"DraftMarker"

Sample documentation

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Executive Summary

This report outlines the necessary and ideal design specifications to create the proposed DraftMarker web application.

From both research and industry consultation, it becomes evident that the site requires anonymity, authenticity, security and reliable access in order to gain and maintain a consistent market share of users. It is also discovered on numerous occasions that a current lack of a genuine assessment feedback service such as this currently exists in the field of educational commercialisation. This knowledge is taken and applied to the design of a three-tier application, in which a set of SQL Server relations are formulated, a class structure for the middle (processing tier) is loosely defined, and an interface reflecting these requirements for user, teachers and administrator groups is illustrated.

To ensure a more genuine, private, trustworthy and efficiently performing site, it is recommended that:

- The site be implemented using the specifications delivered within this document;
- The range of alternative scenarios presented in this document be adequately tested during this development to ensure the site meets its critical success indicators.

Following the agreed specifications detailed within this document, the site will be developed for a live launch date of $\frac{1}{1}$ day, $\frac{1}{1}$ at a time of $\frac{1}{1}$.

Overview

The proposed DraftMarker system allows users to obtain authentic, ethical help with secondary school subjects across Australia. Currently being developed in Queensland, the site aims to provide users with a "bidding" system for quality help with any tool of assessment or class work; in return, teachers can earn extra money in an anonymous environment. The site aims to circumvent the inconvenience and limitations of face-to-face teacher or tutor help, by utilising .Net technology to engage all workflow in a collaborative environment online.

An Introduction to DraftMarker

DraftMarker is currently a proposed web-based system that invites users to upload project or assignment work of any nature or state for checking by authenticated teachers. This 'checking' is a user-paid service, and is costed at a rate initially set by the teacher, to which the user agrees to pay. Further to this, statistics on site activity, secure payment details, teacher verification data and other content to enhance user confidence (discussed below) will be maintained by the DraftMarker service.

Primary Objectives of the DraftMarker Service

The DraftMarker system must provide an authentic, genuine, anonymous and accessible service for users to receive assessment feedback from teachers by utilising the proposed DraftMarker.com web-application service environment. This will be achieved through:

- Providing a web application that allows or denies access to site content (listed further below) based on User, Teacher or Administrator account privileges;
- Utilising an atomic transaction system that ensures secure payment is realised from users to teachers (including DraftMarker agent fees);
- Users and teachers must both have the ability to:
 - Sign up for the site with a secure password (and be able to change this);
 - Remain anonymous to all others either using or providing service.
- In addition to the above, users must have the ability to:
 - Post, modify and remove new requests for marking services;
 - Upload service request files for teachers to view;
 - Accept or decline teacher offers for marking services;
 - View teacher profile data (including accumulated statistics);
 - Make secure payments for services rendered;
 - Download completed marking service files;
 - Lodge complaints about perceived inadequate service.
- Teachers must also be able to:
 - \circ $\;$ List their qualifications, skills and experiences, and have these verified;
 - o Upload files for both authentication and verification;
 - Browse subject area requests and make bids for service;
 - Complete requested marking service on files within an agreed time frame;
 - View accumulated user statistics.

- All parties must sign legal agreements that disclaim all liability from the DraftMarker service, and outline privacy, security, terms of use and dispute resolution processes and procedures for all activities on the site.
- Create an administration back-end, so that the authorised site administration has an efficient, seamless, robust and intuitive link to all content and data passing through the site, providing access to (in addition to the areas mentioned above):
 - \circ Verify / authenticate teachers;
 - Resolve and investigate complaints;
 - Reviewing of financial transactions and other records / accumulated statistics, making modifications wherever necessary;
 - Provide the ability to moderate the site if necessary;
 - Update category lists and other data lookup systems;
 - Remove, modify, add, edit or delete requested or redundant data.

Secondary Objectives of the DraftMarker Service

Although not initial requirements of the DraftMarker Service, ideally the DraftMarker service should aim to:

- Execute an algorithm that rates teachers based on their experience, skill and on-site activity to provide a catalyst for building teacher reputation;
- Enable methods to sort bids based on cost, teacher reputation, user feedback or other variables;
- Allow users to search the site, and / or perform advanced searches of the teacher profile catalogue based on specific criteria;
- Provide accessible tax invoices for users;
- Print financial reports for teacher use based on request.

Objectives Outside of Current Scope

Finally, it is necessary to note the perceived future uses of the DraftMarker service, so that the system platform itself can be designed for growth. These objectives will depend on public reception of, opinion of and feedback on the prototype system:

- Enable a messaging system that can allow teachers to consult each other for marking services, professional development or other possible teacher collaborative activities (e.g. second opinions, in-servicing, contacts for employment networking);
- Expand services provided to allow teachers to buy, sell or share intellectual property of curriculum materials;
- Allow students to view other students work (if permitted), and possibly develop an assignment repository service for reference purposes;
- Create WAP versions of DraftMarker to be accessible on mobile platforms.

Literature Review

Before further discussion and specification can begin on the DraftMarker site, it is necessary to first review a cross-section of current research to better understand the scope of development, issues and legalities within this dynamic e-commerce venture, as these Web 2.0 technologies have had tremendous impacts on education and the way students learn in recent years. As a result of this impact, web based learning paradigms have gained significant momentum in Australian secondary schools. A by-product of this trend is the continual and heavy reliance on digital environments in which most assessment is now (to an extent) undertaken. For example, assessments in nearly all syllabuses requires the integration of ICT's; most assignments are "typed up", and many Government schemes now exist to lower student-to-computer ratios closer to 1-to-1. It is proposed that this trend will act as a catalyst to make DraftMarker.com a more valuable and viable commercial enterprise; the research presented below will be reviewed to potentially support this position.

Electronic Educational Feedback

It is necessary to begin investigating research into prevailing trends in electronic feedback. Kerr (2011) identifies that online learning is an emerging alternative to traditional classroom learning, as the resources to give a quality education online are now readily available. Kerr (2011) continues that this online education leads to students working more individually and in greater isolation, and thus having to take a more active role in their studies. Thus, timely and adequate feedback is required more-so to meet student responsibilities for quality online learning (Kerr 2011). This is equally supported by Espasa and Meneses (2010), who conclude that feedback in online environments is significantly useful in helping students selfregulate their learning to improve their assignments. Finally, Millaron (2010) summarises the benefits of online course content and feedback in a realistic view of current education; this author initially identifies the value of an online component of work that can significantly help "at-risk" students attend and succeed. Millaron (2010) adds to this that up-to-theminute immediate feedback based on performance (akin to immersive learning in video games) allows students achieve at a higher level, and that the cost of providing this online (as opposed to purchasing textbooks and attending bricks and mortar venues) is significantly cheaper and provides potentially better quality learning experiences. The information reviewed to this point clearly supports the authors' initial position, that a service for online feedback for learners will have increasing application in Secondary education institutions.

Further research highlights the additional value electronic feedback plays in enhancing a quality educational experience. Quinlan (2010) believes her online teaching experience was rich and valid, but specifies that policy guidelines must be developed for uploading / attaching files. Rao et al. (2011) identifies the benefits of synchronous feedback in student learning online; which is currently unplanned for the DraftMarker system, but offers ideas for future synchronous collaboration of feedback without violating anonymity. Rao et al. (2011) suggests "desktop sharing" which could have some application to future revisions of the DraftMarker system (if an agreeable timeframe and security protocols were established). Jones (2011) identifies the role of an online instructor as a facilitator of learning (in addition

to course designer and subject expert), through providing comments and feedback on discussions and exams using scores and written comments. The author notes that Jones (2011) specifically does not make mention of feedback on assignments or projects directly as a role of the online instructor; it is therefore proposed that the DraftMarker system will "fill this gap". Saltmarsh and Sutherland-Smith (2010) interviewed participants that had taught in an online environment. They discovered that these teachers found the ability to engage students online irrespective of personal circumstance, lifestyle or preference; and furthermore, managed to do this using stimulating, flexible and interactive pedagogical techniques (Saltmarsh and Sutherland-Smith 2010). This research supports the proposal of the DraftMarker system as an educationally enriching tool that has the potential to offer its users an enhanced learning value. The use of this service as a viable e-commerce enterprise will now be reflected upon using research in this area.

Educational E-Commerce

DraftMarker will utilise an E-Commerce environment to provide assessment feedback, which can essentially be categorised as a service-oriented venture as the value of the merchandise (the investment made by the user) is paid in the benefit to the user's education. June and Neelakantan (2010) discuss the use of off-shore marking and feedback companies for educational institutions to outsource their assessment items to. These authors find that there is a significant debate in the use of outsourcing this work, as often these markers are not aware of "background" information that was given "in-class"; however, they identify benefits in the speed of feedback that a course instructor can rarely keep up with; furthermore, these outsourced companies identified writing errors, including grammar and organisation of content (June and Neelakantan 2010). It is believed DraftMarker will keep with this rapid delivery of feedback through its inherent "allowable timeframe" design; however, by using authentic localised teachers that are better trained and experienced in the subtleties and nuances of the curriculum being delivered – and allowing users to make this choice (whilst maintaining anonymity) – will offer an affirmative argument to the use of the DraftMarker service in the aforementioned debate.

The use of the .Net framework to create a real-time bidding system for teacher-user service agreement that DraftMarker will provide has many benefits in its application. Wei-Lun et al. (2010) states that commoditisation of online services is growing globally, and as such the need for a memorable service is now necessary to both compete for and attain significant market share. Verma et al. (2011) highlights the benefits of this system, which include geographical bridging, the speed in which agreements can be reached outside business hours, the larger pool of teachers available for bidding, and the low overhead cost to DraftMarker.com to provide such a system. Huang and Yang (2011) appear to support the use of implementing messaging between user and teacher before agreement to service; as these authors identify that positive electronic messages endowed to the user by the seller (in the DraftMarker case teacher) can better encourage a user to accept a bid, and influence that user to pay a higher price for the service. Huang and Yang (2011) recognise that these messages reduce the uncertainty – and thus the perceived risk – the user may have when paying in advance for a service. This research can be applied to the assessment feedback

commodity (within a larger educational process) that DraftMarker can essentially provide if the business model taken from the lessons and conclusions drawn by the research are followed.

Providing Better E-Commerce Service

To develop a more effective web service, it is necessary to further identify some characters of successful e-commerce sites. Schmidt (2009) identifies the need to establish trust for a successful and secure e-commerce service; this trust must be formulated by proper authentication and authorization, as well as maintaining privacy and transparency. Yu-Shu and Lih-Tsyr (2009) illustrate the benefits of offering a digital service (such as the DraftMarker system); there is no deterioration of product quality when sharing intellectual property, the digital space required to store this intellectual property is feasible using currently available web servers, the user and teacher can purchase / accept this intellectual property at any time / location, and the ease of transferring and processing this between parties is significant. Ying (2010) discusses the use of different pricing models in a bidding system. Ying (2010) explains that although setting a reserve price (such as the price the teacher sets for the service) may lead to a decrease in the number of acceptances of the service (as the perceived price may be seen as too high), the reserve price will actually also result in an increased profit for those services that are eventually taken and paid for. The DraftMarker service will attempt to implement these features (as shown in its design further below) to establish itself and the services provided as a trusted, profitable and sustainable ecommercial venture.

Essentially, the research has shown thus far that there are clear benefits to the DraftMarker system proposed. It must be noted at this point that the ethics and morality of teachers providing help online may be questioned. Estrada (2010) discusses the use of teachers interacting with students through online mediums, such as social networking sites. Although this presents an extreme case of unprofessional behaviour, the lessons learnt from Estrada (2010) can be directly applied to the DraftMarker site – the user and teacher must remain anonymous, and site content must be strictly professional, monitored and sanctions enforced wherever necessary. Given this, it can be identified that the benefits shown in the above research of such an e-commerce site provide valid argument to the implementation of this service. This argument is well summarised by Chetwynd and Dobbyn (2011), who states that effective feedback is essential for (distance) education learners, and that quality feedback provided on assignments can help students be more independent and self-critical in their learning – essentially enhancing them to improved performance on high stakes assessment.

In reflecting on the above research, the author's initial position that the DraftMarker service will be a viable and valuable web service can be supported provided the elements of success in such an online environment are strictly adhered to. It would be beneficial to conduct further research based on the objectives outside of the current scope of the project before these were implemented in future revisions of the site. The report will now focus on the inception of the DraftMarker idea and its necessary (and featured) requirements.

Ideating the DraftMarker Business Model

The DraftMarker business model has been developed in consultation with multiple teachers, parents and curriculum stakeholders in Queensland Catholic and State Education services. The informally recorded insights of these parties, as well as the decade of teaching experience and insight in providing assessment feedback services through local network, intranet and web services provided by the author of the site, led to the founding of the perceived commercially viable DraftMarker idea. To better support the value in developing this service, it was first necessary to investigate current industry opinions and attitudes towards the marketability of the service being provided.

Brainstorming the DraftMarker Concept

Initially, the author of the proposed DraftMarker system investigated schools within the Cairns, Queensland area, specifically targeting teachers of secondary school syllabuses (years 11 and 12), as well as parents of these students. It was evident from these informal discussions that:

- Most tutors provided or available in the area were experts in their domain, but not "teachers" in the sense of knowing what QSA (Queensland Studies Authority) syllabus requirements targeted with specific assessments;
- These tutors were available at a fixed price, and were available only at specific times (not late at night for example);
- Assignments available on pre-written essay sites are *rarely* used by students. This is due to:
 - The expensiveness of the paper to be written (it is believed that the cost of these will be well over five times the expected cost of a teacher personally reviewing the students work on DraftMarker.com);
 - These sites not addressing the specific syllabus requirements of Australian schools or State curriculum boards, nor the specific task the teacher has set (which often involves a component of "un-cheat-able" in-class activity, practical aspect or personal opinion and presentation to discourage plagiarism);
 - The inability of the student to show work in-class work or checkpoints leading up to the due date, which raises teacher suspicions in lieu of work being submitted (and as a by-product, avoiding the wasting of students time during these lessons leading to further disciplinary issues, where work produced with some scaffolding provided by DraftMarker may lead to a better result).
 - The futility, the weight of conscience and the fear of being caught in purchasing an entire unseen paper for purposes of being rated by tertiary entrance authorities, whereby reviewed work produced by the student would lead to more fulfilling and genuine success.
 - The Australian competitor sites in this instance include Best Essays (<u>www.bestessays.com.au</u>) and OZ Essay (<u>www.ozessay.com.au</u>), whilst American based sites, such as Total Essay (<u>www.totalessay.com</u>) or Essay

Writing Service (<u>www.essaywritingservice.com</u>) offer these assignment producing services – which are more geared at tertiary level students.

- Most dedicated parents with the means to do so would happily pay a smaller sum for the convenience of teacher feedback for their son or daughter.
- Teachers would not over exert themselves on the site to perform services; rather, they see this opportunity as a convenient way to supplement their current income.

The results of the Brainstorming of DraftMarker concept can be found in *Appendix A: Brainstorming Session,* which is the illustration of this work showing the initial intended workings of the DraftMarker service. The intention of the Brainstorming Document (Appendix A) is to be used as a guide for further specification of the system. It is important to note the Brainstorming Session Document (Appendix A) contains a number of **Unique Selling Points** directed towards both users and teachers – these are left for reader perusal.

User Demographics and Psychographics

Given the ideation of the DraftMarker system thus far, it is clear that the users of this system can be predominantly classed into two categories:

Paying Users

The majority of the paying users of the site will be Australian secondary school students, *funded by* their parents or legal guardians. These users may exhibit any of the following generic characteristics:

- Be interested in achieving higher results in secondary schooling;
- Have access to funds to afford this extra level of service;
- Experience difficulty in accessing individual, personal help from teachers, either through large class sizes, lack of confidence in teachers, or unable to get a level of help that they require;
- Parents or legal guardians attempting to encourage better sibling results;
- In a minority of cases, students (or teachers) seeking a second opinion on feedback provided.

Teachers

The service itself will be provided by teachers. Teachers will sign up to the site, authenticate and verify their qualifications due to:

- Increased financial earnings, desired as:
 - Extra-curricular activities including all overtime in all Government and Catholic Education Schools is unpaid;
 - There are *incredibly few* easily accessible opportunities (such as this) for teachers to earn extra money using their domains of expertise.
- In this instance, using the DraftMarker system, teachers can work from home, at their own leisure and convenience; earning money simply by applying skills they utilise every day.

- There is no risk helping students anonymously; unlike help given in class, there is no liability or risk of the teacher being accused of providing unfair, biased, inadequate or incorrect help, as it impossible for the teacher to be identified. The worst case scenario of a dispute of service will simply lead to a closed-case full refund – there is no damage to the day-to-day reputation nor the career of the teacher, and as such they do not have to worry about facing or dealing with ongoing disputes.
- Retired teachers, supply teachers and part-time teachers can use the system to continue to supply their knowledge and skills to Australian students.

Factors Influencing Success

There are a number of contextual variables that will influence the use (and profitability) of the site.

Ability to Stay Anonymous

Teachers are ethically and morally unable to provide a higher level of attention to individual students work. Teaching is often considered an altruistic job; after a teacher has reached a period of several years service, they are not highly paid nor highly regarded as the larger majority of graduates with equal level Bachelor degrees and experience; as such, teachers often seek the nobility of their craft as reward. It is this level of altruism that teachers are paid for, and through the opportunity and anonymity of allowing teachers to help as much as possible to those who genuinely require it (by their willingness to pay), this site will stay profitable.

Teacher Bid Amount

The teacher bid amount – from which DraftMarker will earn its agent fees – will be influenced by:

- Scarcity of teachers within a subject area;
- Risk stakes of the assessment item;
- Complexity of marking involved.

Teachers within areas that are traditionally under-skilled or under-staffed – including Physics, Chemistry or Mathematics Extension II (Mathematics C) may have less competition that results in higher working prices. Risk stakes of the assessment item will also affect bid amounts; assessment that is not cumulative for university entrance scores will not attract as high bid prices as that which is. Finally, the complexity of marking presented will affect the profit margin of the service; for example, an *extended experimental investigation* in Biology will take more time to thoroughly process than smaller written speeches for Drama or PowerPoint presentations for Tourism.

Variability of Prices, Accumulated Reputation

Teachers can set their price based on what they perceive as a competitive price (and suitable retribution) for their services; this is empowering to all employees of the State and Catholic Schools of Australia paid a fixed rate under the Enterprise Bargaining Agreement award. With variability of prices, and the ability to pay more for a teacher with more experience, rated more highly for help than other teachers will presumably drive profit margins higher.

Critical Success Indicators

Based on the discussion and ideation thus far, there are reoccurring *critical success indicators* that can be used to measure the success of the DraftMarker service. These critical success indicators are often inter-dependent; for example, the value of the site and the ability of the site to establish itself as both credible and uniquely different are all co-dependent to the overall success of the site. Having established this, these correlating criteria have been separated and tabulated below, and will form benchmark criteria for site assessment upon site completion:

Criteria	Description
Privacy	Can the users and teachers maintain complete anonymity from each other, and furthermore can the site ensure the identity, including sensitive and personal data used on the site remains protected and inaccessible from all unauthorised uses?
Authenticity	Can the site provide a genuine service, provided by authentic teachers, where trust and credibility are established early, and the site is considered by targeted users to be an authoritative resource?
Commercial Value	Is the value of the service provided to users beneficial to their well-being and self-betterment, so-much-so that the economic outgoing of that service is worth the expenditure and costs the user incurs?
Individual Identity	Is the site unique or different enough to establish itself as a niche commodity that is not yet provided in educational services? Do people associate the core objectives of this service (as defined in this site proposal) with what it actually provides?
Customer Use	Is the site receiving use, hits, feedback, and being advertised or promoted through third party networks or mediums (including word of mouth)?
Engagement	Are users and teachers using the site for elongated periods of time?
Aesthetics, Control and the User Interface	Does thorough testing of the site show customers find the navigation to in any way be difficult, complicated, demanding or problematic? (e.g. are all content areas accessible within a minimal number of clicks). Does this same testing show the site to be appealing, pleasing, identifiable, with the colour scheme and layout reflecting its interests as a professional but

	accessible education commodity? Does the site layout take into account best practices in modern ergonomics? (e.g. reducing the repetition of mouse movements)
Reliability	Are there any hardware or application errors that prevent users or teachers from conducting or performing their business at any given time, utilising all areas of the site to their fullest potential without anomalies or unnatural behaviours?
Robustness and User Proofing	Does the site handle incorrect or bad data, including attempts to misuse the service in the best possible manner, including the use of error logs and error pages with quality explanations that assure the user of their mistake?
Help and Service	Dose the site offer extended prompts, and use verbal tool tips and iconic queues to best help highly inexperienced users through the site?
Platform Independent	Does the site function across all of the current major web browsers, including Internet Explorer, Mozilla, Firefox, Chrome, Safari, Opera and mobile technology browsers?
Crisis Response	If the site fails, or suffers a serious breach of security or other activity that prevents use or compromises integrity, are their fail-safe response measures in place that can minimise the harm and risk to the DraftMarker service and reputation?
System Development	Is the database free of redundancy following prolonged periods of use? Are there any compromises to the security or integrity of the data storage area? Is the code written using non-cluttered, modular, efficient techniques employing best-practices in programming? Is the code portable and easily scalable, flexible, upgradeable and maintainable for future programmers to simply "pick-up" and use?
Sustainability	Is the site profitable, and will it continue to reach a profit, using similar or new techniques? Is the site controversial or compromised on any moral or ethical grounds, and if so does this controversy (despite or in-spite of profits) prevent the site from being sustainable in any short or long term capacity?

Risk Assessment

Before specification of the DraftMarker site can begin, it is necessary to outline the perceived risks of creating this site, so that these can be managed and planned for within the specification documentation.

Risks to the successful development of this site include:

• Lack of experience, skill, knowledge or resource of the developer to produce the site;

- Production of the site is hindered by unforseen or unexpected events, including (but not limited to) natural disaster, sickness, ill-fortune or other events outside the locus of control of the developer;
- Competitors developing an alternate site utilising the same or similar idea, and publishing this before the DraftMarker site can successfully gain a sustainable user base;
- Intellectual property theft from other potential and viable competitors;
- Difficulties in legalities associated with providing educational services, including the raising of morality concerns, or the ethical questions or debate of such a service, including working anonymously, or questioning the responsibilities of all users, teachers and wavering of the sites legal obligations;
- Technology change, the site or software being used to develop the site becoming unsupported, outdated or discontinued;
- Other unmentioned or unforeseen circumstances under which considerable time is lost, to which the developer cannot meet the deadline put in place for the live site date of ##/##/##.

These risks can be successfully mitigated using strategies such as maintaining production ahead of schedule (essentially 'buying time'), factoring into the time schedule a buffer of at least 20% to allow for lost time. Given that this project is currently for academic merit, it cannot be outsourced, however future developments of this site – if it were to be used past the live date – could essentially be outsourced, protecting any investment made by any stakeholder with DraftMarker business interests.

Operational and Maintenance Risks

Once the site is live there are security risks that must be addressed. The Sense of Security Website (2011) identifies application and cookie tampering, server browsing and exploitation, hi-jacking through backdoors and scripting, as well as denial of service, SQL injection and other attacks on system integrity as all potential and typical findings of unsecured web applications. These risks have the potential to compromise user, teacher, service or payment data – which can lead to lost revenue and a decrease in site reputation.

In-production, the following risk management strategies will be used to mitigate the effects of the potential security breaches upon the live launch of the site:

- Use of client and server side form validation;
- Type safe .Net parameter validation for SQL queries;
- MD5 encryption of passwords;
- Secure server location running behind software / hardware firewalls with unnecessary ports closed;
- Comprehensive verification and authentication checks, as well as human tamper checks on all payments received for service over a specified income level (*starting at payments received over \$50*);
- Credit card numbers will **not** be stored by the site.

System Architecture

To best meet the needs of the DraftMarker system, the service will be implemented as a web application using three-tier architecture. The three layers that make up this architecture are:

- a front-end interface, created by dynamically generated web forms integrating HTML, CSS and JavaScript and rendered by the users web browser;
- a processing layer, which forms the processing load of the application utilising the .Net framework on the web server itself; this layer will interact as an active operational agent between the interface layer and (following) database layer;
- a database layer, which acts as a structured storage facility for content on the site; this layer will be managed by MSQL Server with which the processing layer can operate.

System Requirements

Given the architecture chosen for this project, the following hardware and software is necessary to carry out the successful development of the DraftMarker system:

Hardware / Software	Status
IBM Compatible PC (meeting system requirements for software listed below, plus a minimum 1.5 MBit internet connection)	Purchased and tax deductible
Microsoft SQL Server 2008 Management	Available for free download at:
Studio Express (Version 10.00.1600.22)	http://www.microsoft.com/downloads/
Microsoft Visual Studio 2010 Professional	Available via DreamSpark licensing agreement: https://www.dreamspark.com/

Given that the server-side processing comprises the processing layer for which the browser interface and database layers interact, the expected hardware requirements for the web server running the DraftMarker service are:

Hardware / Software	Status
Microsoft Server 2008	Provided by external off-site web host for a fixed price
Microsoft SQL Server 2008 r2	Provided by external off-site web host for a fixed price
.Net (minimum allowable platform version 2.0.50727.42)	Installed on external web host
Fixed IP address and port access to SQL Server database, as well as FTP access to WWW public HTML folder (web root)	Available through external web host

Project Schedule

The work breakdown to specify and develop the DraftMarker system has been broken down into the tasks listed in the left-hand column of *Appendix B: Work Schedule*. The Work Schedule document (Appendix B) formulates the projected time-plan of the development of the DraftMarker site. Two milestones have been created – the presentation of the proposal documentation, which occurs on Thursday 31st March 2011, as well as the completion of the live system, which occurs on Friday, 27th May 2011. To reach the second of these milestones, dependent tasks must be completed as shown in the following table:

Task	Dependent Task(s)
Commencement of the implementation of the specification document.	 Preliminary Development Tasks, including: ABN approval; Business financial account setup; Domain name registered; Site hosting provided (although not necessarily a preliminary development requirement, this is useful in determining versions of .Net and SQL Server available).
Database, Class and Interface implementation	Specifications of relations and classes to use, as well as aesthetics and desired functionality of site.
Styling and aesthetics	A wireframe version of the site to determine spacing, width and areas required for content presentation panes.

Project Dependencies

Use Case Scenario

To best understand the system functionality of the proposed DraftMarker.com site, it is necessary to investigate a live sample of proposed use cases for each different type of visitor to the site – specifically User, Teacher and Administrator.

User

Users may typically follow one of the following paths through the site:

Process	User A	User B	User C
1	Sign up to site	Request forgotten password	Log in to site
2	Browse through site areas – requests, bids, completions (empty content)	Log into site	Go straight to completions area
3	Browse teacher profiles	Change password	Download completed files
4	Post a new request	Navigate to bids	Rate teacher feedback – unpleased with service
5	Cancel post	Accept a bid for a service. Pay for the service using a secure payment facility.	Lodge an official complaint
6	Post a new request, uploading files	Receive secure confirmation of payment – accepted.	Post a new request, hiding it from a specific teacher
7	Log out	Close browser window	Log out

Teacher

The following process logs are illustrative only of a teacher using the DraftMarker service:

Process	New Teacher	Existing Teacher
1	Sign up to site	Log into the site
2	Complete application form	Download files to mark from work area
3 – Time elapsed off-site Wait for authentication		Complete work using own local software
4	Log in to the site	Upload completed files, mark as done

5	Upload files for verification	Check payment history
6	Browse subject area requests	Browse subject area requests
7	Lodge a bid for a request	Make modifications to profile
8	Log out	Close browser window

Administrator

The following example is indicative only of a typical administrator (SuperUser) session performing activities on the DraftMarker site:

Process	Administrator (SuperUser)
1	Log into site
2	Change password
3	View unresolved complaints – sort by date lodged
4	 With most outstanding complaint: Browse initial request and bid history Browse completed work Adjudicate decision – refund granted Affect decision in data records
5	Browse teacher authentication and verification records – sort by <i>decision awaiting</i> status
6	View uploaded documented evidence for authentication and verification – affect decision in data records
7	Browse site payment records

Combined Use Case Scenario Diagram: DraftMarker.com

Thus, the above user case scenarios reflect a total case scenario that can be represented by this diagram:



Database Design

The following Entity Relationship Data Model seeks to successfully meet the requirements of the DraftMarker service detailed above. This design is immediately followed by a set of normalised relations (to third normal form) that can be implemented to form a non-redundant, efficient storage solution to the underlying data tier of this application.

Entity Relationship Diagram - DraftMarker.com



Table Relations - DraftMarker.com

USER (<u>Username</u> , Password, Email, DateTime_of_registration)
REQUEST (Request Tracking Number, Username, Subject_area, DateTime_request_logged, DateTime_required_agreeance, DateTime_required_completion, Job_desc,
Show_teachers, Exclude_teachers)
REQUEST_FILES (<u>Request_File_ID</u> , <i>Request_Tracking_Number</i> , File_name_path, DateTime_file_uploaded)
BIDS (<u>Negotiation_number</u> , <i>Teacher_Pseudoname</i> , <i>Request_Tracking_Number</i> , Bid_amount, Teacher_initial_comments, DateTime_bid_logged, Bid_status)
SERVICE (Service_number, Negotiation_number, Service_status, Service_desc, DateTime_service_completed, Teacher_feedback_rating)
SERVICE_FILES (Service_File_Number, Service_number, File_name_path, DateTime_file_uploaded)
COMPLAINT (Complaint_number, Service_number, DateTime_complaint_received, Complaint_desc, Resolution_details, DateTime_complaint_resolved)
TEACHER (<u>Teacher_Psuedoname</u> , Password, First_name, Surname, Other_names, Address_line_1, Address_line_2, Town_or_city, State, Postcode, Country, Daytime_phone,
Other_phone, Email, Teacher_registration_number, Registration_state, School_email_address, Account_name, Account_BSB, Account_num, DateTime_signup, Authenticated)
AUTHENTICATION_VERIFICATION_FILES (Evidence_number, Teacher_Pseudoname, File_name_path, DateTime_file_uploaded)
VERIFICATION_CLAIMS (Verification_claim_number, Teacher_Pseudoname, Verification_claim, Verification_category, Verification_granted, DateTime_verification_granted)
TEACHER_SUBJECT_AREAS (Teacher_Pseudoname, Subject_area_code)
SUBJECT_AREAS (Subject_area_code, Subject_name, Subject_description)
PAYMENTS (Transaction number, Negotiation number, DateTime transaction, Amount paid, Payment status, Payer first name, Payer last name, Payer street address,

Payer_city, Payer_state, Payer_postcode, Payer_country, Payer_contact_phone, Payer_email)

Additional Relations

In addition to the relations identified above, it is further necessary to store the following information to ensure both security and a higher level of efficiency in the DraftMarker system.

SuperUser Accounts

To manage administrator accounts, the following relation must be created:

SUPER_USER (Account_number, Username, Password)

Verification Categories and Claims

To better manage the categories and claims under which teachers can verify their qualifications (e.g. "Years Experience", "Current Position", "Curriculum Co-ordinator", etc.) a relation will also be created *provided* the user testing reflects a need for these categories to be consistently updated. It is anticipated that like categories and claims are an advantage between teachers when it comes to advanced searching, sorting and comparing by set criteria.

VERIFICATION_CATEGORY (Category_number, Category_name)

VERIFICATION_CLAIM (Claim_number, Claim_name)

Show and Exclude Teachers

It is evident that if multiple teachers wish to be shown / hidden, separate relations must be created to handle these requests. Thus, the following relations must be created to handle these requests:

REQUEST_SHOW_TEACHERS (Request_Tracking_Number, Teacher_Psuedoname)

REQUEST_HIDE_TEACHERS (Request_Tracking_Number, Teacher_Psuedoname)

Note – Once these relations are created, the *Show_teachers* and *Exclude_teachers* attributes in the REQUEST relation above are no longer needed – this has been reflected in the following entity and attribute definitions.

Entity and Attribute Definitions

To better understand the relational data storage requirements for the DraftMarker system, the following entity and attribute explanations will detail the functional use (where required) of each of these fields. **Bold** attributes illustrate required values for entities. Projected data types are listed beside each attribute.

USER : The parent table of all users that sign up for the DraftMarker service.		
<u>Username</u>	VARCHAR (128)	Uniquely identifies any particular USER. No less than 6
		characters, no more than 128.
Password	VARCHAR(15)	MD5 encrypted string. Minimum 6 characters, maximum 15.
Email	VARCHAR(255)	Valid email address for correspondence.
DateTime_of_registration	DATETIME	Time stamp for the moment this record is initially entered.

REQUEST : For users to create, modify or remove multiple requests.		
Request_Tracking_Number	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion requests. At 4 bytes per storage, if this were ever not enough, BIGINT could be used at 8 bytes per storage.
Username	VARCHAR(128)	USERS Username posting the request.
Subject_area	VARCHAR(64)	The value of this can be selected from a list of distinct values from the SUBJECT_AREAS entity discussed below (<i>Subject_name</i> attribute)
DateTime_request_logged	DATETIME	Time stamp for the moment this record is initially entered.
DateTime_required_agreeance	DATETIME	User selected Date and Time for the allowable time frame in which bids will be allowed – so that agreeance can be reached.
DateTime_required_completion	DATETIME	Restricts allowable time frame in which teacher can complete marking.
Job_desc	ТЕХТ	User types / adds accompanying notes with request which teachers can read before bidding. Thus, this is ideal, but not required.

REQUEST_HIDE_TEACHERS : These teachers will not be able to see this request.		
Request_Tracking_Number	INT	REQUEST <i>Request_Tracking_Number</i> to hide from these teachers.
Teacher_Pseudoname	VARCHAR(128)	TEACHER <i>Teacher_Pseudoname</i> that cannot see this REQUEST.

REQUEST_SHOW_TEACHERS : Preferred teachers will see this request only.		
Request_Tracking_Number	INT	REQUEST <i>Request_Tracking_Number</i> to show these teachers only.
Teacher_Pseudoname	VARCHAR(128)	TEACHER <i>Teacher_Pseudoname</i> that can see this REQUEST.

REQUEST_FILES : Multiple file	es for users logging re	quests.
Request_File_ID	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion request files. At 4 bytes per storage, if this were ever not enough, BIGINT could be used at 8 bytes per storage.

Request_Tracking_Number	INT	REQUEST <i>Request_Tracking_Number</i> connected to these files.
File_name_path	VARCHAR(255)	System dir + file name + "." + extension
DateTime_file_uploaded	DATETIME	Time stamp for the moment this record is initially entered.

BIDS: For users to create, modify or remove multiple requests.		
Negotiation_number	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion bids. At 4 bytes per storage, if this were ever not enough, BIGINT could be used at 8 bytes per storage.
Teacher_Pseudoname	VARCHAR(128)	TEACHER <i>Teacher_Pseudoname</i> that made this BID.
Request_Tracking_Number	INT	REQUEST <i>Request_Tracking_Number</i> that this BID was made on.
Bid_amount	MONEY	Monetary unit to represent how much the teacher has bid.
Teacher_initial_comments	TEXT	Return comments to the user – will most likely describe what the teacher is going to do, so that the user can decide whether or not to take the bid. These pre-sale conversations will help solve future disputes, although not mandatory, a good idea.
DateTime_bid_logged	DATETIME	Time stamp for the moment this BID is initially entered.
Bid_status	VARCHAR(20)	Will either be "awaiting_decision" (default), "declined" or "accepted".

SERVICE: Completed service details.		
<u>Service_number</u>	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion services. At 4 bytes per storage, if this were ever not enough, BIGINT could be used at 8 bytes per storage.
Negotiation_number	INT	The BID for which this service was completed.
Service_status	VARCHAR(20)	The status of this SERVICE. This will either be "Incomplete" (by default), "Complete" or "In_Dispute".
Service_desc	TEXT	Teacher written comments on the service performed. Not mandatory, but will aid in the dispute resolution process.

DateTime_service_completed	DATETIME	Time stamp for the moment the SERVICE <i>Service_status</i> is marked as "Complete".
Teacher_feedback_rating	VARCHAR(20)	The teacher rating of the completed SERVICE. By default this will be "Unrated", but may be changed to "Helpful" or "Unhelpful".
Note – DateTime_service_commissioned was not listed in this table definition – as this value is equal to the PAYMENTS <i>DateTime_transaction</i> at which the PAYMENT <i>Payment_status</i> = "Completed" AND PAYMENT <i>Negotiation_number</i> = SERVICE <i>Negotiation_number</i>		

SERVICE_FILES: Multiple files for users logging requests.		
Service_File_ID	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion service files. At 4 bytes per storage, if this were ever not enough, BIGINT could be used at 8 bytes per storage.
Service_Number	INT	SERVICE Service_Number connected to these files.
File_name_path	VARCHAR(255)	System dir + file name + "." + extension
DateTime_file_uploaded	DATETIME	Time stamp for the moment this record is initially entered.

COMPLAINT : Complaint lodged about a particular SERVICE.		
<u>Complaint_number</u>	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion complaints. At 4 bytes per storage, if this were ever not enough, BIGINT could be used at 8 bytes per storage.
Service_number	INT	The SERVICE to which the COMPLAINT is connected.
DateTime_complaint_received	DATETIME	Time stamp for the moment this COMPLAINT is entered.
Complaint_desc	TEXT	User description of their dissatisfaction. This is mandatory to discourage USERS simply complaining for a chance of refund.
Resolution_details	TEXT	Once the COMPLAINT is investigated, details can be entered here by the Administrator. It may yet be resolved – this field can be edited on an ongoing basis.
DateTime_complaint_resolved	DATETIME	Date / time for the moment this COMPLAINT is resolved entered by Administrator.

Note – There is no Complaint_status field – as the status was decided to be either "Resolved" or "Unresolved", so to save space it was decided that if the complaint is unresolved there will be no resolution date entered here (the opposite is true for resolved complaints). Depending on testing, this may change.

TEACHER: The parent table of a	all teachers that sigr	n up for the DraftMarker service.		
Teacher_Psuedoname	VARCHAR (128)	Uniquely identifies any particular TEACHER. No less than 6 characters, no more than 128.		
Password	VARCHAR(15)	MD5 encrypted string. Minimum 6 characters, maximum 15.		
First_name	VARCHAR(50)	First name		
Surname	VARCHAR(50)	Surname		
Other_names	VARCHAR(100)	Other names		
Address_line_1	VARCHAR(100)	Address Line 1		
Address_line_2	VARCHAR(100)	Address Line 2		
Town_or_city	VARCHAR(50)	Town or City		
State	VARCHAR(20)	State		
Postcode	VARCHAR(10)	Postcode (10 characters for future overseas expansion)		
Country	VARCHAR(30)	Country (As above)		
Daytime_phone	VARCHAR(14)	Daytime Phone (not mandatory)		
Other_phone	VARCHAR(14)	Other Phone (not mandatory)		
Email	VARCHAR(255)	Valid email address for correspondence.		
Teacher_registration_number	VARCHAR(30)	Not mandatory but will significantly speed up checks for		
Teacher_registration_state	VARCHAR(20)	authentication.		
School_email_address	VARCHAR(255)	-		
Account_name	VARCHAR(255)	To be paid for SERVICE by DraftMarker.com		
Account_BSB	VARCHAR(10)	-		
Account_number	VARCHAR(30)	-		
DateTime_of_registration	DATETIME	Time stamp for the moment this record is initially entered.		

Authenticated	BIT	TRUE =1, FALSE = 0 (a Boolean value to determine whether a
		teacher has been authenticated and thus allowed access to
		the system yet). Default is FALSE (an integer value of 0).

AUTHENTICATION_VERIFICATION_FILES: Multiple	files for TEACHER(s) logging evidence for authentication and /
or verification.	

Evidence_number	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion teacher supporting evidence files. At 4 bytes per storage, if this were ever not enough, BIGINT can be used at 8 bytes per storage.
Teacher_Psuedoname	VARCHAR(128)	TEACHER <i>Teacher_Psuedoname</i> connected to these files.
File_name_path	VARCHAR(255)	System dir + file name + "." + extension
DateTime_file_uploaded	DATETIME	Time stamp for the moment this record is initially entered.

VERIFICATION_CLAIMS: TEACHER(s) will make these skill and experience claims on their viewable profile in order to attract business.

Verification_claim_number	INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion teacher skill or experience claims. At 4 bytes per storage, if this were ever not enough, BIGINT can be used at 8 bytes per storage.
Teacher_Psuedoname	VARCHAR(128)	TEACHER Teacher_Psuedoname connected to this CLAIM.

Note –As identified above, the values for the following two attributes may be filled by the specially created **Verification Category** and **Verification Claim** relations – which will enable more efficient searching, sorting and ranking of teachers.

Verification_claim	VARCHAR(255)	The Claims the teacher wishes to make. For example, "10+ years service" or "Head of department".
Verification_category	VARCHAR(255)	Categories used to organise Claims – such as "Experience" or "Qualifications".
Verification_granted	BIT	TRUE =1, FALSE = 0 (a Boolean value to determine whether a teacher enough evidence has been uploaded to support this claim). Default is FALSE (an integer value of 0).
DateTime_verification_granted	DATETIME	Date / time entered by the Administrator when (if) the verification claim is proven.

TEACHER_SUBJECT_AREAS : Subject areas that the TEACHER is qualified in. This allows multiple subject areas to
be taught by the same teacher. These will be the areas under which the TEACHER sees the requests posted.

Teacher_Psuedoname	VARCHAR(128)	TEACHER <i>Teacher_Psuedoname</i> that belongs to the subject area.
Subject_area_code	VARCHAR(20)	Subject area code of the subject taught.

SUBJECT_AREAS: Subject areas that are taught by a teacher. This relation will also be used to fill the Subject Areas under which the USER can post REQUEST(s).

Subject_area_code	VARCHAR(20)	Subject area code of the subject taught.
Subject_name	VARCHAR(255)	Name of the subject.
Subject_description	ТЕХТ	Necessary to explain inter –state or –national differences in Subject naming differences.

PAYMENTS: The default repository of secure payment information, that can be used to cross-check against completed Services (for added security).

INT	Allows (2 ³¹)-1 positive whole number combinations, totalling over 2 billion transactions. At 4 bytes per storage, if this were ever not enough, BIGINT could be used at 8 bytes per storage.
INT	The BID for which this PAYMENT was made.
DATETIME	Time stamp for the moment this PAYMENT is recorded.
MONEY	Value of transaction paid. This is an exact numeric type, and as such can easily be compared with the BID <i>Bid_amount</i> attribute to determine if the full amount was successfully paid.
VARCHAR(20)	Status of the transaction returned – which will either be "Completed", "Denied", "Expired", "Failed" or "In-Progress".
VARCHAR(50)	First name
VARCHAR(50)	Surname
VARCHAR(255)	Street Address
VARCHAR(50)	City
	INT DATETIME MONEY VARCHAR(20) VARCHAR(50) VARCHAR(50) VARCHAR(55)

Payer_state	VARCHAR(20)	State
Payer_postcode	VARCHAR(10)	Postcode (10 characters for future overseas expansion)
Payer_country	VARCHAR(30)	Country (As above)
Payer_contact_phone	VARCHAR(14)	Contact Phone (not mandatory)
Email	VARCHAR(255)	Valid email address for correspondence.

Class Design

The following class diagram illustrates a preliminary design for the application tier for the DraftMarker service:



DraftMarker Three Tier Architecture - Class Structure

The previous class preliminary design integrates the three tiers of the proposed architecture discussed above in *System Architecture*. It is necessary to point out that the logical separation of the three tiers proposed will be maintained through separation of script into modules that handle specific functions of the tiers. For example, the front-end interface will be predominantly handled by web forms (identifiable with a *.aspx* extension) with CSS, HTML and JavaScript elements that can be altered without altering the underlying tiers. Similarly, the storage structure – in this instance the MSQL Server database – will be independently implemented and managed, separate to the operational class modules above which it provides and stores information for.

It is the (middle) processing layer within which an effective and efficient class structure will be organised. As such, the following diagram expands on the above UML diagram, showing the separation of each Class into manageable components. Each of the **Classes** and **component methods** shown in the diagram below *will be separated (wherever possible)* into individual C-Sharp code modules *(.cs extension)* that can be called from the above presentation tier (*.aspx*) or inherited by higher class (parent) objects. These modules can then utilise the **Data_Access Class** to make requests and retrieve data from the tier below (i.e. the data tier – in this instance the DraftMarker MSQL Server database).



The aim of this logical separation of classes is to avoid reusing code, to make the project more manageable, and to create a more efficient structure to update and maintain during development and testing. The ability to separate the application into this logical structure will further benefit future development of the capabilities of the DraftMarker system.

Finally, the algorithm for the rank() method for teachers needs defining. Rank is the descended sorting of: [Rating = (Ratings_helpful / Users_helped) * Completion_deadlines_met], where (Ratings_helpful / Users_helped) shows a conversion rate, multiplied by the completion deadlines met to show an activity rate (this may be modified further during development and testing).

User Interface

To illustrate the required functionality of the proposed DraftMarker system, the following user interface designs will be used to outline user, teacher and administrator case scenarios. These designs form a storyboard that attempts to integrate the data and functionality requirements (illustrated in previous sections) into a feasible, intuitive and aesthetically pleasing user interface. It must be noted at this point that some styling and basic functionality of elements *may differ* slightly from this plan upon development; however, in this case, it should be noted that the previously discussed required functionality *will not be compromised* in any case. For readability, each User Interface design has been placed on a new page, with brief annotation immediately preceding the design.

The first User Interface design begins on the following page.

Нотераде

The following design details the DraftMarker domain's home page. Promotional material is a necessity at this point – potential browsers must instantly be sold the value of the site in order to increase user base. The sign-up process (as well as the log-in process) purposely dominates the remainder of this layout, as all site content cannot be accessed further without a valid user account.

✓ DraftMarker Assessment Feedback Service Username: ✓ Remember me Password: forgotten password					
How it works. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque rhoncus Ethical standards.	testimonial	video	SIGN UP - ITS FREE Username:		
Pellentesque tristique orci non ante accumsan ornare. Phasellus purus augue Better results. etc.	image	testimonial	Repeat Password: Email: Sign up		
teachers Labout Literms of use Liprivacy Lidisclaimer Licontact					
teachers about terms of use privacy disclaimer contact					
Users – Requests

Following user logging in, the basic DraftMarker page will default to the My Requests page, in which the user can view current requests made, modify existing requests or post new requests. The other areas of the site can also be navigated to:

OraftMarker				
Assessment Feedback S	Logged in	as ricky_ponting99 change password	Log out	
	View: My Requests			
REQUEST	Tracking Number	My Requests		
+ make new	1500124	Biology made on 16/03/11 at 15:35:	Details	
		Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque	Remove	
VIEW BY STATUS	1128746	English made on 14/03/11 at 20:11:	Details	
+ my requests		Pellentesque tristique orci non ante accumsan ornare. Phasellus augue	Remove	
+ teacher bids				
+ completions				
OTHER				
+ teacher profiles				
+ complaints				
teachers about terms of use privacy disclaimer contact				

Users – Request Details

If the users click the Details button above, they are presented with the following screen, detailing the information set by the user for the initial request. If they chose to Modify Request, they will be presented with a screen similar to the next *New Request* screen - but with the form values pre-filled.



Users – New Request

To lodge a new request, the user can supply the following required information:

REQUEST Subject Area Post request to: Legal Studies Image: Studies Marine Str. Mari	Assessment Feedback	View: <u>Requests</u> → New	change password			
+ make new Moderni Music VIEW BY STATUS Content + my requests Current attachments: + teacher bids	REQUEST		Post request to: Legal Studie	es ••		Marine Studies Mathematics (General) Mathematics (Extension I)
Lodge Request Image is a constraint of the constraint of	 + make new VIEW BY STATUS + my requests + teacher bids + completions OTHER + teacher profiles 	Content Preferences	File upload: Current attachments: Latest allowable date / t + teacher bids: .select.> Latest allowable date / t + teacher bids: .select.> Completion: .select.> Description of job (or com Ut rutrun, quis dian.1 Quisque vel venenais a dolor nec lu **Preferred teachers: [ega **Preferred teachers: [ega ***Exclude teachers: [ega ***Exclude teachers: [ega ***Exclude teachers: [ega ***Requests only leachers you have use The request will not be made visible to ***Teachers on the exclude list will not	>	upload file rules	Mathematics (Extension II) Modern History Music

Users – Teacher Bids Offered on Service Requests

After the user has had several teacher offers of requests for service, they can select which offer they prefer, or decline the offer by hiding it. Once they accept an offer, and pay for it, the other offers will not be displayed (as shown in the screen design two below titled *Teacher Bid Paid on Service Requests*). To help make the bidding decision, the User can click on the teacher pseudo name, which will bring up the screen design following the one below titled *Viewing Teacher Profiles*.



Users – Viewing Teacher Profiles

Clicking on the Teacher Pseudo name above will bring up the teachers viewable profile:

Assessment Feedback S	ervice Logged in	as ricky_ponting99 Log out			
	View: <u>Teachers</u> \rightarrow Profile				
REQUEST	Teacher	science_is_life			
+ make new	Quaifications	Graduate Diploma in Education 🛛 🔽 Verified			
VIEW BY STATUS		Bachelor of Science			
+ my requests		Registered Teacher			
+ teacher bids		Certificate IV in Fish Production			
+ completions	Experience	10+ years teaching			
OTHER		Currently teaching			
+ teacher profiles	Subject Areas	Physics Chemistry			
+ complaints		Biology Science (General)			
	Reputation	Marine Studies			
		12 users rated this teacher helpful			
		3 users rated this teacher unhelpful			
	Statistics	Users helped: 45 Completion deadlines met: 43 Last logged in: 15/03/11 Average price earnt per user: \$24 Minimum price earnt to date: \$7 Maximum price earnt to date: \$90			

Users - Teacher Bid Paid on Service Requests

An accepted and paid teacher bid, as discussed above:



Users – Accessing Completed Work

Once payment has been made, and service has been completed (and marked as complete) by the teacher, the student can access the completed files via the Completions window. From here, the student could either rate the teacher help, or lodge a complaint about the service. Both of these options will be shown after the following screen design:



Users – Rating the Teacher Feedback

The teacher can be rated at this point, based on the Service provided:



Users – Lodging a Complaint

Lodging a complaint about the Service provided:



Users – Browsing Collections of Teacher Profiles

Teacher profiles will be grouped for browsing by Subject Area. As discussed earlier, the need for searching, sorting and ranking of these teachers will be built into the final product.

OraftMark	ker			
Assessment Feedback Se	Logged in as rick	ky_ponting99 Ige password	Log out	
	View: Teachers			
REQUEST	View Teacher Profiles			
+ make new	Search: legal_eagle_75			
VIEW BY STATUS	legal_eagle_75 humanity_64			
+ my requests	or Browse by Subject	Area:		
+ teacher bids	Ancient History	Mathematics (Extension II)		
+ completions	Art	Music		
OTHER	<u>Business Studies</u> <u>Chemistry</u>	Religion		
+ teacher profiles	<u></u>			
+ complaints				
teachers about terms of use privacy disclaimer contact				

Teachers – Welcoming

The initial welcoming page for teacher sign up.

OraftMa Assessment Feedbac	llsorn	ame: ✓ Remember me	Password: Log in forgotten password		
Benefits. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque rhoncus Reward for helping.	testimonial	video	Teachers Sign Up!		
Pellentesque tristique orci non ante accumsan ornare. Phasellus purus augue Extra money. etc.	image	testimonial	BEGIN		
tessberg Labout Lterms of use L privacy L disclaimer L contact					
teachers about terms of use privacy disclaimer contact					

Teachers – Sign Up Process

The design on the following page illustrates the required sign-up process that teachers must undertake to become a Service provider for DraftMarker.com. Following submission of this form, there will be a *time of application review* in which the teacher's application is considered.

The *time of application review* is dependent on the Administrator processing load and will vary based on the amount and quality of authentication evidence supplied.

Teachers will be notified by email as to whether or not their application has been successful.

The teacher sign up process design can be found on the following page.

essment Feedbac	k Service Teachers - Sign up!
Screen name	Choose username:
Personal	First name:
	Other Phone: Contact Email:
Authentication	Teacher Number: (if you have one - this is your accreditation number - not your employee number) Accrediting State: (if you have teacher accreditation) School email: (if you have one) Supplying this evidence is not mandatory - but it will greatly help speed up your application being authenticated. Upload all evidence you have to be perused for authentication: (e.g. scanned originals of your degree, transcript, registration, original references, statements of employment) File upload: > Current attachments: Upload file rules Schoolrefe scansDe noreEvide noreEvide noreEvide noreEvide noreEvide noreEvide noreEvide noreEvide nore doe
Payment Authority	Account Name: BSB: Account Number: This is the account into which you wish to be paid.
Declaration	I have read and accepted the <u>Terms of Use</u> . And I agree to abide by them diligently. I will never attempt to mislead, coerce, etc. I will not hold liable DraftMarker or its operators, staff or owners, for any loss, damages, failures or consequences, good or bad, tha © result from my using the DraftMarker service. Furthermore, I understand that DraftMarker accepts no responsit for any misuse or breach of security that results in a loss of financial or any other hardship associated with using service. Under no circumstances will I blame DraftMarker or any of its owners accountable for reputation, emot distress or any other form of financial loss I may sustain through or not through the DraftMarker service. I declare the information I have presented for verification to be true and accurate. I no way have I misrepresented myself or my ability, nor have I made any misleading actions about myself or anything I have done. Authenticate Me Cancel
	Evidence will be perused by an independent teacher. Time taken for authentication will vary. Allow 7 – 10 business days. Results of your authentication will be emailed to you if you are successful , along with your password. If you believe you have not been satisfactorily authenticated for the evidence you have uploaded, please contact the administrators.

Teachers – Editing Viewable Profile

As has been identified, the teacher remains anonymous throughout the entire process (as does the user), however the teacher can adjust their profile as desired:

	ker —	
Assessment Feedback Se	Logged in	as physics_teacher1972 Log out
	View: <u>Teachers</u> → Profile	
VIEWS + requests + bids + payments SERVICE + peform work	Teacher Quaifications	physics_teacher1972 Type what you wish users to see under this section: Separate each qualification on a new line. If you want these to be verified visit "get verified". Graduate Diploma in Education Bachelor of Science Registered Teacher Certificate IV in Fish Production
PROFILE + edit profile + get verified	Experience	Type what you wish users to see under this section: Separate each experience on a new line. If you want these to be verified visit "get verified". 10+ years teaching Currently teaching
	Subject Areas	Subjects available: You will see only the requests for these subject areas: Legal Studies Add Marine Studies Add Mathematics (General) Add Mathematics (Extension I) <
		I declare the information I have recorded on this profile to be true and accurate. In no way have I misrepresented myself or my ability, nor have I made any misleading statements about myself or anything I have done. Update Cancel
teachers about term	s of use privacy	disclaimer contact

Teachers – Upload Evidence for Verification

Like authentication, the verification process takes a period of time for the Administrator to review each item of evidence on a case by case basis.

DraftMar Assessment Feedback Se	Logged in as physics teacher1977		
	View: <u>Teachers</u> → Get Verified		
VIEWS + requests	Upload all evidence you have to be perused for verification: (e.g. scanned originals of your degree, academic transcript, Certificates, original references, statements of employment) File upload: <browse> Upload upload file rules</browse>		
+ bids + payments	Current attachments:		
SERVICE + peform work	I declare the information I have presented for verification to be true and accurate. ✓ In no way have I misrepresented myself or my ability, nor have I made any misleading actions about myself or anything I have done.		
PROFILE	Commit changes Cancel		
+ edit profile	Evidence will be perused by an independent teacher. Time taken for verification will vary. Allow 7 – 10 business days. Results of your verification will be available on your profile. If you		
+ get verified	believe you have not been verified for evidence you have uploaded, please contact the administrators.		
teachers about terms of use privacy disclaimer contact			

Teachers – Browse Requests for Service in Subject Area

Teachers can browse the requests, view the uploaded files, view accumulated stats about the user posting the request, and decide whether or not to offer a bid.

	View: Requests			Marine Studies
VIEWS	Subject Area: Bio	logy •		Mathematics (General) Mathematics (Extension I) Mathematics (Extension II) Modern History
+ requests	Tracking Number	Requests		Music
	1500124	User: <i>ricky_pontin</i>	ng99 Date posted: 17/03/11 <hide></hide>	
+ payments		Time posted:	17:39	Requests logged: 7 Bids accepted: 4
SERVICE		Comments:	Ut rutrum, elit sed sollicitudin lacinia, odio mauris tincidunt lacus, ultricies condimentum dolor diam	Last logged in: 30/11/10 Average bid accepted: \$42
+ peform work			quis diam. Integer commodo facilisis elit id iaculis. Quisque vel mauris dignissim neque placerat venenatis ac ut felis. Vestibulum scelerisque mollis dolor nec luctus!!! ☺	Minimum bid accepted (to date): \$15 Maximum bid accepted (to date): \$99 No. of complaints lodged: 2
				No. of complaints won: 1
PROFILE		Attachments:		No. of complaints currently unresolved:
+ edit profile				
+ get verified			myRepor scansOf t.docx Task.zip	
		Timeframe:	+ agreeance: 21/03/11 by 18:00 + completion: 24/03/11 by 18:00	
		Your bid (\$AUD):		
			Sed et voltryst ligula. In tempus viverra tincidunt.	
	1677118	User: victoria_g	Date posted:15/03/11 <show></show>	
	2887507	User: 2008Lakers	Date posted:12/03/11 <show></show>	

Teachers – Checking the Status of Bids Made

After teachers have made bids, they can switch to the bids view, in which they can view the current status of their bids – accepted, declined or awaiting decision.

OraftMar Assessment Feedback S	Loggod in	as physics_teacher1972 Log out change password	
	View: Bids		Marine Studies
VIEWS	Subject Area: Bio	logy	Mathematics (General) Mathematics (Extension I) Mathematics (Extension II)
+ requests	Tra alvia a Neurah au	Desweete	Modern History Music
+ bids	Tracking Number	Requests	
+ payments	1500124 ≤more≥	User: ricky_ponting99 sview stats> Posted: 17/03/11 17:39 Your bid (\$AUD): 35.00 Bid until: 21/03/11 by 18:00 Bid made 18/03/11 07:43 Marked by: 24/03/11 by 18:00	
SERVICE		Status: Accepted. Complete work now in the Service Area.	
+ peform work	1677118 <u>≤more></u>	User: victoria_g <view stats=""> Posted: 15/03/11 13:22 Your bid (\$AUD): 25.00 Bid until: 26/03/11 by 23:00 Bid made 18/03/11 07:46 Marked by: 5/04/11 by 13:30</view>	
PROFILE		Status: Awaiting decision.	
+ edit profile	2887507	User: 2008Lakers <view stats=""> Posted: 12/03/11 05:55</view>	-
+ get verified	< <u>more></u>	Your bid (\$AUD): 88.00 Bid until: 26/03/11 by 23:00 Bid made 18/03/11 07:46 Marked by: 5/04/11 by 13:30 Status: Declined. remove	
teachers about terr	ns of use privacy	disclaimer contact	

Teachers – Performing a Service Using the Work Area

Once a bid has been confirmed by the payment notification mechanisms, a teacher can access the marking required in the service area. From here, the teacher can download the request files, work on them at home, and finally upload them when they are complete. Once the teacher has finished the service, they can make final notes to the user, and mark the service as complete.



Teachers – Looking up Incoming Payments

Teachers can access the payments section to view information about their earnings. The teacher's earnings will only be released 7 - 10 days after the marking service has been complete. This is to ensure that the money paid is kept for long enough to refund any *viable complaints* that may come in for **48 hours** following a service.



Administrators – Main Menu

r

The Administrator (SuperUser) section will be form the base restricted area of the site:

OraftMarker Assessment Feedback Service	SuperUser <change password=""></change>	clogout>
View Requests Users Teachers	Actions Authenticate Verify Resolve Complaints	Reports Daily Weekly Monthly
teachers about terms of use	privacy disclaimer contact	

Administrators – Browsing Records of Request / Service

Administrators can manage all records available in the database, including full records of services, payments and user data. An example of this is browsing through service requests:

Service	SuperUser <change password=""> <logout></logout></change>
View - requests <back> Tracking Number: <or by="" sort=""></or></back>	Status: incomplete
1033478	Initial Request: View Details
2452235	Responding Teacher Bid: View Details
5323455	Completion and Feedback: View Details
3462355	Teacher Profile: View Details
2334634	
6344632	Actions: Warning - It is dangerous to
or search by:	modify currently live requests: Modify Request Delete Request
teachers about terms of use privacy discla	imer contact

Administrators – Verifying Teachers Qualifications

Occasionally, new Teachers will require verification of their qualifications. This design shows the basic process of verifying teachers claims. When authenticating teachers for admission to the site, it must be noted that *a similar design* will be used – with the Administrator being able to review the presented case based on the evidence provided, and decide whether or not the teacher is authentic.

SuperUser < Assessment Feedback Service	<logout></logout>
Actions - verify	
Teacher Pseudoname: Science_life Update Authentication Form: View Details archeology6 Teacher Profile: View Details Files uploaded: Files uploaded:	
Listed on profile: Verified? Graduate Diploma in Education Image: Construction Bachelor of Science Image: Construction Registered Teacher Image: Construction Certificate IV in Fish Production Image: Construction	
10+ years teaching Image: Cancel without saving Currently teaching Image: Cancel without saving teachers about terms of use privacy disclaimer contact	

Administrators – Resolving a Complaint

An administrator may be required to resolve a complaint. In this case, they will need access to all dialog involved with the service request, and be able to make case notes. The complaint shown here is as yet unresolved. Note that this complain status is included on this design – this was not included as field in the COMPLAINT relation, however the Date the Complaint is resolved is stored. The better solution to this problem will become evident after thorough testing of both methods.

OraftMarker	uperUser 🔊
	ange password> de clogout>
Actions - resolve complaint Status: unresolved Tracking Number: 1500124 Update 1128746 Complaint lodged by rennie_may <view> on 18/03/11 at 14:32: Ut rutrum, elit sed sollicitudin lacinia, odio mauris incidunt lacus, ultricies condimentum dolor diam quis diam. Integer commodo facilisis elit id iaculis. Quisque vel mauris dignissim neque placerat venenatis ac ut felis. Vestibulum scelerisque mollis dolor nec luctus!!! ©</view>	Initial Request: View Details Responding Teacher Bid: View Details Completion and Feedback: View Details Teacher Profile: View Details New status: resolved Save Complaint Investigation Findings: - Feedback was deemed inadequate but not incorrect Partial refund of \$50 via PayPal Email rennie_may
teachers about terms of use privacy disclaime	r contact

Future Directions

The DraftMarker service detailed above has been developed with creating a new niche commodity in the educational commerce market. This site requires a flexible implementation based on the specifications and requirements listed above, however it also needs strict adherence to the site requirements and functionality discussed in the Primary Objectives section. To finalise this discussion, this documentation will now deliberate on final pre-development ideas and alternatives to the overall design of the DraftMarker system.

Secure Commerce Payments

It must be noted at this point that the site itself is believed to be profitable; however, as very little exists competitively to support this belief, a merchant account will not be opened with an Australian Bank at this stage. Thus, an alternative approach of using a payment gateway to accept and process payments securely will be employed. The advantage of this is that the third party merchant site (in this case "PayPal") will not charge account opening fees – rather they will charge a commission fee on the number of transactions purchased. This is a more feasible alternative at this point, as if the site proves profitable, DraftMarker will immediately discontinue use of this third party merchant to avoid these transaction costs.

Preliminary Development Tasks

As has been detailed above in the *Project Dependencies* section, it is necessary that an ABN (Australian Business Number) is registered before commencement of development, as well as a registered domain, financial accounts linked and (preferably) web hosting purchased. As such, the following pre-development tasks have been **completed** and evidently reported within the following corresponding appendices:

- Registration for ABN for DraftMarker services (confirmed see Appendix C)
- Registration of Domain name "draftmarker.com" (confirmed see Appendix D)
- .NET compatible web hosting purchased (confirmed see Appendix E)
- Financial accounts linked to secure payment merchant services (confirmed see Appendix F)

Optional Compromise of Anonymity

It has been well documented throughout this report that user and teacher anonymity cannot be compromised. However, after further industry consultation, it was suggested that teachers *not currently practising in Secondary Schools* may wish to make their identity known and / or some of their qualifications be put on "display", to add to the authenticity of the service (and potentially attract more clients). However, this may lead to greater issues associated of sharing identities online – including, but not limited to, cyber harassment, stalking, identity theft or "spear phishing" (targeting the specific teacher for more sensitive information). Furthermore, known teacher identities collaborating with students online may have the potential to lead to perceived inappropriate and / or unprofessional conduct. Thus, at this stage, this idea will not be included in the final service until a full impact analysis study can be undertaken as to the consequences of sharing identities under this framework online.

Business Management and Organisation

Once the site is established, it is recommended the DraftMarker service employs a:

- Chartered Accountant
- Independent Security Audit (for example http://www.senseofsecurity.com.au)
- Patent Attorney
- Legal Consult

The Chartered Accountant will be required to manage PAYG withholdings, quarterly Business Activity Statements and end of year Tax Returns as required by Australian Taxation Law, as well as payroll, reversal of payment and account management services. The Independent Security Audit will be completed by an IT consulting firm specialising in web application security; this audit must identify risks to internal and external site security (discussed above in Risk Assessment), from which the DraftMarker service must immediately and effectively respond to.

The Patent Attorney must be consulted to deem if trademarks or intellectual property has been violated, and if the technology under which the system is developed now – or in the future – warrants patenting; if so, the patent should immediately be filed to prevent the intellectual property misuse or misappropriation of the service developed without compensation. Finally, the Legal Consult is required to identify legal risks or "loop holes" in the wording of disclaimers, terms of use or services provided, as well as site activities or other abuses of the application that may lead to legal consequences.

Site Functionality and Characteristics

Currently, the relations presented above are in third normal form; depending on the growth of the site, and upon the implementation of the bidding mechanisms, these relations may need to be partitioned or possibly de-normalised if it is discovered upon building the site that some data is repeatedly required, in which case de-normalising will speed the efficiency of data retrieval. This will be evident in both testing cases and during the final audit of the site.

The class structure may change based on the limitations (and unseen benefits) of the .Net language – data flow between pages may be facilitated by the use of alternate class designs. Again, the decision to modify, add or remove any of the class structures will be a result of repeated testing during development to make for a more efficient user experience.

None of the objectives (especially the primary objectives) will be compromised in any case during the build – the required and desired functionality of the site is critical to its profitability, and as such must not be compromised.

The interface design is illustrative of the required functionality, and may change in terms of layout, colour, style or positioning of many elements, based on best user practises of web applications. Again, the desired and required functionality of the site will not be compromised in this case in any way. Furthermore, it is worth noting the resolution of these illustrations has been adjusted for publishing in this document, and as such will invariably change upon final implementation.

The security and experience of the site is paramount. Currently proposed are third party merchant services; however the use of SSL (Secure Sockets Layer) to encrypt data for transmission between a merchant account and securely-audited database will significantly increase the speed and satisfaction of the user experience – as they will not have to navigate off-site for payment. In this instance, a Certification Authority must be contacted to purchase a Digital Certificate for the server on which the DraftMarker service is provided.

Concluding Remarks

The site will now be developed based on the objectives, requirements, design and specifications detailed above. As has been repeatedly emphasised, the flexibility of implementation from these original specifications is necessary, as

the primary focus is to meet the sites core objectives and reach its *critical success indicators*. Thus, the results from on-going testing will be used to measure the success of this site, which is based on (but not limited to) these critical success indicators of authenticity, privacy, functionality, aesthetics, usability, profitability and sustainability of the web application (as defined above).

The site will now be developed with a live launch date of ##/##/##.

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Appendix A: Brainstorming Session



Pay as you need: School results are assessment driven. Perform well on

the assignment, and save money on weekly tuition.

Better Than a Website that "Does it for you"

Don't lose marks for irrelevance: Curriculum assessment in most schools now requires personal critique, analysis, synthesis, evaluation, critical reflection on actual classwork – skills that most teachers can teach, but not something "essay for sale sites" can regurgitate. Convenience:

The Assessment Feedback Service does not require inconvenient meeting times or places. No cancellations or rushes. *Feedback is always available online.*

Work not written by you is obvious:

Assessment written completely from scratch by someone else for you are full of clues that teachers can use to detect whether or not you completed the work yourself. These clues include personal writing styles that students are unaware of – including language, vocabulary, grammar, relevance and structure.

Cheaper: Without fixed prices, the bidding system allows you to negotiate a cheaper price directly with a teache

The real costs of cheating an assignment: Assignments due in short time frames can cost a fortune for someone else to write. Do it yourself and get some help here along the way. If you violate ethics and pay someone to write your essay from scratch – is it worth the anxiety or fear of being caught? Have you learnt anything? What happens if you are caught? Stick to this ethical alternative.

Appendix B: Work Schedule



Appendix C: Australian Business Number – DraftMarker



Appendix D: Whois Lookup – DraftMarker.com

			Service zone FAQ Support sign au			
JOKER.COM			.biz .us .name 5.13 / GBP 4.50 ISD = 0.71 EUR = 0.62 GBP) <i>list for details</i>			
Whois Search DraftMarker.com	Go Other I	anguages:	logged in as			
Home	Whois-output					
Register Domains	DOMAIN	draftmarker.com				
Renew Domains	Registrar:	JOKER.COM				
Domain Transfer	Status:	lock				
Service zone	Owner					
Price List	Name:					
Resellers	Organization:					
Support/Contact	Email:					
FAQ/Help	Address:					
ragnep	Postal code/City:					
sign out	State:					
angir ooc	Country:	AU				
	Administrative contact:	CCOM-1036206				
	Technical contact:	CCOM-1036206				
	Billing contact:	CCOM-1036206				
■gigenet cloud	Nameserver:	ns1.gppnetwork.com ns2.gppnetwork.com				
cloud	created:	2011-03-11 13:51:25				
ciouu	modified:	2011-03-11 14:25:56				
d a	db-updated:					
Certificate	expires:	2012-03-11 12:51:25				

Appendix E – Web Hosting

AspWebhosting.com.au (MicroData Pty Ltd) Welcome						Back, 🔐 🎍 My Details 🚱 Lo			
Home My Details	My Services	My Domains	My Invoices	My Support	Affiliates	My Emails			
Client Area Portal Home > Client Area >	My Products & Servic	Quick Navigation							
Product Details						Announcements Knowledgebase			
Registration Date:	11/03/2011	Submit Ticket							
Product/Service:	Product/Service: Shared Web Hosting Plan – Windows Shared Basic								
Domain:	Account Information								
Payment Method:									
First Payment Amount:									
Recurring Amount: \$66.00 AUD Next Due Date: 11/09/2011									
						Account Statistics Number of Products/Services: 1 (1)			
Billing Cycle:	Semi-Annually	Number of Domains: 0 (0) Number of Support Tickets: 0							
Status:	Active					Number of Referred Signups: 0 Account Credit Balance: \$0.00 AUD Due Invoices Balance: \$0.00 AUD			
	la	gin to control pane	el			ove montes parance. 30.00 AUD			

Appendix F – Linked Merchant Services Bank Account

PayPa	al		<u>Log Out</u>	<u>Help</u>	Safety Advice		Search
My Account	Send Money F	Request Money 🚺 Me	rchant Services	Auction	Tools Prod	ucts & Service	s
Overview Add	d Funds Withdraw	History Resolution	on Centre Profi	le			
Bank Accourt	nt						Back to My Profil
Select	Bank Acco	ount			Status ?		
					Primary Confirmed		
Remove Ado	1						
	Mobile Mass P	ay Referrais About Us Legal Agreements D				Contact Us	
		Copyright @ 1999 mited ABN 93 111 195 389 te has not taken into accou		general finan	cial product advic	e provided in this	ŝ