	
12	Testing	24 days	Mon 02/06/12	Thu 03/08/12		95 %	
13	Translator Evaluation	5 days	Fri 03/09/12	Thu 03/15/12		100 %	
14	Customer Evaluation	5 days	Fri 03/09/12	Thu 03/15/12		100 %	
15	Dissertation	31 days	Mon 02/06/12	Mon 03/19/12		70 %	
16	Presentation	4 days	Wed 03/14/12	Mon 03/19/12		70 %	

Figure B.1: Task Schedule - matching Gantt Chart Tasks

Figure B.2: Gantt Chart

B.3 Organisation

At the beginning of the project the team were uncertain as to who was most skilled in specific areas so it was decided that everyone would be involved in all stages of the project, to varying levels. As the project progresses it will become clear who is a strong leader in specific areas and those members will then be able to lead the way for that part of the project.

To make sure that, should a situation arise, there is always someone responsible for all tasks, we have assigned basic roles to everyone as follows

- **Project Manager - Stephen Hayton** - First point of communication between the group and the customer. Chairs meetings and maintains the projects schedule.
- **Toolsmith - Andrei Mustata** - Researches and trains the group in any new software required to fulfil the task.
- **Librarian -Alasdair Campbell** - Maintains the teams documentation including minutes of meetings, the project schedule, trac.
- **Quality Assurer - Wei Zhang** - Manages testing, assuring compliance with any requirement specification documents.
- **Configuration Manager - Paul Moore** - Organises modifications to the software project, maintains the version control system and enforces agreed coding standards.

There is enough overlap of the roles to overcome the situation of a member being unable to attend meetings due to illness.

B.4 Information Management

Our project data will be held on an SVN server with access rights given only to members of the team. This SVN server is hosted with Google, on Google Code. This means our project is open source. This is a requirement of using the CodeIgniter framework without having to pay for a license.

We also have a test server, to which we upload a second copy of everything from the SVN. This allows us to see the website as it will look on a browser viewed from a live web server. We have a script that we can run that will make sure everything that is on the server is also on SVN so that we do not loose work.

B.4.1 Communication

Our primary communication channel will be a mailing list, with every message archived on a server. Only members of the group can send messages to the team through the mailing list. Other methods of communication that we will use are:

- **Facebook** - Closed group page accessible by each member of the team, with ability to share multimedia content and instant messaging.
- **SMS/Phone** - Numbers were exchanged which proves a useful form of communication when a team member can't attend a meeting due to illness, for example.
- **Google Shared Calendar** - Every member can view and amend a group calendar set up on a GMail account.

- **Face to Face Meetings** - Every member will attend a weekly (or more frequent if needed) meeting to discuss progress.

B.4.2 Equipment, Materials, Facilities, and Other Resources

A wide variety of machines were used for the tasks in the project. The dissertation and reports were mainly written on lab machines in the Level 7 lab. The implementation was carried out mainly from home on team members individual personal computers and laptops running Windows and Linux.
During the supervised meetings notes were taken and distributed to the mailing list. The backups taken of documents were stored in various locations, such as on the university machines and at home. This provided a reliable backup and redundancy in case of media failure in one location. The backups of the test server were carried out in a similar fashion in case of server failure.

B.5 Assurance Plan

From our Professional Software Development course we have learnt that quality assurance is a major part of software development. From mistakes made in the past we now know that at least one member of the group should be appointed as Quality Assurer. This will minimise the risk of submitting poorly written code, documents or presentations and will greatly increase the standard of submitted work. This Quality Assurer should be a member of the team who is independent of the development team. This will allow them to report on quality issues without being influenced by the issues arising from software development. In a small team of five people it will be impossible to have a completely independent member being quality assurer however having people play to their strength means that one or two team members will be less involved with coding than others.

Quality Assurance will be carried out through all stages of the project: making sure that we adhere to set plans and deadlines, checking the standard of code submitted to the repository, and also spelling and grammar checking of the deliverables and dissertations.

These reviews and inspections, when used along with software testing, will allow us to validate our requirements and verify that our software does what we intended it to. The document reviews will insure that we right a document that is fitting to properly explain and describe all that we have achieved.

B.6 Risk Management Plan

Risk Management is an important part of any project. Risk Management Plans involve anticipating risks that might affect the project and creating contingency plans that will allow for the risk to be avoided or at least the effect of the risk to be minimised.

B.6.1 Risk Identification and Analysis

The identification of risks was initially handled at the Group Organisation meeting, and then later expanded upon in the Planning meeting. Everyone commented on potential risks personal to them and then we brainstormed as a team to come up with risks that may externally affect the project.

For all risks discovered we must:

- **Discover the root cause of the risk.**
- **Categorise the risk (e.g. catastrophic/critical/marginal/negligible).**
- **Minimise the risk if not remove it completely.**
- **Document the risk and how it was dealt with.**

Once the risks have been documented it is common practice to assign them a threat level so that lower level risks can be separated out from risks that may cause a catastrophic problem to the project.

The threat levels that will be used are as follows:

- **Insignificant:** Slight inconveniences to the project.
- **Tolerable:** Project is inconvenienced. There may be a potential to recover to stick to schedule.
- **Serious:** Would involve significant project degradation. Would take considerable team effort to fix and the viability of completing the project would be questioned.
- **Catastrophic:** Potential project abandonment due to risks that are out-with our control or to serious to recover from.

B.6.2 Monitoring

It is important to track any risks once identified. If a risk is identified as negligible at one stage and ignored for too long the severity of the risk may increase because we have simply worked around it and not removed it. Issues will be added to our issues list, functionality that is provided through Google Code SVN. The issue will be assigned a risk factor and the list will be reviewed by the team weekly.

B.6.3 Avoidance

As the project life-cycle develops, choices will be made as to whether or not to change aspects of the software design to avoid risks that may be introduced as a result.

B.6.4 Review

Risk will be monitored through our web-based issues list. These issues and risks will be discussed at our weekly meetings with team members giving their view on whether an issues poses significant risk to be acted upon. If any concerns are highlighted then the team will take action to resolve the issue.

B.6.5 List of Managed Risks

Risk	Probability	Impact	Trigger
Personnel shortfall at crucial development stages	Low	Serious	Illness, other commitments
Unrealistic schedule not adhered to	Medium	Tolerable	Improper planning of work time line
Inaccurate requirements capture	Medium	Serious	Miscommunication with client
Lack of technical knowledge in team (PHP, HTML, CSS, JavaScript)	Low	Catastrophic	Lack of commitment to other university courses or weakness in understanding
Shortfall in externally performed tests	Low	Insignificant	Laziness, misguided belief that software is fully secure
Team Members external commitments	Medium	Tolerable	Team member has commitments that prevent them carrying out team tasks
Requirement volatility - Client demands change	Medium	Serious	Client has change of circumstances e.g. budget, time, mind-set

Other risks that have not been planned for in this section are discussed in specific areas of the main project dissertation.

B.7 Configuration Management Plan

The team will identify all items that must be managed as part of the configuration management plan. This includes code, documents, and images that the team decide are necessary to be managed.

A baseline will be agreed upon for all files under management. This means all files will be reviewed and agreed upon and then serve as the basis for further development. This means there is always a base line of the last working version.

Diagram C1 outlines the process for Configuration management. All changes to the managed files are committed to the SVN where they are reviewed by the configuration manager and assessed to be acceptable or unacceptable. They are then added to the baseline or labelled as needing more work before being baselined.

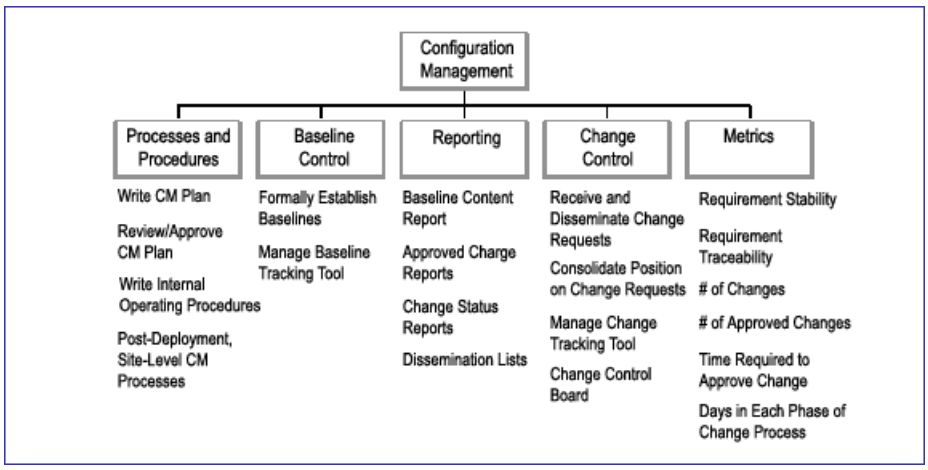


Figure B.3: Configuration Management Activities, [**?**]

Appendix C

Problem Definition

C.1 Problem Title - Website for a Translator

This project is suitable as a software engineering project. It may require participation from people other than the student and the supervisor as part of the evaluation.

You are going to develop a system for a free-lance Translator. The system should do the following:

- Advertise the translation system (attractive page)
- Register new users
- Allow people to upload documents and set ”to” and ”from” languages
- Allow them to log in and see the progress of their document
- When the translation has been done, the system sends them an e-mail and they can log in and fetch their translated file
- Linkage with PayPal to get payment sorted
- Admin page to provide an overview of exactly what work needs to be done
- An e-mailed newsletter to regular clients at regular intervals
- A feedback page where people provide testimonials to prospective customers
- Related products which can be bought (and paid for via PayPal)
- A link to Facebook

Appendix D

Evaluation Documents

D.1 Introduction and Consent

Bethel Translations Evaluation Consent Form
This evaluation will take about 20 minutes to complete. You may ask as many questions as you like before the evaluation starts. The tasks you have to carry out will be provided to you on another sheet. You are asked to circle YES if you successfully complete a task or NO if the opposite.
When uploading files please do not upload private or assessed documents lecture PDFs are an example of a good document to upload. All documents will be deleted after the evaluation and will not be opened or parsed.
When you have completed all tasks please tell the person in charge of the evaluation and they will direct you to the online questionnaire that has to be filled out to complete the evaluation. All results will be held in strict confidence, ensuring the privacy of all participants. No personal participant information will be stored with the data. Online data will be stored in a password protected computer account; paper data will be kept anonymous. Your participation in this experiment will have no effect on your marks for any subject at this, or any other university.
Please note that it is the website, not you, that is being evaluated. You may withdraw from the experiment at any time without prejudice, and any data already recorded will be discarded.
If you have any further questions regarding this experiment, please contact:
Team O: teamo@stbernadettes.co.uk
or
Karen Renaud (Team Supervisor): Karen.Renaud@glasgow.ac.uk

I have read this information sheet, and agree to voluntarily take part in this experiment:

Name: _____

Email: _____

Signature: _____

Date: _____ Age: _____

D.2 Task Sheet

Task Sheet: Client
Please navigate to www.betheltranslations.com then complete the tasks below.

Task 0: Navigate to all the pages of the site and write down the first thoughts you have about the site. Please write on the other side of this page.

Task 1: Please fill out the form on the home page and upload a doc. Please choose English to French translation.

Successful? YES NO

Task 2: Log in to your dashboard.

Successful? YES NO

Task 3: Check the status of your document and submit one more (French to Italian) Then accept one quote,

Successful? YES NO

Task 4: Download your translations

Successful? YES NO

Task 5: Contact Joëlle to negotiate the price

Successful? YES NO

Task 6: Logout and visit the Facebook page to leave some positive feedback.

Successful? YES NO

D.3 Survey Results

Results for survey: Bethel Translations Evaluation

Page: 1/1

Bethel Translations Evaluation

Thank you for agreeing to carry out this survey - all your answers will be treated annonymously. You must answer all questions for the survey to be valid.

Thanks,
Team O

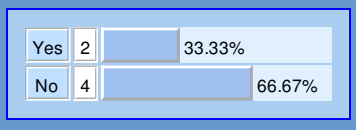
Question 1*

Please enter your age (this is for statistics only)

ID	Text Answers (6)	View
11291622	69	View
10911388	20	View
10911206	20	View
10911185	20	View
10911168	21	View
10910915	19	View

Question 2*

Do you feel that you successfully completed all the tasks on the task sheet?



ID	View Survey	If no - what task(s) could you not easily complete?
10910915	View	3) Couldn't accept quote... Paypal wasn't working.
10911168	View	3 4
10911185	View	Checking the status of my document - received php error.
10911206	View	couldn't submit a second file (task 3). Couldn't use paypal so therefore unable to download a translation (task 4).
11291622	View	Paypal section

Question 3*

Do you think the main form on the homepage has a well thought out layout? Did you make any mistakes when filling it out?

Yes I made mistakes + It's well laid out	0	0.00%
No i didnt make mistakes + It's well laid out	6	100.00%
Yes I made mistakes + It's not well laid out	0	0.00%
No i didnt make mistakes + It's not well laid out	0	0.00%

Question 4*

Were the menu items were well organized?

Yes	6	100.00%
No	0	0.00%

Question 5

Is it obvious to you, the user, where you are on the site at any current point? (In terms of the page you are currently visiting)

ID	Text Answers (6)	View
11291622	Yes	View
10911388	Fairly, only way to slightly improve it would be to perhaps make each main page's title's clearer. Could remove the duplicate 'Bethel Translations' at the top as it is already directly underneath another title of "Bethel Translations".	View
10911206	Sort of. You could add a sort of pathname type thing you see on forums but it would probably look crap with the minimalist design	View
10911185	Yes.	View
10911168	Yes except when you confirm your email address. You are then taken to a page which doesn't redirect you to the normal website.	View
10910915	Absolutely, very simple.	View

Question 6*

Do you like getting emails every time the status of your job/quote changes?

Yes	6	100.00%
No	0	0.00%
It Depends	0	0.00%

Question 7*

Is the vocabulary on our website appropriate for the intended audience?

Yes	5	83.33%
No	1	16.67%

Question 8*

Please provide a description in your own words about what you think the main aim of the website is

ID	Text Answers (6)	View
11291622	To provide a Translation service from English or Italian into French	View
10911388	Providing an online easy to use service for translating documents.	View
10911206	Getting quotes for translations of documents.	View
10911185	To translate documents from one language to another... for a fee.	View
10911168	Translating documents from one language to another.Translations are done by a person rather than a computer.	View
10910915	To provide translations for documents you upload.	View

Question 9*

What do you think about the site's design? Is it appealing or would you change something?

ID	Text Answers (6)	View
11291622	Rather Basic - I would add some simple graphics , some background to business service	View
10911388	Design is clear, concise and very easy-to-use.	View
10911206	It's really nice, like ... really nice.	View
10911185	Clean and simple, easy to use.	View
10911168	Nice and simple. Colours are not entirely consistent. On the homepage the 3 step section is not center aligned.	View
10910915	No, it is a very nice looking site which is simple to navigate.	View

Question 10*

Should we offer other payment methods or is PayPal enough?

Yes - please give details	1	16.67%
No	5	83.33%

ID	View Survey	If yes - what other options
10911168	View	Bacs?

Question 11*

What do you like about the website? Please give as much detail as possible about what is appealing.

ID	Text Answers (6)	View
11291622	Very simple layout - easy to use	View
10911388	The design, colours and such are friendly and welcoming. The user 'dashboard' is a great page that provides all the information that a user would want on their translations. Keeping up to date with the status of a translation seems to be a very easy process.	View
10911206	Simple design, hardly any fields to fill out for submitting a document.	View
10911185	Simple to use, user friendly. Responsive design is nice.	View
10911168	Simple to use, nice user account system.	View
10910915	Simple to use, which is everything you want in a website.	View

Question 12*

What could be improved on the website? - Please give as much detail as possible about what you didn't like.

ID	Text Answers (6)	View
11291622	Explanation of pricing options - whether deadline would play any role in the price to be charged -	View
10911388	Confirmation email is inaccurate i.e. client reference number is the password. User's would almost certainly want to set their own passwords as well. Assigning them a random one seems an unnecessary idea.	View
10911206	The select files button was a bit temperamental. It felt like a lot of work to verify my account, maybe include a description of what is going on when you enter your email for the 2nd time. Its also unclear if you need to include your name and email when submitting documents when already logged in.	View
10911185	Emails to activate to my account aren't clear in telling me what my password was. Possibly let users select their own password during signup?	View
10911168	The confirmation link should take you to a page within the actual website and possibly sign you in.	View
10910915	Possibly make the 'Login' button more noticeable, apart from that nothing !	View

Question 13*

Please rate the ease of use of our website out of 5, where 1 is Terrible and 5 is Excellent

1	2	3	4	5	Responses	Total
0%	0%	0%	66.67%	33.33%	6	26

Question 14*

Finally - taking the whole system into account - rate the site out of 5, where 1 is terrible and 5 is excellent

1	2	3	4	5	Responses	Total
0%	0%	0%	83.33%	16.67%	6	25

Appendix E

Summary Log and Status Report

The software system is in a completed state. It is currently live on `http://www.betheltranslations.com` and is available to be used by the general public. The only thing that currently needs to be fixed is to change the payment action to a real PayPal business account instead of the testing sandbox we have set up.

Other than this a potential customer is able to come to the site, find out all the information that they may need to make an educated decision about whether or not to use Bethel Translations and then to upload their documents for quotation. The translator can then carry out the process of quoting the user's documents and follow the process through to completion.

From our evaluation we believe that customers will find the system intuitive to use, however we have left Joëlle with a user manual to aid her use of the system, and we are now running a one month beta test. Should she have any problems she will get back in touch with us and if possible we will try to address any issues that may arise, after our examinations, during the summer break.