

# Building a Better Betting Experience for Betters (or for Worse).

---

Introduction to Human-Computer Interaction

**Team 11: James Darrall, Joe Blower, Thomas 'Screech' Atherton**

**3/17/2013**

### Problem Definition

Betting odds comparison websites are typically cluttered, difficult to navigate, aesthetically challenged and overall lacking in a user-oriented design focus. They often feel quite unsafe. This is hard to reconcile with actual betting sites, which are often well designed indeed. Comparison sites are so lacking in identity that it is usually not immediately obvious that they are in fact comparison sites.

Bookmakers sites offer limited scope for users to monitor, track, modify and share any of the bets they make. Typically an online sports better has to traverse other sites featuring live feeds of sports data in order to keep track of the day's events.

To remedy these problems, this group would like to design a new user interface for an odds comparison and bet tracking website that is clear, easy to use and ultimately feels safe for the user to browse on. The design would incorporate a different approach to displaying data, and would be more selective in the data shown on-screen at a given time. This would be achieved without sacrificing any of the functionality of the existing designs. In addition, we would like to consider implementing real-time result tracking for users to monitor the progress of specific bets that they have made.

## Research into and Review of Related Work

Over the course of the development of this project, research has been made into a number of different areas relating to the idea of creating such a site. The focus was initially targeted at those sites which were closely related to the ideas the team had in mind - namely the major bookies and the odds comparison sites. The team conducted research into these related areas and collected their findings into the tables below.

### 1.1 Bookies: Analysis of the 'Bet Slip' tool in 4 major bookies

Name	Positives	Negatives
SkyBet ( <a href="https://www.skybet.com">https://www.skybet.com</a> )	<ul style="list-style-type: none"> <li>• Selections are easily removable (with a cross)</li> <li>• Odds information is given once selection has been chosen.</li> <li>• When a selection is suspended it is greyed out and thus clear when it cannot be bet on at that time (in-play bets).</li> <li>• Boxes to insert stake for a particular selection become inactive when that selection becomes suspended (in-play bets)</li> <li>• Bet slip can be minimized to reduce the space it takes up on the screen.</li> <li>• When minimised the bet slip still provides information on the user's selections.</li> <li>• When a selection on a bet slip changes or becomes inactive there are clear warnings in a different colour to stand out.</li> <li>• Multiple selection markets are shown as expandable if the user requires them for their selection, would take up too much space if open by default.</li> <li>• Opportunity to check bets before placing them.</li> <li>• A large amount of space dedicated to the bet slip which does make it spread out and easy to read.</li> </ul>	<ul style="list-style-type: none"> <li>• Bet slip takes up a lot of the screen when it is first opened.</li> <li>• Continues to get larger as more selections are chosen.</li> <li>• When a large amount of selections are chosen even the reduced bet slip begins to intrude on the screen.</li> <li>• Can only "easily" manage one bet at a time.</li> <li>• Would be nice for the user to have the possible multiple bets available by default but as more selections are chosen the possibility for the type of multiple legged bet increase taking up space.</li> <li>• Large space dedicated to bet slip intrudes on the screen.</li> </ul>
BetFred ( <a href="https://www.betfred.com/">https://www.betfred.com/</a> )	<ul style="list-style-type: none"> <li>• Box can be minimized to save space on screen</li> <li>• It is clear how to delete a leg of a bet.</li> <li>• Provides both the odds and also information on how much the user will</li> </ul>	<ul style="list-style-type: none"> <li>• Bet slip when expanded overlaps important information on the screen and is not movable other than able</li> </ul>

	<p>win after they type a potential stake.</p> <ul style="list-style-type: none"> <li>• Large number of possible multiple bets.</li> <li>• Opportunity to check bets before placing them.</li> <li>• Bet slip does warn the user of changed odds/status of selections for in-play bets.</li> <li>• Pop up boxes when the cursor is dragged over a selection providing more details of the bet.</li> </ul>	<p>to be minimized.</p> <ul style="list-style-type: none"> <li>• Longer accumulators does not allow all the betslip to stay on the screen. Scrolling is required.</li> <li>• Does not appear to allow decimal odds.</li> <li>• No information on the different types of multiple bet on this screen.</li> <li>• Limited information regarding each leg within the bet slip despite the excessive space it takes up.</li> <li>• Changes within the bet slip due to odds changes in play are not made clear using alternative colours.</li> <li>• Can only "easily" manage one bet at a time.</li> </ul>
<p>Paddy Power (<a href="https://www.paddypower.com">https://www.paddypower.com</a>)</p>	<ul style="list-style-type: none"> <li>• Windowed bet slip allows easy manoeuvrability and flexibility for the user's needs.</li> <li>• Highlights important information to the user in bold - in this case the total stake placed and the users balance after this.</li> </ul>	<ul style="list-style-type: none"> <li>• No further information when moving the mouse over an information icon on the different types of multiple bets that can be placed. Just shows the minimum and maximum bet.</li> <li>• Can only "easily" manage one bet at a time.</li> <li>• Unnecessary button to bet the maximum amount a user is allowed on a certain bet. The number of times this would be used would surely be minimal.</li> <li>• Bet Slip is a separate window which pops up when a selection is chosen.</li> </ul>
<p>Bet365 (<a href="https://bet365.com">https://bet365.com</a>)</p>	<ul style="list-style-type: none"> <li>• Each leg of a bet appears in its own slightly altered shade of box which separates the legs.</li> <li>• Extra information regarding each leg of a bet is provided when the cursor is</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal information on the original selection - e.g. "Draw" - no team information given.</li> <li>• Bet slip on the right of</li> </ul>

	<p>dragged over it.</p> <ul style="list-style-type: none"> <li>Multiple bet options are available in an expandable tab. Having this open by default would intrude too much on the screen.</li> </ul>	<p>the screen becomes too long and requires scrolling if too many selections are chosen.</p> <ul style="list-style-type: none"> <li>No information on different types of multiple bet and what each one entails.</li> <li>Doesn't conserve space well.</li> </ul>
--	--	---

## 1.2. Bookies: Analysis of navigation on major bookies' websites

Name	Positives	Negatives
SkyBet	<ul style="list-style-type: none"> <li>Clearly labelled categories on the left of the screen.</li> <li>Top Sports category. Allows the users to find the most common links without searching.</li> <li>After the coupon is chosen the relevant events are separated into relevant categories (e.g. different leagues) and then sorted by dates. This is then easily traversable by using the date and league selections on the left of the page.</li> <li>Drop down list on the left of the screen with the option of changing the coupon. Quick and easy.</li> <li>Pre-made coupons do allow the user to begin betting quickly.</li> <li>Left side of the screen is dedicated to navigation. Clear for the users.</li> <li>Middle dedicated towards selections.</li> </ul>	<ul style="list-style-type: none"> <li>Pre-made coupons not covering some of the less common leagues and competitions.</li> <li>No mix and match function available reducing flexibility.</li> </ul>
Paddy Power	<ul style="list-style-type: none"> <li>Quick links are the first navigational links seen- made up of most common links.</li> <li>Coupon can be sorted by league or date as the user decides .</li> <li>Multiple ways to get to one screen-increases the chances of a user getting to a required screen.</li> <li>Can choose to view matches from a particular league without losing the option to choose another league. Every page has the possibility to change selection at the top.</li> <li>Drop down list to select coupon market adds freedom to keep changing markets.</li> <li>Multiple navigation routes improves chances of user getting to required destination.</li> </ul>	<ul style="list-style-type: none"> <li>Finding coupon isn't obvious. Small vertical banner dedicated to coupons.</li> <li>Not obvious how to construct a coupon.</li> <li>Mixture of tabs and side links to navigate- makes it confusing.</li> <li>Drop down list to select coupon market - can get fiddly if trying to select multiple markets.</li> <li>Multiple ways of navigation, left and top screen does not make it clear which direction</li> </ul>

		a user should go.
Bet365	<ul style="list-style-type: none"> <li>• Very user friendly after selecting sport.</li> <li>• User chooses exactly what they want.</li> <li>• Choose the market and then the leagues they want to choose from.</li> <li>• From immediate selection of a sport list of markets as expandable boxes is shown with each of these forming a selection process to create the selections the user wants using checkboxes, then "create coupon", this is very flexible and provides the user with a lot of freedom.</li> </ul>	<ul style="list-style-type: none"> <li>• No favourites options. Just alphabetical selections on the left.one entails.</li> </ul>

### 1.3 Bookies: Analysis of the bet tracking features on major Bookies' sites:

Name	Positives	Negatives
SkyBet	<ul style="list-style-type: none"> <li>• Immediate access to open bets from home page as it is a likely place a user will want to go to after logging in.</li> <li>• Specific dates are not required to search bets.</li> <li>• General time periods which can be more easily related to are used e.g. "last 24 hours", "last 2 weeks" etc.</li> <li>• Provides the option to use specific dates: flexibility.</li> <li>• Pleasing layout of placed bets.</li> <li>• Alternative fonts provided in a consistent way (providing meaning) clearly separates each bet and the important information within that bet.</li> <li>• Each bet separated by a box.</li> <li>• Victorious legs within a bet are followed by <b>(win)</b> in bold.</li> </ul>	<ul style="list-style-type: none"> <li>• Less information regarding a bet.</li> <li>• Required to pop open another window to get increased information: Receipt.</li> <li>• This is not explicitly stated on the page.</li> <li>• Pop up window is only information about status of each leg of a bet.</li> <li>• Does not explicitly state a loss on a leg of a bet.</li> </ul>
BetFred	<ul style="list-style-type: none"> <li>• Good descriptions of the bets on offer.</li> <li>• Separation between each line of the bet is nice to separate each leg of the bet.</li> <li>• Provides information on win/lose of each leg of the bet.</li> <li>• Status of each line of bet available. If already won within a multiple legged bet it will display as "won". Useful to track an in-play bet.</li> </ul>	<ul style="list-style-type: none"> <li>• Cluttered nature to results, a lot of words</li> <li>• No standout information.</li> <li>• Not a friendly look to the screen.</li> <li>• All the fonts are the same style, size and colour.</li> <li>• Not clear where one bet ends and one begins.</li> <li>• No information of actual odds on each bet or potential returns.</li> </ul>

	<ul style="list-style-type: none"> <li>• Vital information displayed- total stake, returns.</li> </ul>	<ul style="list-style-type: none"> <li>• Forces user to decide period of time they want to check bets from- no alternative filter system. Time periods in which bets were placed may not be easily memorable to the user.</li> <li>• Bold fonts in places could be useful to highlight important info (like the start of a new bet in a list of bets).</li> <li>• Variation of colours between won and lost bets/legs.</li> <li>• More pronounced separation between bets needed</li> </ul>
Paddy Power	<ul style="list-style-type: none"> <li>• Immediate link to user's current bets. Allows quick and easy access to important information.</li> <li>• Odds included as important information in the information given for each bet.</li> <li>• Stake is also provided as important information.</li> <li>• Distinction between bets is obvious because of minimal information approach.</li> <li>• Focus on giving enough but minimal information on a multi legged bet.</li> </ul>	<ul style="list-style-type: none"> <li>• Very little information about each bet provided.</li> <li>• Bare minimum</li> <li>• Provides external link to more detailed information.</li> <li>• Hard to see how bet is doing with very little information on even the teams involved.</li> </ul>
Bet365	<ul style="list-style-type: none"> <li>• Selections are clearly labelled with numbers.</li> <li>• Tabulated form separating each leg clearly.</li> <li>• Upon selecting a bet for more detailed information it shows inside an expandable box below the original selection link.</li> <li>• All information is kept within the same page.</li> <li>• No new windows after first window pop up.</li> </ul>	<ul style="list-style-type: none"> <li>• Separate window pops out to view bets. (However does provide opportunity to view separately from main betting hub.)</li> <li>• No colour scheme</li> <li>• No font changes</li> <li>• Minimal information about each bet before selecting it further.</li> </ul>
SkyBet Super 6	<ul style="list-style-type: none"> <li>• Provides a "real-time" tracking of a users predictions and their current results as it stands during the competitions.</li> <li>• Green colours signify successful predictions.</li> <li>• Has both the user's prediction and the current result of the event side by side for immediate comparison.</li> </ul>	<ul style="list-style-type: none"> <li>• Types of result are only ever in one form.</li> <li>• Every type of "bet" is exactly the same in type and size.</li> <li>• Despite three levels of result, ("correct score", "correct result" and incorrect) only uses two colours, green and grey.</li> <li>• Could use extra colours to signify</li> </ul>

	<ul style="list-style-type: none"><li>Icons describing teams involved (but does use a large amount of space).</li></ul>	<p>where in a bet things are not winning.</p> <ul style="list-style-type: none"><li>This form of tracking does not involve "bet details" as this is not a betting site.</li><li>Not clear how this format may change across different betting markets.</li></ul>
--	---	--

### Betting Site Research Summary

Whilst analysing a variation of betting websites, the most noticeable annoyance was regarding traversal of sites. To choose and place a bet depended on a significant amount of page linking causing a number of page loads. This is neither ideal in terms of fluidity and usability but also the intuitive "navigability" of each page. Each site presented a user with a different method of exploring and navigating around the site. There were similarities between some sites which helped the natural intuitiveness when using a site, for example lists of markets and or sports down the left of the screen.

To reduce the need for excessive navigation "quick links" or "most common" links were introduced with the assumption that the majority of users would choose one of these links upon arriving at the site. This significantly reduces potentially unnecessary scrolling through a particular window and starts the betting process quicker.

There was a variation in the accessibility of different leagues/competitions and particularly less common/mainstream ones. These are a lot harder to find in some instances despite the possibility of many users focussing their interest on these leagues. In a future design we may wish to make sure a significant number of options for countries and leagues are available to bet with to satisfy all users.

From the attempted traversal of one particular site it is very clear that navigation links are informative, non ambiguous and consistent in their positioning on the page, be that along the top or down the left of the screen. The user should feel comfortable when traversing the site with confidence in where they think they are going after clicking a link. Large amounts of particularly specific links to only specific bets reduces the flexibility of this site and should be avoided. More specific links are a good touch for those users looking for these types of bets but should not be provided at the expense of more common and flexible bets.

Common to all sites was the seemingly obvious requirement that the majority of the screen was dedicated to the betting. Users were granted a large space to choose their bets. It is important to make sure that the largest single space on the screen would be dedicated to the user to create the bets. It may however be useful for a user customise the size of their betting selections area.



In terms of bet tracking the sites that displayed the relevant bet information the best were those that used some form of different fonts or size of writing when describing the bets. This is a natural way of distinguishing different types of information in a small space. Furthermore, even those sites that did not display all the information actually sometimes were better as they conveyed it in a more aesthetically pleasing and sensible way. Also, importantly, sites that used a form of grid format made the bet information display clearer as different legs were separated and also different bets were noticeably distinguished.

A pop up window was often utilised by sites to display the bet with more detailed information that could not be concisely displayed in the bet tracking. A significant problem with all the bet trackers was that updated information could not be gained without a screen refresh and also within a time period such that it appeared to be in "real-time". A real-time bet tracker with non refreshable self updating mechanism should be an important part of the up and coming design.

Each site that offered information on the status of a bet generally did it using the words win or lose next to a leg of a bet. And only one site gave "as it stands" results which worked well other than the constant refreshing. This site was also the only one to use colours to distinguish between winning legs and losing legs. This site did only have one type of results (football scorelines) to track however and so examples of tracking alternative types of bet was not shown. However this is a feature we should be keen to follow up using a mixture of both scorelines, colours and words (win and lose) to describe to the user the status of each leg of a bet.

A significant discovery during site analysis is the lack of ability to save a bet for later when a user cannot finish a particular bet or is undecided. This option seems to restrict the potential for users to bet on multiple bets at once; a source of income bookies would surely not want to miss out on. It is proposed here that the option for a user to plan and choose more than one bet at any one time is available.

## 2. Odds Comparison Site Reviews

Name	Positives	Negatives
OddsChecker ( <a href="https://www.oddschecker.com/">https://www.oddschecker.com/</a> )	<ul style="list-style-type: none"><li>Reasonably 'clean' look to it despite more functionality than any other site found thus far.</li><li>They have tailored the site to offer an introduction to those interested in sports betting - see 'introduction to betting' section</li><li>Live feed of the oddschecker.com twitter account posted in a frame on the right - appealing and useful for younger audiences.</li><li>Summaries of most popular bets and TV listings on the front pages in an eye-catching manner, with 'QuickPicks' highlights also a plus.</li><li>Provides a 'best book' facility that points</li></ul>	<ul style="list-style-type: none"><li>Slow refresh rate; each page takes a long time to load on average.</li><li>Still cluttered, despite being less so than some of its competitors.</li><li>The site layout is not a constant; navigating to another part of it can dramatically change the way it is designed.</li><li>When looking at large events, such as Cheltenham festival, there are limited tools available to filter your options.</li></ul>

	<p>the user automatically to the best price available to any bookie</p> <ul style="list-style-type: none"> <li>• Their lists show horses, players, games etc that are being backed heavily prior to an event, the 'steamers', and shows those that are going down, the 'drifters'. Odds are colour-coded according to their direction.</li> <li>• A variety of different tools are available - calculators, a hedging calculator, which shows how much to lay off to guarantee a profit and a dutching calculator shows returns on more than one outcome. There are also easily-accessible settings on how to represent data - in Fractional, Decimal, U.S., winnings.</li> </ul>	<p>Instead, large tables of odds are provided which can be quite daunting to the novice or intermediate online better.</p> <ul style="list-style-type: none"> <li>• Building a betting slip takes you off site momentarily.</li> <li>• No option to customize which sports/betting markets are displayed.</li> </ul>
<p>Betbrain (<a href="https://www.betbrain.co.uk">https://www.betbrain.co.uk</a>)</p>	<ul style="list-style-type: none"> <li>• 'surebet' and 'valuebet' offer mathematical services calculating minimal risks and value returns.</li> <li>• .Despite clutter, there is plenty of white space which helps to break up the overall interface.</li> <li>• The interface itself is consistent and does not change a great deal while navigating.</li> <li>• Advanced user account options allow for tweaks to be made to the site's presentation.</li> <li>• Coupon-building is much more straightforward</li> <li>• There is a 'bet basket' where you can monitor bets you select in one place.</li> <li>• Direct links in the 'tools' section to radio, TV guides and Video tips.</li> </ul>	<ul style="list-style-type: none"> <li>• Highly Cluttered look and feel</li> <li>• All sports on offer are listed down the left hand side of the site, so navigating down to 'Water Polo', for example, takes a long time indeed.</li> <li>• Sports are filtered by events only and not by market - there are therefore massive tables underneath each match where a user can choose their bet. This is highly unwieldy.</li> <li>• When navigating between pages, they go blank momentarily. This leads to a feeling of a lack of consistency.</li> </ul>
<p>EasyOdds (<a href="https://www.easyodds.com">https://www.easyodds.com</a>)</p>	<ul style="list-style-type: none"> <li>• One of the oldest odds comparison sites, it offers a far simpler service than the others noted.</li> <li>• They also provide a panel of tipping columnists that each offer their recommendations on good bets, which they group together with tipping sources from outside of the website in tables.</li> <li>• Private member sections allow managing multiple betting accounts, alert feeds, profiles and messaging clients.</li> <li>• The font and design of the site is quite clear, with a simple layout and no</li> </ul>	<ul style="list-style-type: none"> <li>• Visually looks very basic, and still suffers from the same refreshing issues as the other websites</li> <li>• Building a betting slip takes your off-site..</li> <li>• No bet building functionality on-site, so you have to trust the bookie that the site takes you to if you wish to pursue a bet.</li> <li>• Some sort of on-site credit</li> </ul>

	<p>advertising.</p> <ul style="list-style-type: none"> <li>Filtering is done through markets, which really helps to reduce the amount of information onscreen at any given time.</li> </ul>	<p>that could be used would make it seem much more secure.</p> <ul style="list-style-type: none"> <li>Limited customization options once again.</li> </ul>
--	---	--

### Odds Comparison Research Summary

Generally, research into the odds comparison sites helped to demonstrate exactly what the team did not want to produce. For example, the most important issue from the point of view of the interface was the level of clutter visible on the site pages.

Some of the positives taken from this stage of the research are quite noteworthy. OddsChecker, for example, provided a series of tutorials both on the use of the site and on sports betting generally. Should we wish to gear the application in the direction of novice users this would definitely be a worthwhile incorporation. Likewise, tools such as hedging calculators provide superior functionality to the experienced better. The best sites offered a lot of room to customize the interface once a user had logged in, which definitely helped to offer a more personal experience.

There were, however, plenty of negatives. One of the worst criticisms found with these sites was that in placing a bet, the user was navigated off-site, and in two scenarios not even initially to the bookmaker they wished to place a bet with. The user was not informed that they would be taken off-site either, highlighting what might be described as an issue of security with such sites. From an heuristic standpoint, the large page-sizes and sluggish nature of moving from one page to another forced the user to rely a lot on their memory, and didn't offer a very fluid experience.

### 3. Comparison Sites

Name	Positives	Negatives
Compare The Market ( <a href="https://www.comparethemarket.com">https://www.comparethemarket.com</a> )	<ul style="list-style-type: none"> <li>Clear branding/ advertising.</li> <li>Welcome message makes a link with costumers.</li> <li>Clear comparing, choice of insurance.</li> <li>Different categories split up well.</li> <li>Good introduction to the company "Why compare with us?" in stills confidence.</li> <li>Logo on every page keeps identity.</li> </ul>	<ul style="list-style-type: none"> <li>Welcome message takes up most of site first view.</li> <li>Two options for the same things could confuse.</li> </ul>

	<ul style="list-style-type: none"> <li>Sections for “Your saved quotes”</li> </ul>	
<p>Kelkoo (<a href="https://www.kelkoo.co.uk">https://www.kelkoo.co.uk</a>)</p>	<ul style="list-style-type: none"> <li>Clear branding</li> <li>Clear and easy navigation.</li> <li>In stills confidence due to professional look.</li> <li>Different categories for searches.</li> <li>Search product bar</li> <li>Section for every product if hovered over, main details, if clicked full details.</li> </ul>	<ul style="list-style-type: none"> <li>Nowhere to save comparisons.</li> <li>Not all possible places to buy the item compared.</li> <li>Lots of advertising from other companies.</li> </ul>
<p>Go Compare (<a href="https://www.gocompare.com">https://www.gocompare.com</a>)</p>	<ul style="list-style-type: none"> <li>Iconic advertising.</li> <li>Easy guide to process, helpful.</li> <li>Clear branding through logo and colours.</li> <li>Easy to use and clear to navigate.</li> <li>Search bar for help navigate website.</li> <li>Area to save quotes.</li> </ul>	<ul style="list-style-type: none"> <li>Horrendous advertising- although it works.</li> <li>Two buttons for each link to insurance.</li> </ul>
<p>Travel Supermarket (<a href="https://www.travelsupermarket.com">https://www.travelsupermarket.com</a>)</p>	<ul style="list-style-type: none"> <li>Some good features with categories.</li> <li>Good advertising.</li> <li>Dates are changed easily.</li> <li>Clear progress bar.</li> <li>Performs much better when actually searching, more structure.</li> </ul>	<ul style="list-style-type: none"> <li>Very cluttered, not too clear what the site is.</li> <li>Branding not too clear.</li> <li>Not clear how to search, search box seems like a side thought for functionality.</li> <li>Small navigation tool.</li> <li>Not very clear.</li> <li>Lots of advertising- could be annoying for users.</li> <li>Page takes a while to search and load.</li> <li>Branding unclear/ misleading in parts.</li> <li>Cluttered page, leading to uncertainty to comparison website and un-trustworthy.</li> </ul>
<p>BestBetting (<a href="https://www.bestbetting.com">https://www.bestbetting.com</a>)</p>	<ul style="list-style-type: none"> <li>Lots going on.</li> <li>Best bet shown.</li> <li>Best odds page for teas then the best odds including which bookies and a column included for betting exchange some structure.</li> </ul>	<ul style="list-style-type: none"> <li>Very cluttered</li> <li>Lots going on- especially advertising away from the site.</li> <li>Lots of other adverts diverts attention away from the actual websites details.</li> <li>Looks like betting website rather than a comparison site-no clear identity.</li> <li>No clear branding.</li> <li>All odds pages, although best bet is shown, albeit unclearly. There is no definitive this is the best</li> </ul>

		odds. • Different things in bold, highlighted etc, no idea what they are, no key.
--	--	--

The comparison sites were generally better designed than the odds comparison sites. In particular, they were quite effective at recording quotes and comparisons, allowing the user to return to a quote later on. The application could incorporate elements of this in a 'bet builder' section, where bet slips that the user has created could be stored for a time.

One common criticism of both the bookmakers' sites and the odds comparison sites was that navigating around them was often quite inconsistent, with pages being sluggish, going blank momentarily, and in some cases users being taken to other sites entirely, without them realising they were navigating away from the initial site. As well as inconsistent, it was felt therefore that there was a lack of a feeling of security inherent with the modern design of such websites. It was decided that research would also be made into the possibility of designing a desktop application for sports betting, a sort of betting 'hub.' A few applications with related areas of user functionality were also investigated as a result

#### 4. Windowed desktop applications

Name	Positives	Negatives
Skype	<ul style="list-style-type: none"> <li>• Dedicated User Login front page with a simple layout for login and user registration. Secure, password protected.</li> <li>• Constant list of contacts on the left - dedicated presence in the hub.</li> <li>• Profile is easily displayed via a tab - when displayed uses up the majority of the right-hand side of the application window.</li> <li>• Personal information is easy to change with simple profile editing feature.</li> <li>• Space is used very well to provide break-ups of content, giving an overall clean aesthetic.</li> <li>• It is very simple to connect to other Skype users via a simple 'add contact' feature.</li> <li>• All windows can have scrollbars and are size-adjustable.</li> <li>• Runs in window or full-screen.</li> <li>• Sign up/log in function on a dedicated panel is definitely something we would consider, as is the adjustable panels feature.</li> </ul>	<ul style="list-style-type: none"> <li>• Almost too much space.</li> <li>• Contact details seem to be crammed into the left-hand column, while the entire right half of the application window is not being used for much at all.</li> </ul>
Steam	<ul style="list-style-type: none"> <li>• Profile window appears as a small pop-up with basic information available on friends</li> </ul>	<ul style="list-style-type: none"> <li>• Danger with Steam is that it almost tries to do</li> </ul>

	<p>and user's status. Doesn't distract from the main function of the site but enables the user to edit their preferences in full.</p> <ul style="list-style-type: none"><li>• Library-view has the left-hand column with lots of space on the right for game details.</li><li>• Shop-view never displays too much on screen at a time but uses slide-show boxes, scrollbars and large icons to allow for easy navigation. Games are well-categorized into genre types.</li></ul>	<p>too much. Hybrid focus of play, shop and chat mean that it can sometimes lack a clear aesthetic focus - the games library being cluttered with offers from the shop, for example.</p> <ul style="list-style-type: none"><li>• Some redundant navigation tools are there, such as duplicate buttons for 'add friend'.</li></ul>
--	--	---

### Summary of windowed applications here:

The two applications that the team researched offered a number of potential advantages in their design over the website idea. Firstly, and most importantly, navigation is far easier to manage, with quick responses and clear signposting taking the user from, for example, a profile page, to a store page or library of some sort. Secondly, security seems to be far more important to these applications than it is to the websites - they are all password protected and do not bombard the user with advertisements and information about other sites. The user has already installed these onto his or her desktop and has made a considerable commitment of trust to the application to begin with. Thirdly, they manage to facilitate far more detailed social interactivity. Skype, for example, links the user's Skype contacts with their mobile phone, streamlining their interactions. Steam takes another approach, offering a dedicated chat client with 'channels' in which users can meet other like-minded users to talk about their favourite games. Finally, these applications are highly customizable, allowing the user to change the appearance of the main panels, adjust their relative sizes, choose which information to display within panels and group them according to content or theme. It could be worthwhile prototyping a lot of these features.

Important pitfalls to avoid from research into these applications are focusing too much detail into a small space, redundant navigation tools and the exact opposite of the former, having large areas of unused space.


## Analysis of User Requirements

The team discussed the categories of user that would typically use such an application and decided to work with three broad categories:

1. The first category of user would be individuals that have plenty of offline betting experience, but haven't yet made the leap into online gambling due to a range of different concerns, from a lack of computer literacy to fear of the security risks inherent with online transactions. Such users would inevitably be familiar with the betting shop environment, and would most likely be in their 40s-60s. These sorts of gamblers are often reliant on media sources such as the Racing Post for tipster information; any application developed would need to reflect this reliance.
2. The second category of user falls into one of the largest categories of sports betters: the seasoned regular. This individual is likely from a working or middle class background and is a regular gambler on football and other sports both on the weekend and midweek, following the scene quite closely. Betting is one of their pastimes and a source of conversation and fun within their social sphere. Such a user will be computer literate and will have experience of both the betting shop and of the online bookmakers' interfaces; they may also have experience of odds comparison sites. They may not have a large amount of money to bet with and so will be keen to track their bets properly and target the best odds where possible.
3. The third and final category of user are the inexperienced gamblers that wishes mainly just to enjoy himself with it every now and then. They may be interested in learning more about sports betting and would appreciate tips and advice where possible. Betting may be something they do only when their favourite events come around on the calendar, and their available capital to bet with may well be quite small. They may be more interested in the social side of the activity too, and would enjoy features like sharing bets with their friends and following their friends' activities.


With these broad categories outlined, three user personae that each matched one of the above categories were drawn up and documented.

User Category 1

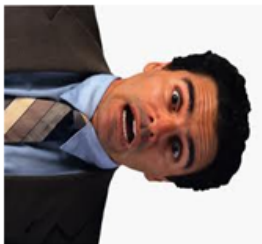
<p>u</p>  <p>"I love my local betting shop, but I just don't have the time!"</p>	<p><b>Background:</b></p> <p>Name: William Threll</p> <p>Age: 54</p> <p>Occupation: Travelling Businessman</p> <p>Technology Level: Some IT literacy; no previous experience of gambling websites</p>	<p><b>Main Points:</b></p> <ul style="list-style-type: none"><li>• Newly appointed travelling businessman</li><li>• Has previously been a regular at his town's betting shop</li><li>• Only cares about Horse Racing and has many friends on the circuit</li><li>• No longer has time to be visiting the betting shop and wants a convenient alternative that he can use on the move.</li><li>• Is interested in learning more about online betting but wants a clear, user-friendly system with a good 'feel'.</li><li>• Is well read and enjoys following tipsters and columnists.</li><li>• Typically places a few premediated bets in an event.</li><li>• Prefers singular bets in the region of £10 -£20</li></ul>
<p><b>Goals:</b></p> <ul style="list-style-type: none"><li>• To win plenty of best and make money</li><li>• To learn the basics of sports betting online</li><li>• To read and study tipsters and strategists</li><li>• To have just as enjoyable experience online as he did in-store</li><li>• To be able to travel and manage his bets on the move</li></ul> <p><b>Frustrations and Pain Points</b></p> <ul style="list-style-type: none"><li>• Online gambling is incredibly confusing and he's never been that comfortable navigating websites.</li><li>• Used to tracking his bets via tangible tickets at the betting shop - hasn't got the time for that anymore due to his work.</li><li>• He wants to be able to monitor the best bets with an easy to use comparison tool, and monitor his own bets without being surrounded by jargon</li><li>• Cannot decide which online betting provider to become a member with</li><li>• He is new to the different visualisation styles of betting and would like to learn more.</li><li>• He doesn't want to get involved in other sports – horse racing is the only events are the only ones he is interested in.</li><li>• He misses the feeling of belonging associated with his old betting shop and craves a more personalised experienced</li></ul> <p><b>Scenarios</b></p> <ul style="list-style-type: none"><li>• To quickly log-in from his laptop and monitor his bets</li><li>• To be reliably informed as to which bookie will provide him with the best return for any bet he chooses.</li><li>• To track his bets on a race day just as easily as he used to in-store</li><li>• To place bets mere minutes before a race starts</li><li>• Using tutorials and instructions, he learn the art of sports betting online</li><li>• Overview his old bets to find out whether he is improving</li><li>• Connect with his contacts using the service and follow his favourite tipsters</li><li>• To compare a number of bets before placing them to see which he prefers.</li></ul>	<p><b>Description</b></p> <p>William is a travelling businessman on a comfortable salary. Not two months ago his lifestyle was considerably less hectic and one of his favourite pastimes was to enjoy an afternoon at his local betting shop, following the horses. With his new role in the company, William no longer has time for a betting shop and is considering making his first forays into online betting. However, he has no idea which provider to start using and would like to have a tool to use that would enable him to make meaningful comparisons. Unfortunately, William has always harboured apprehension towards online gambling and regards the area with a high level of distrust. He therefore has no experience of the systems used by online service providers and would like to learn more about it in order to make the transition.</p> <p>William doesn't have a large presence online but is aware that some of his betting friends make use of sites. He also knows that the columnists he follows in papers like the Racing Post also blog online, and would be interested in a convenient way of following them. With so many competing betting sites available, William fears that there is no easy way to make the bets he wants without traversing multiple sites. Moreover, William likes to make calculated, premediated bets based off columnist recommendations, his own knowledge, and information received from friends. He typically bets on the bigger racing days, but would like the option to follow more events with ease. Once a bet has been made, he typically won't change it as he likes to see how his forethought and strategy plays out.</p> <p>For William his interest in racing is as much about the interaction with his friends as about making money; for him the satisfaction comes more from making a successful bet than from making money on it. Still, knowing that he has made the bet using the best possible odds would add an extra dimension of reward. He would appreciate any tutorials, guides and functionalities that would make any site accessible and easy to use. Any tools that would enable him to research and make the 'best bet' would be greatly appreciated.</p> <p>William's distrust of online betting sites stems from a general dislike of web-based financial transactions. The thought of multiple websites having access to his personal banking information fills him with apprehension. A simple interface where he minimizes the distribution of his financial information would leave him far more assured. Likewise, were he to use a website for his betting interests, one major priority for him would be the feeling of security in using it.</p>	



User Category 2

<div><div></div><div>Gamble is my name, to gamble is my game!</div></div>		
<div><div>Goals:</div><ul style="list-style-type: none"><li>To win as many bets as possible</li><li>To easily place bets</li><li>To become more successful at football betting</li><li>To continue to enjoy betting</li><li>Not to get carried away and let it become unhealthy or an addiction.</li></ul><div>Frustrations and Pain Points</div><ul style="list-style-type: none"><li>Tracking his bets in play is a chore as it is hard to remember what each bet entails and which teams are involved.</li><li>Not an easy way to undergo his own bet tracking, especially if matches are over a number of leagues or competitions. These are usually segregated on sports sites.</li><li>Bets cannot be saved for later if he would like to wait to decide whether to go ahead with the bet.</li><li>Cannot start selecting another bet until he has either discarded or chosen to bet on his selection.</li><li>Not knowing exactly what a bet title/market actually means/Is.</li><li>Only seeing odds in fractional form, decimal odds are much easier to visualise.</li><li>When it is not clear how to find a certain bet or market. Overly complicated layouts.</li><li>Frequently getting logged out of his betting account when checking results by leaving them idle for too long. Makes it hard for him to track his results manually.</li></ul><div>Scenarios</div><ul style="list-style-type: none"><li>To quickly place a last minute bet before a match starts.</li><li>To acquire knowledge on which site he should place a bet for the best return for any bet he chooses.</li><li>To easily track his numerous bets in play to check his progress as the match is playing.</li><li>To place a number of accumulators at once involving teams from many different leagues and competitions.</li><li>To place some bets during matches.</li><li>Overview his old bets to find out where he wins and losses</li><li>View his total profits over a period of time.</li><li>To compare a number of bets before placing them to see which he prefers.</li></ul></div>	<div><div>Background:</div><p>Name: Will Gamble</p><p>Age: 35</p><p>Occupation: Labourer</p><p>Technology Level: Competent computer operator, familiar with internet use in all browsers, owns a smart phone.</p></div> <div><div>Description</div><p>Will is a labourer who works hard to earn his money. Knowing this he has no problems with setting aside a certain proportion of his earnings towards sports betting. Will has recently moved to a new area and is currently involved in a long term project. A few years ago before online gambling became so easy and prolific he would use a betting shop on his way home from work, if there were events on in the evening or he would walk from home at the weekends to put his weekend bets on. However since moving there is not a betting shop near his home or on the way home from work. As a result Will has discovered online betting. The ease, convenience and flexibility of betting online has encouraged Will to continue doing this ahead of using a shop. He also enjoys the ease at which he can bet with a number of different bookies from the comfort of his own home. This way he can find the best odds to maximise his winnings.</p><p>Will has betted on sporting events regularly for many years both in betting shops and online. Online was a substitute for when he would forget or couldn't reach a betting shop occasionally. However, the transition to completely online is not inconvenient as Will is competent at operating a computer. He is a member of a social networking site but only uses it sparingly. He has made the online transition to many avenues of life for added convenience for example he sometimes utilises online shopping. As a result he is competent at functioning various betting sites. He prefers certain websites for their improved odds, others for their simple usability and user interface and others for specific coupons and offers. This means he does not settle with one site.</p><p>Sometimes Will does not get his bets done in a lot of time in advance of the start of the competitions he bets on and so may need to place his bets quickly and easily to start them before the start of play. He sometimes utilises the "in-play" option however tries not to as the delay and constant changing odds do not lend for easy betting.</p><p>Will bets for the enjoyment factor and the competitive edge it adds to a number of otherwise less meaningful matches. He tries to ensure that he maintains a profit and tries to utilise his winnings to carry on his betting and ensures that he does not put too much money in at once. Further because of this he sometimes has to transfer money between accounts to ensure he can use site specific offers if he has currently run out of funds on one particular site. Will is particularly keen on sites that allow him to build his own coupons, i.e. he can access the same type of bet across a number of different matches in order to simplify the process in placing an accumulator bet. He also prefers sites that make it easier for him to check his bets without clicking on a number of links and also sites that provide a copy of his current bets without refreshing very soon after and automatically logging out. Although this is often a security feature he finds this frustrating.</p><p>Will, although very passionate about football betting, occasionally dabbles in other sports betting when there are high publicity events within that sport, for example the six nations for rugby union, the grand national and other high profile races for horse racing.</p><p>Will also likes to discuss sport and his bets with his friends that also gamble on sport. This adds to the competitive edge as he enjoys to have more wins over a week than his friends.</p></div>	<div><div>Main Points:</div><ul style="list-style-type: none"><li>Regular gambler on football matches whenever a set of games are on, weekend or midweek.</li><li>Likes to utilise various offer coupons across various gambling websites.</li><li>On an average bet he may place between £10-20 as a stake depending on the odds.</li><li>On higher odds bets he will reduce his bet to within £1-5 to ensure he does not waste too much money on low chance bets.</li><li>Generally gambles at home on the computer as he prefers the user interface, but if on the move will use his smart phone for betting.</li><li>Does not use betting as a form of income, rather for enjoyment and adds a competitive edge to less important/exciting football.</li><li>Often places a number of bets on at once.</li></ul></div>

User Category 3

	"I just want to have a laugh!"
<p><b>Background:</b></p> <p><b>Name:</b> Mattie Flexer</p> <p><b>Age:</b> 22</p> <p><b>Occupation:</b> History Undergraduate</p> <p><b>Technology Level:</b> Use computers recreationally and for work, including social networking sites. He owns a laptop, and also has a smart phone and tablet. Although he prefers using gambling websites on his laptop as he find it easier to navigate.</p>	<p><b>Main Points:</b></p> <ul style="list-style-type: none"><li>• Wants to feel safe betting.</li><li>• Wants hints and help for how to use the website.</li><li>• Might want betting tips.</li><li>• Want an easily navigable page.</li><li>• Place bets with no expectation of winning. Would be keen to gloat about any wins to his mates though.</li></ul>
<p><b>Goals:</b></p> <ul style="list-style-type: none"><li>• To place bets and win the odd couple of them</li><li>• To stay under control while betting and not go over his limit</li><li>• To be able to get the best value odds</li><li>• To be able to keep a track of the bets he has placed</li></ul> <p><b>Frustrations and Pain Points</b></p> <ul style="list-style-type: none"><li>• Overly complicated websites, websites that lure you in with tempting deals but end up being unsafe.</li><li>• Excessively detailed betting systems. He's only interested in the more straightforward sorts of bet.</li><li>• His own lack of self-control when it comes to betting means he really has to watch what he's doing. Unclear offers and a lack of means to manage his bet coupons and slips add to the risks inherent in this.</li><li>• He doesn't want his work at university or his social life to suffer as a result of his betting. On the contrary, he would like it streamlined and less invasive.</li><li>• Unfair accumulator odds at bookies.</li></ul>	<p><b>Description</b></p> <p>This person is a history student who enjoys the occasional flutter. Although he has some experience with gambling and online gambling, he is far from a professional gambler. He bets for fun and have no expectations of winning bets. Due to this they put on large accumulators for small amounts of money, further he enjoys betting on large or their favourite sporting occasions: such as the Superbowl (annual event). His bets range from a minimum/ the betting websites minimum to around maximum £10. When he does bet he bets in collections, so accumulators are regular occurrences, other than that the other bets he puts on are sporadic usually on a couple of matches here and there. He usually looks to try and find some guidance from tipster website and also look at previous stats before placing their bets, although the majority of his bets are made on feeling, impulse and guessing.</p> <p>He prefers the outsider due to the increased odds, rarely taking up long term bets. He would use a comparison website to make sure he gets the best value out of his few bets. He believes an accumulator comparison and tipster help combined would be of use along with data and stats</p> <p>He has relationships outside his gambling and his girlfriend's recognises a specific danger of becoming addicted to gambling, losing their savings. This does not worry him and he thinks he will always have control of his habits, gambling is not the most important thing in his world, and he enjoys culture and meals out with friends and family. He is currently on a limited budget being a student, and does not appreciate when gambling website encourage him to bet more and take up offers. He enjoys offers, but not when the website promote an offer which he then has to put more money to get in the offer.</p> <p>He enjoys chatting about his bets with his friends and he would enjoy a feature which allows him to talk to his friend and see his friends selected bets.</p>
<p><b>Scenarios</b></p> <ul style="list-style-type: none"><li>• There is a big sporting event on at the weekend that Mattie and his mates have always had a keen rivalry about in recent years. Everyone wants to place bets and compete, and Mattie wants to do this in a way that feels sociable and exciting.</li><li>• Like many poor students, Mattie is particularly interested in long shot accumulator bets where the stakes are low but the potential reward very high. Knowing that bookies can be unfair about such bets, he wants to know each week which bookie is offering the best odds.</li><li>• Mattie has a number of favourite football players that he often places bets on. He places bets on these players week by week and likes to monitor their progress, akin to fantasy football.</li></ul>	

## First Generation Prototypes

The team produced three individual low-fidelity prototypes, each focusing on a particular area of our design goals. Prototype one examines the idea of an information-heavy user interface laid out in a windowed application console. This would provide the secure environment with all the concomitant information and social facilities suggested within the personas. This was modelled using the 'Balsamiq' tool (<http://www.balsamiq.com/>) and provided an initial idea for how the overall main terminal hub would look and feel. This was supposed to be informative, yet clear, concise, customizable and provide clear avenues for navigation around the application.

The second prototype takes a closer look at the methods by which one might build a betting slip and betting coupon, whilst also trying to maximize the space within which information is viewed, by making good use of tabs. Again modelled using Balsamiq, this prototype focused on improving the aesthetics of the program by spacing information out and being as selective as possible in what is displayed, taking inspiration from tidy looking environments like Steam. It was also designed to demonstrate customizability and innovative ways to manipulate displayed information. Functionally, it investigates larger screen spaces dedicated to tracking betting processes, both for ongoing sporting events and bets in progress. Some detail was also given to the notion of a coupon system for managing finances.

The third and final prototype examines the way in which social facilities and user preferences might be designed in such a system, with a particular focus on the notion of a customizable profile. It does this by means of a storyboard, moving from login through the home page and onto the profile screen. It uses Illustrated storyboard slides modelled using basic methods on Adobe Illustrator. This prototype investigated login functions, the notion of a profile page and messaging client, as well as information-gaining details, appearance customization, social functions and the overall feel of the application within the context of a desktop

## Prototype 1:

Tabs select which sport the user would like to bet on.

Markets can be selected as sub tabs of each sport. The tabs will be tailored accordingly to the specific sport markets available.

Can build multiple bets at once.

Can choose via radio button which bet the user would like to have the odds shown for in the box below.

The wireframe shows a betting terminal interface with the following components:

- Top Navigation:** Tabs for Football, Cricket, Horse Racing, Tennis, NFL, Rugby Union, Rugby League, and Others.
- Left Sidebar:** Expandable sections for England (Barclay Premier League, FA Cup), Championship, League 1, League 2, Conference, Spain, and Italy.
- Central Area:** 'Bet Builder' section showing multiple bets (Bet 4, Bet 5, Bet 3, Bet 2, Bet 1) with odds and a 'Place Bet' button.
- Right Sidebar:** 'Bet log' showing a list of bets and their outcomes.
- Bottom Left:** 'LIVE Scores and Fixtures' section.
- Bottom Center:** 'Live Tipster and Twitter Feed' section.
- Bottom Right:** 'Chat' section with a message input field and a 'Send' button.
- Top Right:** 'Balance' display showing £3.98.

Drop down expandable boxes detailing matches

Particular bookie (varying odds are shown) the user would like to place bet with can be chosen with a radio button.

All bets placed appear in the bet log. As an expandable box to allow for tracking and more information.

Money can be inputted into text a text box and the bet can be placed by pressing place bet.

Social interaction can be made

## Prototype 2: Page 1

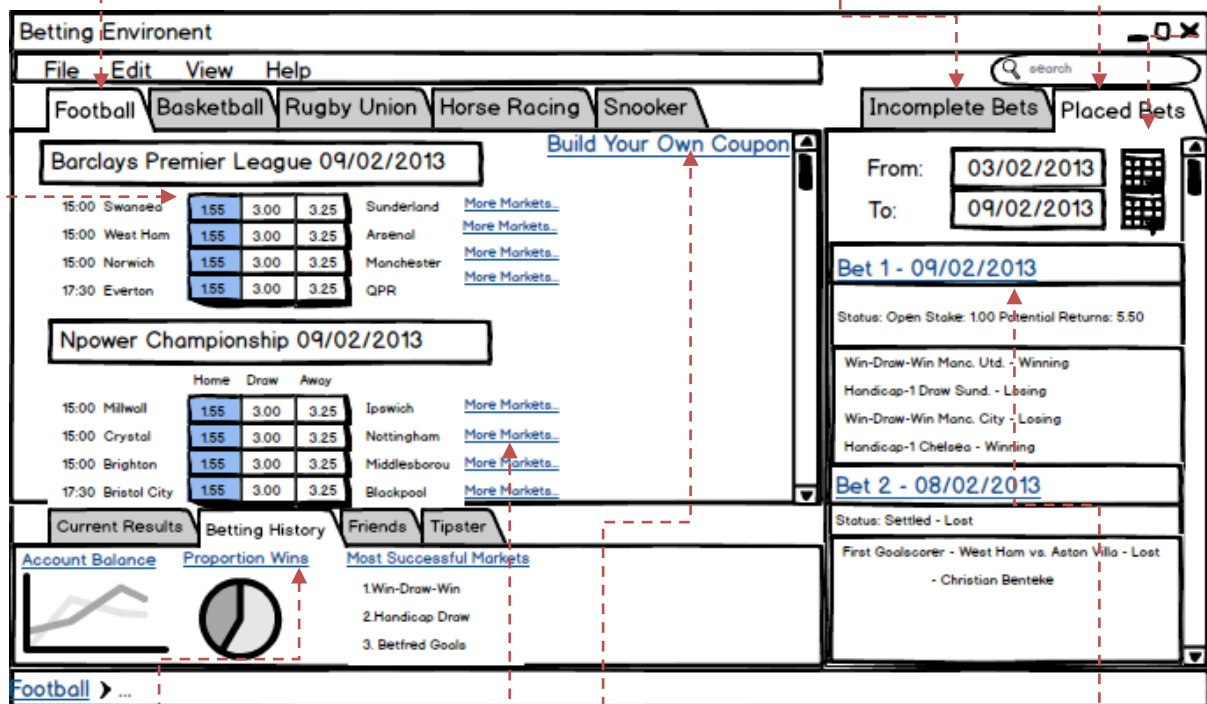
Choosing a sport tab will show the user relevant betting options regarding the sport they chose

User can choose to view already placed bets, current and old

A particular selection can be clicked and this will be added to the bet slip on "incomplete bets"

Users can view incomplete bets on the bet slip by selecting this tab

Users can choose to show bets within a certain period of time by using the calendar function.



Clicking link above a graph or certain information will provide a pop up box with a larger view and more detailed information

Clicking the bet link will provide further and more detailed information into the bet placed.

Build your own coupon will change the look of the football tab to that seen overleaf

Selecting more markets will show the user more markets relating to that sport.

Prototype 2: Page 2

Checkboxes can be selected to filter the leagues a user would like to bet on, within which they can then choose the individual matches after they confirm the leagues.

Leagues are separated naturally into different countries.

Upon selection of "Build your own coupon" this screen is produced.

**Betting Environment**

File Edit View Help

Football Basketball Rugby Union Horse Racing Snooker

**United Kingdom Competitions**

☐ Premier League ☐ FA Cup

☒ Championship ☐ Carling Cup

☐ League 1 ☐ FA Trophy

☒ League 2 ☐ Johnstone Paint

☐ Blue Square Bet Prem

**Spain**

☐ La Liga

☐ Liga Adelante

☐ Copa Del Rey

**Italy**

☐ Serie A

☐ Serie B

☐ Serie Z

**Germany**

☐ Bundesliga

☐ Bundesliga 2

☐ German Cup

Current Results Betting History Friends Tipster

Bet 1 Bet 2 Bet 3

Manchester United 2-0 Everton  
Sunderland 1-1 Arsenal

Manchester City 1-3 Southampton  
Chelsea 2-0 Norwich

Football > Coupon Builder

**Incomplete Bets** **Placed Bets**

From: 03/02/2013 To: 09/02/2013

**Bet 1 - 09/02/2013**

Status: Open Stake: 100 Potential Returns: 5.50

Win-Draw-Win Manc. Utd. - Winning

Handicap-1 Draw Sund. - Losing

Win-Draw-Win Manc. City - Losing

Handicap-1 Chelsea - Winning

**Bet 2 - 08/02/2013**

Status: Settled - Lost

First Goalscorer - West Ham vs. Aston Villa - Lost

- Christian Benteke

Path of a user's selections is logged allowing the user to easily revert back to a previous screen

Same matches as in bet 1 in the bet log are the matches displayed in the current results tab under bet 1.

Current results relevant to each active bet are visible as a series of tabs within its own current results tab



### Prototype 3

Contextual view - shows the application open on a desktop.



Users can choose their own profile picture to represent them on the system

The application has fully functioning user IDs

User accounts are password protected for security - these would also be linked to an email address and associated financial information.

## Human-Computer Interaction

Upon logging in, a user is presented with the main hub, within which they can manage their social interactivity and click into sports they would like to place bets in.

This prototype explores some of the social interaction possibilities with such an application



The main social features - Discussion rooms, friends and tweets are organised into a column on the right-hand side

Triangle-buttons provide a drop-down interface. Here the user's twitter feed is shown

A common feature of bookmaking and odds comparison sites is the inclusion of a 'Recommended events' feature, tailored to that user's preferences



In this example, the user has selected the 'FRIENDS' drop-down list, which displays their available friends alongside their picture.

The 'PROFILE' icon is linked, and takes the user through to their profile page



User's online status is displayed here

By selecting a friend from the list, the user would then be able to write them a short message using the system's built-in chat client.

## Human-Computer Interaction

The rationale behind a profile page of this sort is that it provides the user a realm within which they can personalize the application and make it their own

'Home' button takes the user back to the main screen seen on the previous page. '



'Personal Settings' opens up further settings including more detail about the user's display options, see next page

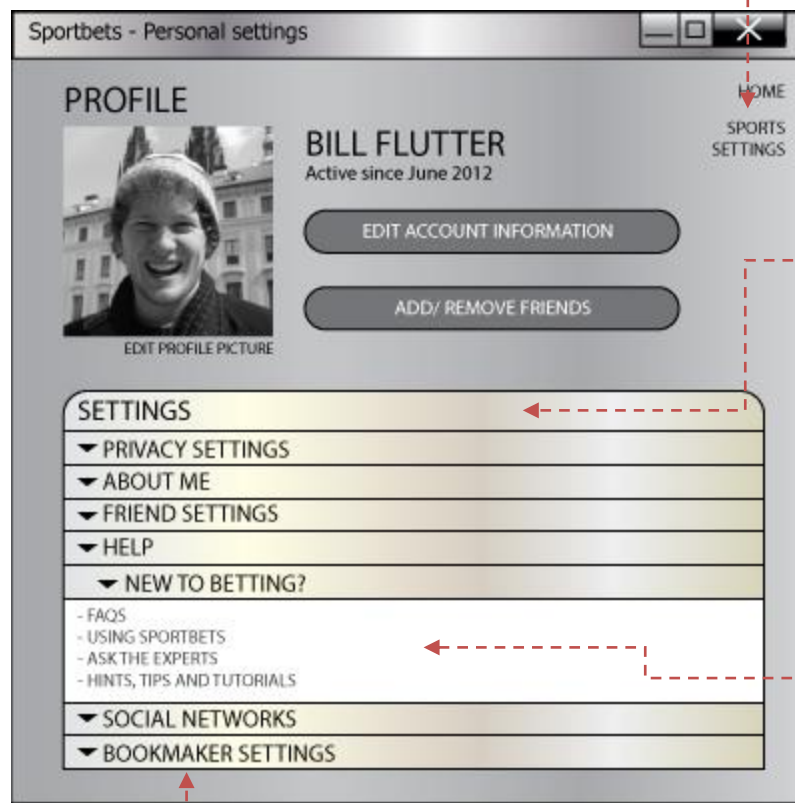
'Edit Account Information' would allow the user to make changes to their financial information and other account settings.

In the main section of the profile page, the user is able to alter which sports and which markets for those sports are represented on the home page.

This has been managed using drop-down selection boxes, check boxes and scrollbars.

Clicking on 'Personal Settings' presents the user with a further set of options. These pertain to settings outside of the sports themselves.

The user can return to the sports settings view using the displayed link



Suggested personal settings - privacy settings, personal information, friend settings, options to display help tips

The displayed tab is HELP. Within it, the user is able to find FAQs, guides to the system, customer support and tutorials.

Finally, options are provided for the user to link the application to their social networks, and to pick their favourite bookmakers.

## Low Fidelity Prototyping: comments, evaluations and assessments.

### Heuristic Evaluations

Each team member inspected each of the prototypes using Nielson's Heuristic criteria (Nielson, 1994b). The results were collated and summarized below. Severity ratings for each problem were discussed within the team and provided in bold next to each problem.

Severity ratings conformed to the following key:

- 0 - don't agree that this is a usability problem
- 1 - cosmetic problem
- 2 - minor usability problem
- 3 - major usability problem; important to fix
- 4 - usability catastrophe; imperative to fix

### Prototype 1: Main Hub design, Balsamiq

Visibility of System Status:

- System status has not really been modelled as such. Login status does inform the user regarding the current user's login. **(0)**

Match between System and Real World:

- There is no coupon builder. The process of market selection has to be managed separately via tabs. This is quite different to the way many betting websites handle this. **(3)**
- Tab system moves away from the standard practice of listing available sports along the left hand column in a series of links. This could throw some experienced users. **(3)**
- There is a natural progression across the screen from selecting a bet, placing a bet and viewing/ tracking a bet - the same natural process one sees in a betting shop. **(0)**

User Control and Freedom:

- When selecting a bet, mixing and matching markets and sports requires considerable sifting between two layers of tabs, which provides a high level of user freedom but isn't efficient in terms of control. **(2)**
- There is a greater plurality of present information and tools available to the user, but a lot of what could have been modelled still has not been. **(1)**
- So much freedom can actually come across as daunting, especially when all focused onto one screen **(3)**
- All elements are modelled onto their own box or panel, which minimizes the risk of navigating to the wrong area.

### Consistency and Standards:

- Generally consistent use of triangles and tabs without deviation from their intended function. One area of concern is that sub-tabs for markets are indistinguishable from main tabs for sports, which could be confusing. **(3)**

### Error Prevention

- Sub-tabs will only appear if they pertain to the particular highlighted main tab. This prevents an incompatible bet / market selection.
- Confirmation for the user login ID has been given along with a 'not you?' button for erroneous login.
- There is no verification checker on the place bet button **(3)**
- There is no facility to delete an unwanted leg of bet **(4)**
- No exit button provided **(4)**
- No option to save unwanted bets **(2)**

### Recognition rather than Recall:

- No instructions or help tabs have been modelled as yet. **(4)**
- Information doesn't disappear - the manner in which a bet has been built, together with its component parts, remain available to see. This is good for visibility and minimizes the dependency on memory.
- Tab systems by their design include an opportunity cost for what information is displayed - can only have one tab selected at any given time. **(1)**
- The bet log compresses quite a lot of its information into a small space - this could be difficult with complicated bets. **(2)**
- Once built, a bet can't be viewed in great detail. **(3)**
- The current 'best odds' box doesn't make it clear which bet is currently selected, which is a major recall issue **(4)**.

### Flexibility and efficiency of use

## Human-Computer Interaction

- The application is interacted with almost entirely through use of the mouse. It may be possible to model keyboard hotkey interaction at a later stage. **(1)**
- A more experienced user may wish to remove tabs or customize the size of the panels - this latter isn't modelled. The row of checkboxes for tab display at the bottom of the screen are unwieldy - it is often unclear as to which panel they refer**(4)**
- On the other hand, the user is never more than one click away from a particular information display.

## Aesthetic and Minimalist Design

- Design conforms to the standard fonts and 'look and feel' of the Balsamiq modelling tool. Would like to improve upon this in later stages.
- Much of the main hub could be modelled elsewhere on the application, such as modelling the user customization options in different windows. **(3)**
- Couldn't describe the hub as 'minimalist', but there isn't a lot of redundant information. Having a lot of information that is relevant may even be considered a design advantage.
- Text is quite small, and the user will have to take a lot in at all stages of the application's use. This may not be to the benefit of the novice better.**(2)**
- As soon as there is a situation where a large number of bets have been placed/ are being tracked, there is going to be very little space on the terminal that isn't covered in text. **(3)**

## Help and Documentation

- The system is quite complex, especially to the novice better but also to the experienced better that has yet to use an online interface for betting. Help and Documentation should be provided, possibly in the form of help tips or '?' icons on relevant panels. **(4).**

## **Prototype 2: Betting environment in Balsamiq, betting coupon builder highlighted.**

### Visibility of System Status:

- Minimal applicability of system status visibility as the purpose of a desktop application is to minimise loading screens. **(0)**

### Match Between System and Real World:

- Within coupon builder, the process of selecting matches feels natural choosing them from natural sub headings of countries and then leagues.
- Simple tab headings sometimes contain subject specific jargon which benefits more experienced betters/users of the system. **(2)**
- Tab system although fairly intuitive moves away from the standard website linking system where different sports/markets generally appear on the left hand side of the page as a column. This is intentional but may throw even experienced betters off. **(2)**

### User Control and Freedom:

- Users are not forced to go down a particular path and are given many options to choose.
- Users have been given an option to return to a previous screen via a linking path allowing necessary freedom to make mistakes, but this path is not immediately obvious to the user.**(1)**
- Tab system provides significant freedom to manoeuvre about the application with easy options to move back to a previous screen by selecting the relevant tab.
- Some tabs hide potentially vital information and the user is forced to make a choice between what they are viewing at any one time. This is unfortunate
- Users may not have known which tab they were previously on, despite the tab's visual priority when selected. **(1)**
- Within the bet slip the user can choose any time period within which to show placed bets. No alternative time selections possible, user must use the date boxes, reduces the freedom of the user. **(3)**
- Information to the user is restricted to what is shown on the page; if the user wants additional/different information to what is provided this is not available. **(2)**

### Consistency and Standards:

- Significant mixture between links and tabs which can be confusing for the user in terms of where a link may take the user. **(3)**
- Tabs are used within every separate box in the environment providing a consistent feel within the environment.
- The links within these tabs are consistent throughout the environment only appearing within a tab once it is selected.
- Use of checkboxes within coupon builder moves away from links used in other tabs. **(1)**

### Error Prevention:

- Betslip has not been specifically modelled in this prototype; the betslip provides the largest amount of user selections involving which bets to choose which is where the errors may occur.
- When the program is closed, not necessarily given a warning message to ensure user wants to close (option to save unfinished bets). **(2)**

### Recognition Rather than Recall:

- There are no options for the user to type commands no recall necessary.
- All choices that are to be made are done either by linking/tabs/checkboxes where a name describes the action the user is taking.
- User input would be required in a bet slip to type in the money they would like to bet, recalling will not be necessary here justifying the nature of the user input.
- Selection of period of time to display old bets the user is provided with a calendar pop up to aid them in selecting a date.
- Recall is required by the user as they must choose a date that they believe to be within the correct period of time rather. It may be hard to visualise how long ago a date was. **(3)**
- No help is offered to the user to provide advice on how to navigate somewhere or use the environment. **(3)**
- Information is hidden often as more flexibility is provided to the user about what they want to view. Information is hidden behind tabs. The user will often have to recall where they saw a certain piece of information. **(2)**

### Flexibility and Efficiency of Use:

- Interface is almost all mouse driven which is easy for the user to navigate with. No added complications.
- There are no hotkeys as all tabs the user may want are available on the screen without having to trawl through menus, hotkeys are rendered obsolete.
- Copious tabs could make traversal confusing and lengthy if user requires to go back and forth. **(2)**
- Tabs do however provide obvious separation of sports which is easy for the user to understand and navigate through.
- Links are clearly marked so the user will know when a screen should change.
- Bet slip and bet log showing placed bets are on separate tabs which allows more space for viewing each one but reduces the flexibility in viewing both at the same time, both containing important information the user may wish to have on his screen at once. **(3)**
- More details of a specific bet are available in an alternative box at the bottom of the page but this is not immediately obvious from the bet log and could be inefficient to have such information separately. **(2)**

### Aesthetic and Minimalist Design:

- Focus on showing less information and to make it seem more user friendly.
- The user isn't barraged with information.



- Bet log is very cluttered as a lot of information is being portrayed within each bet particularly for larger bets. **(2)**
- There is no obvious structure to bet descriptions in the bet log making the information potentially confusing for a user. **(3)**
- Tabs and sub tabs are nicely distinguishable by different sizes.
- Scroll bars within different boxes allow plenty of information to be easily and readily available on a screen without having to traverse through numerous links as in a webpage.
- Fonts are probably too large and make the site look like there is possibly too much wasted space. Can make the site look childish. **(3)**
- Links to pop ups providing easily viewable more detailed information may be cumbersome for user to trawl through potentially ruining the aesthetics and "all in one" nature of the program. **(2)**

### Help and Documentation:

- No help provided for the user if they do not understand a word or market etc. **(2)**
- Users can use the help drop down menu to get help about issues using a search.
- Users may wish to get a brief description of a function in the program by hovering the mouse over a help icon or when they hover over a link. **(3)**

### Prototype 3: Social & Profile features, Adobe Illustrator

#### Visibility of System Status:

- Minimal system status to display. Ideal is for the system to be as clear as possible and have as low loading times as possible.
- User's credit is not displayed by the system **(4)**

#### Match Between System and Real World:

- Users with experience of social media should have relatively little trouble adjusting to the functions of the system. Older or less tech-savvy users may find it daunting. **(2)**
- Current model devotes a lot of space to the social functions - granted, this was a deliberate choice for the prototype, but may not be what people are used to in a betting application or site. Then again, people are used to socializing in gambling venues. **(2)**
- A profile picture should be reminiscent of forms of social media, reinforcing to the user that they have a presence on this system.

### User Control and Freedom:

- Customization tools are displayed in order to highlight user's freedom to tinker with the system.
- The prototype shows a system where less is displayed at a given time. This may feel restricting to the user **(2)**
- Buttons and links are provided to take the user back to previous sections of the application
- Checkboxes support easy undo and redo
- Having any one column open in the social column creates the opportunity cost of not having the others open at the same time, which is somewhat restrictive **(2)**

### Consistency and Standards:

- Some of the button naming conventions are ambiguous - difference between 'personal settings' and 'account information.' **(4)**
- Consistent use of checkboxes, rounded panel edges and triangles for drop-down selection panels.
- On the home screen, it isn't immediately obvious that clicking on an image would take you onto the betting section for that sport **(3)**
- Again, on the profile page it isn't obvious that the sports settings and personal settings buttons are buttons - they're quite different to the other buttons on the page **(3)**

### Error Prevention:

- Ability to customize sport selection and market selection prevents the wrong sports appearing on the home screen and prevents the risk of placing the wrong type of bet by mistake. Betting has not been modelled in this prototype though so cannot discuss that section.
- Clear minimize and exit buttons, as well as generally large buttons help prevent the user from miss-clicking.

### Recognition Rather than Recall:

- Tabs help to provide a lot of visible information, without hiding too much - panel headings are still displayed, minimizing the emphasis on memory.

- In the social column, the aforementioned opportunity cost of which information to display is particularly inefficient - have to click back and forth between friends and tweets, for example **(3)**

### Flexibility and Efficiency of Use:

- Entire panels and display options are customizable, along with settings for privacy, social media and selected sports
- Interface is used entirely with a mouse and keyboard
- Having two different profile page displays, one for sport settings and another for personal settings, may be inefficient **(2)**

### Aesthetic and Minimalist Design:

- Very simple interface design. As little information as possible is displayed on screen at any given point in time, making it a more approachable interface for newcomers.
- Little has been modelled regarding the bet building and selection design. It may be different to continue with such a simple aesthetic given the amount of information that would be required to be displayed for such a process **(3)**
- Clear fonts and large button design offer a user-friendly look and feel.

### Help and Documentation:

- Extensive information about the use of the system provided in the profile page under 'HELP'.
- It may be more beneficial to have immediate links to relevant help sections next to specific panels of the application **(1)**

## First Prototype Findings

### Key concepts to take through:

- Provide help tabs/icons explaining complex parts of the program.
- Customisation of tabs via a profile screen
- User credit displayed on screen at all times.
- Provide the user with the option to create their own coupon.
- Maintain simplicity of navigation by keeping tabs at the top of a box rather than a mixture between horizontal and vertical tabs.
- Links provided from the bet slip providing a more detailed version of the bet whilst providing enough information to allow the user to track a bet.

- Both the bet slip and the bet log should be open at all times rather than a tab based priority system.
- Natural linear and logical progression from left to right across the screen as a user builds their bet and then eventually tracks it.
- Separate entities within their own panels on the screen.
- User is never more than one click away from a completely different type of information, whether that be different sports, different markets or social and bet tracking information.
- Natural and logical progression through designing and implementing a coupon.
- Users are not forced down a particular path when using the interface. Freedom and exploratory options should always be available.
- Scroll bars to maintain the concept of all information on one screen whilst providing the a large volume of information at one time.
- The login screen automatically provides the user with a profile screen after login as a separate window.
- Maintain a balance between legible font and volume of information and the user friendliness of the application.

### **Key Problems to be addressed:**

- Customization of tabs and personal settings should not be managed via the main screen, but via a separate window. Can integrate this with a profile view as discussed in prototype 3.
- Deleting an unwanted leg of a bet should be clear and common-sense.
- Buttons that are used need to be completely unambiguous
- The problem of information volume is a difficult one to address. While acknowledged, it is felt that this can be justified based on the necessity of displaying a lot of information. As a compromise, interface-level measures will be incorporated to manage this - scrollbars, separate panels, instructions and tool tips.
- Some of the tabs- particularly those that were sub-tabs, were indistinguishable from their parents and this will need to be addressed by way of highlights so that the user is aware of where in the tab system they are.
- It is imperative that the user be provided with more than one systematic, deliberate action when providing a means for them to place a bet. This helps prevent the wrong bet from being placed.
- Any form of 'history' view should be made separate from the bet building display, as current information is more important than old information.

## 2nd Generation, High-Fidelity Prototype

### Tools

The previous pages describe some of the details of the 2nd generation prototype. The mock-up was modelled using the Balsamiq tool(<http://www.balsamiq.com/>), only this time the team made full use of the interactivity that the modelling tool provides. Tabs, checkboxes and text boxes were properly linked such that a bet-making scenario could be written up. There was a clear rationale behind the selection of Balsamiq as a high-fidelity modelling tool: it was possible to put as much interaction as was desired into the prototype without investing too heavily in a time commitment, and the 'drag-and-drop' interface of the tool combined with a wide range of predefined panels and buttons made building complex, professional-looking mock-ups straightforward. Moreover, using a program that the team were familiar with from the previous generation's mock-ups reduced the time needed to learn how to do the more complicated aspects

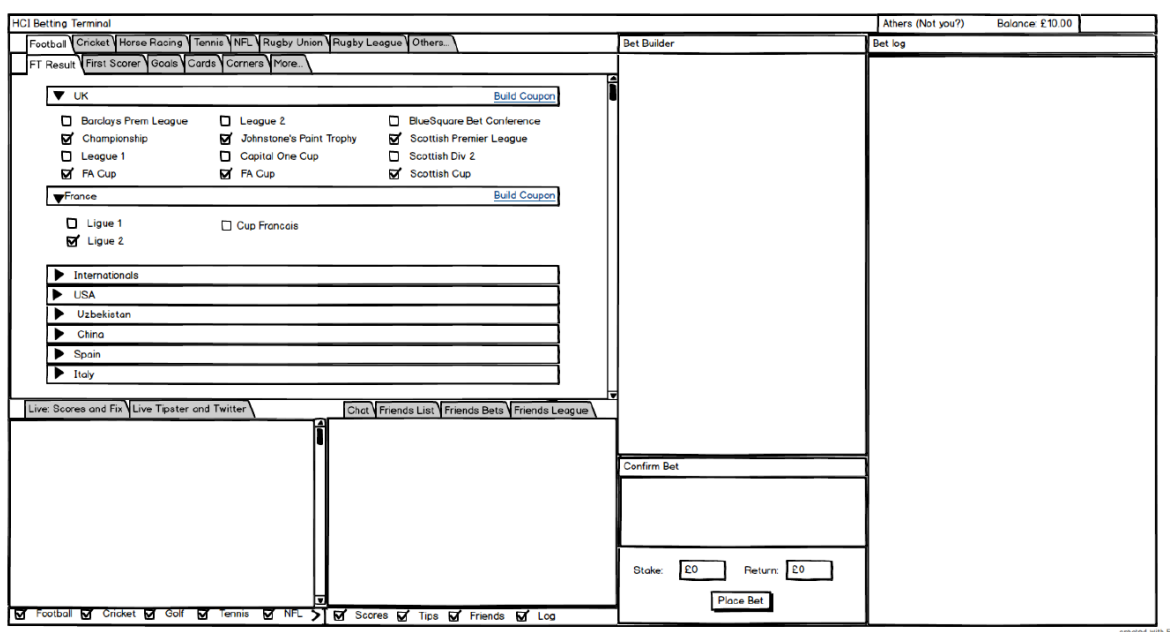
A number of different tools were considered for the high-fidelity prototype but ultimately rejected. Others were used in different ways: Adobe Illustrator was used to model one of the low-fidelity prototypes but would have been too time-consuming to use for higher detail models. MS PowerPoint does provide the hyperlink tools required to correctly model the interaction, but was, on investigation unwieldy and less straightforward to work with than Balsamiq.

The InVision App (<http://www.invisionapp.com/>) was considered as it provides a similar level of functionality in its mock-ups to Balsamiq but was neglected for a couple of reasons. Firstly, it is more closely geared to work with websites and the group had made a conscious decision not to produce a website design; secondly, it does not provide the same level of choice for customizable panels, buttons and other interactive interface features as can be found in Balsamiq.

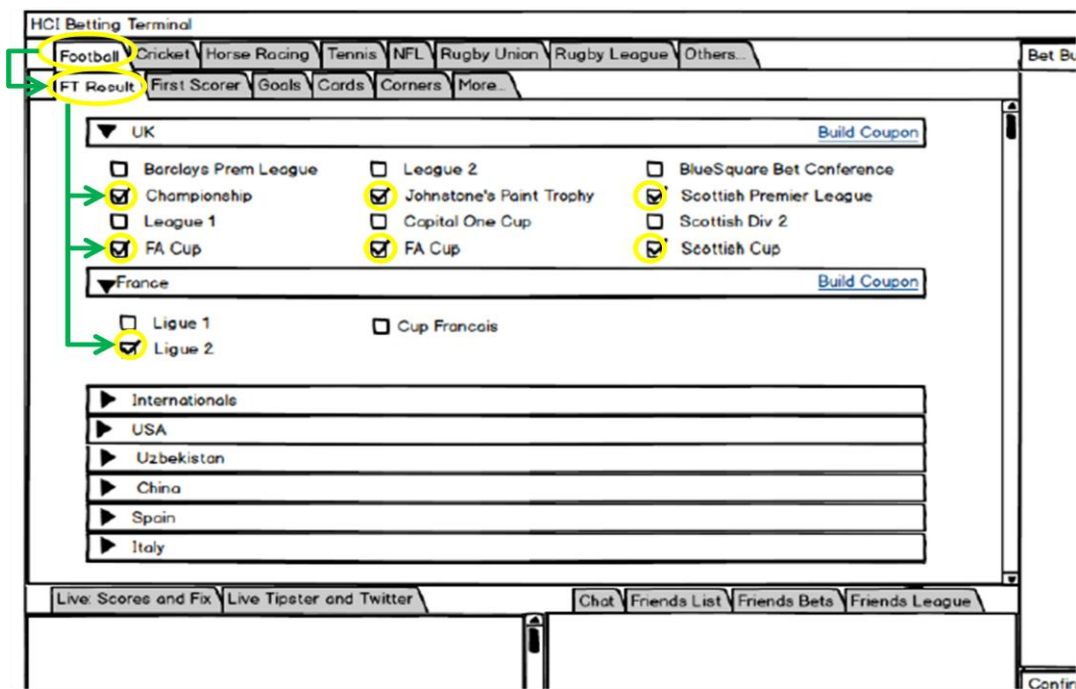
## Walk-Through Presentation

This section details a walkthrough presentation of one particular usage scenario:

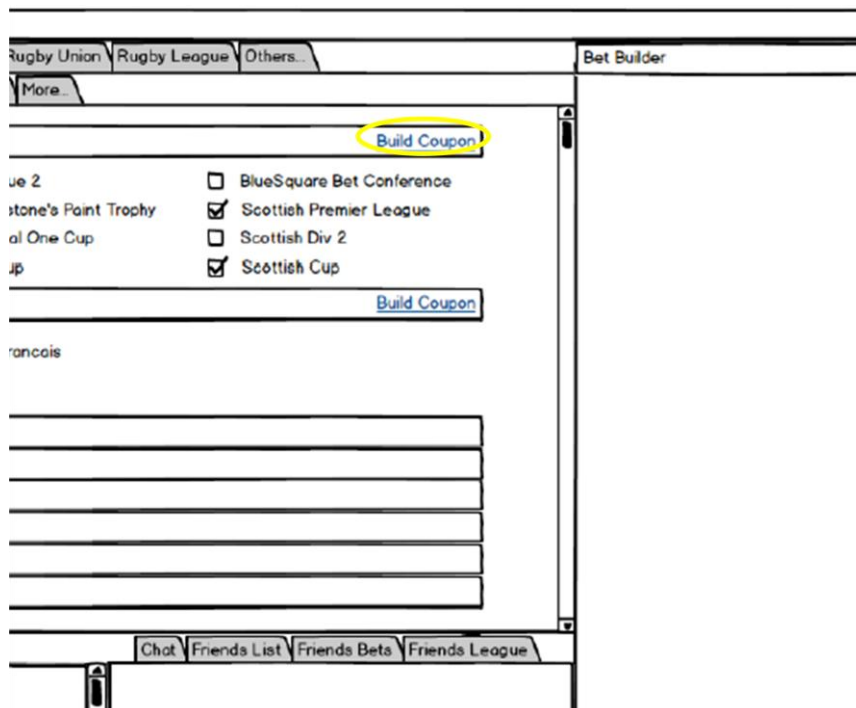
General overview of the interface. Separated into boxes providing distinction. A customizable tab design is provided.



Select a sport from the upper tabs, and then a betting market from the lower tabs. (These are fully customizable). User can then expand and shrink different tabs to choose the leagues they would like to choose matches from to bet on.



When selections are complete can build a coupon to then choose specific bets by clicking “Build Coupon”



## Human-Computer Interaction

HCI Betting Terminal

Football

Cricket

Horse Racing

Tennis

NFL

Rugby Union

Rugby League

Others

FT Result

First Scorer

Goals

Cards

Corners

More

▼ Barclay's Premier League

Match	Win	Draw	Win
Cardiff vs. Peterborough	1.35	4.50	5.50
Nottingham Forest vs. MiddlesBorough	2.85	3.50	2.75
Crystal Palace vs. Blackpool	2.65	3.60	2.85
Leeds vs. Leicester	4.00	4.50	1.55

▼ FA Cup

Match	Win	Draw	Win
Manchester United vs. Chelsea	2.00	3.50	2.70
Manchester City vs. Everton	1.85	3.50	4.50

▼ Johnstone's Paint Trophy

Match	Win	Draw	Win
Southorpe vs. Bradford City	2.00	3.50	2.70
Luton Town vs. Stevenage	1.85	3.50	4.50

▼ Scottish Premier League

Live Scores and Fix

Live Tipster and Twitter

Chat

Friends List

Friends Bets

Friends League

Stake: £0

Return: £0

Place Bet

Others (Not you?)

Balance: £10.00

Bet Builder

Start New Bet

Bet log

After selecting “build coupon” the filtering options are replaced by all the events that correspond to the user’s choice. Original countries now replaced by all the selected leagues the user chose and the matches relevant to those leagues and the odds (possibly an average odds?) of the chosen markets.



Individual selections can be chosen by choosing an “odds” number from the relevant win/draw/win column depending on what the user wants to choose. These then get placed in the selected bet slip (Note: radio button chosen by user as to which bet they would like to start building).

HCI Betting Terminal

Football Cricket Horse Racing Tennis NFL Rugby Union Rugby League Others...

FT Result First Scorer Goals Cards Corners More...

Barclay's Premier League

Match	Win	Draw	Win
Cardiff vs Peterborough	1.35	4.50	5.50
Nottingham Forest vs Middlesbrough	2.85	3.50	2.75
Crystal Palace vs Blackpool	2.65	3.60	2.85
Leeds vs Leicester	4.00	4.50	1.55

FA Cup

Match	Win	Draw	Win
Manchester United vs Chelsea	2.00	3.50	2.70
Manchester City vs Everton	1.85	3.50	4.50

Johnstone's Paint Trophy

Match	Win	Draw	Win
Scunthorpe vs Bradford City	2.00	3.50	2.70
Luton Town vs Stevenage	1.85	3.50	4.50

Scottish Premier League

Live: Scores and Fix Live Tipster and Twitter Chat Friends List Friends Bets Friends League

Bet Builder

Others (Not)

Bet log

▼ Bet 1 NOT PLACED

Cardiff vs Peterborough	Home
Manchester United vs Chelsea	Draw
Crystal Palace vs Blackpool	Home

○ Paddy Power @ 16/1

○ Bobbies @ 14/1

○ William Hill @ 12/1

▶ Start New Bet ○

Bet Builder

Others (Not)

Bet log

▼ Bet 1 NOT PLACED

Cardiff vs Peterborough	Home
Manchester United vs Chelsea	Draw
Crystal Palace vs Blackpool	Home

○ Paddy Power @ 16/1

○ Bobbies @ 14/1

○ William Hill @ 12/1

▶ Start New Bet ○

Confirm Bet

Bet 1.  
Treble  
With: William Hill.  
At 12/1.

Stake: £0 Return: £0

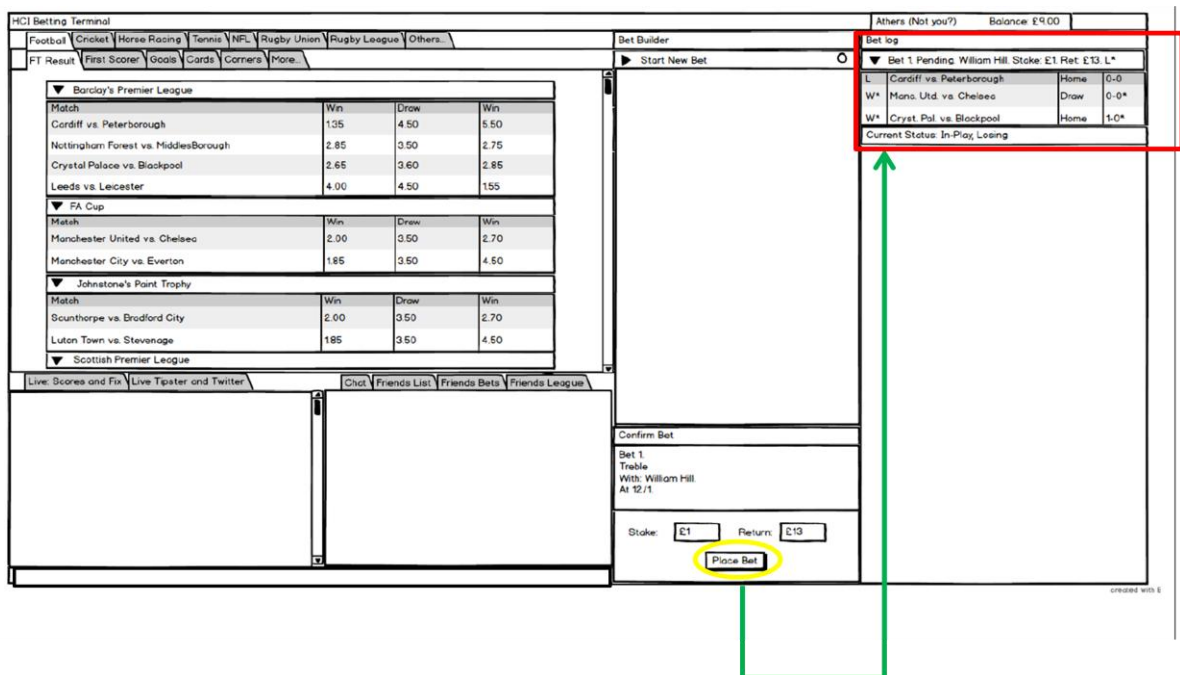
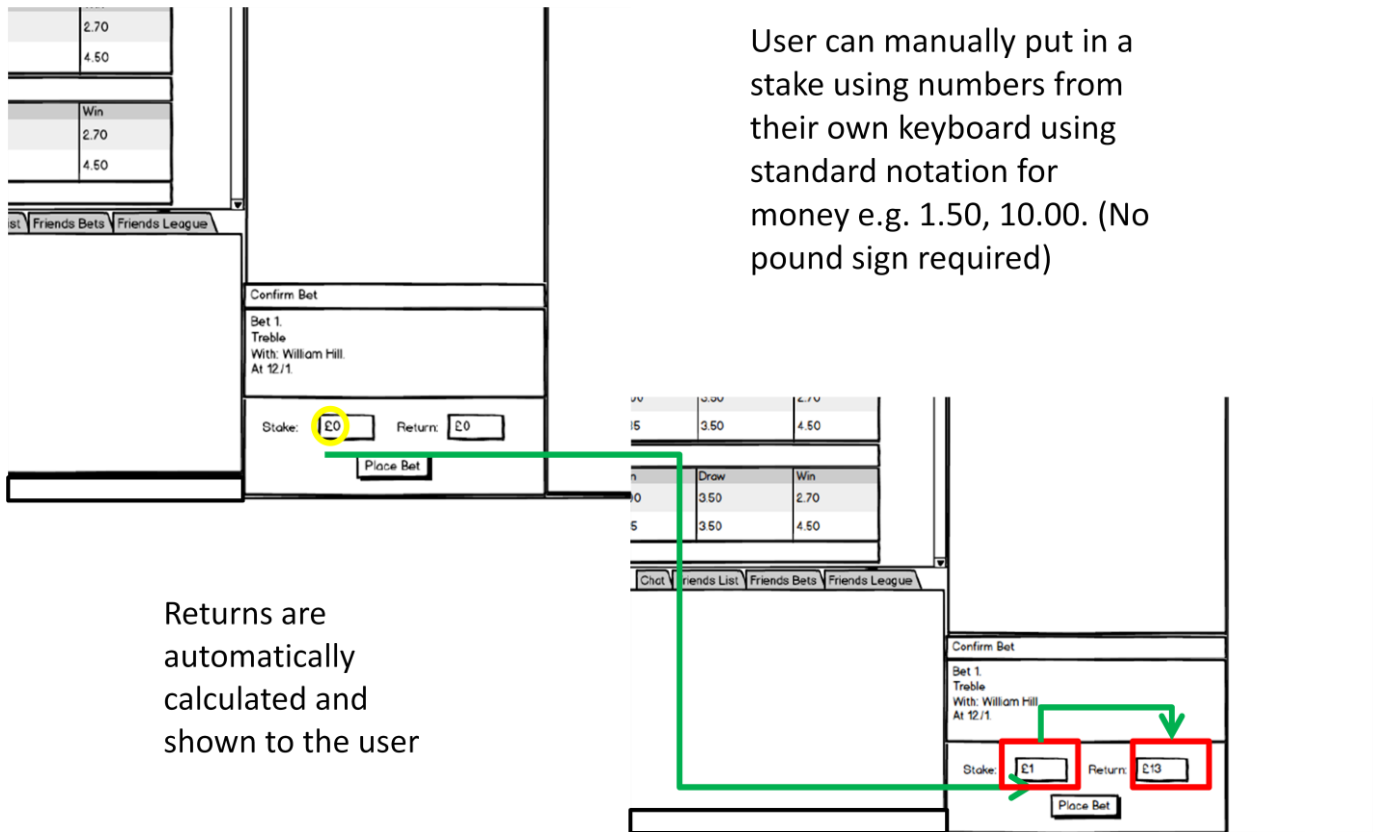
Place Bet

Friends Bets Friends League

ips Friends Log


User selects which company they would like to place the bet with, the corresponding odds for that bet are listed to the side of each company.

Once a company is chosen it becomes available to confirm and put money on. A brief outline of the bet to ensure the user has chosen the correct bet is provided.



User can then place the bet when they are happy and it gets placed into the bet log in which they can track the bet. Its current status is described in multiple ways; as a whole, as individual legs. Symbols W/L/\* refer to winning, losing and in-play respectively

**Your Profile**

 **Athers**  
Active since 2011

Edit your account information

Add/ Remove Friends

**Your Sports**

☒ Football ☐ Rugby League  
☒ Cricket ☒ Tennis  
☐ Rugby Union ☒ Horse Racing

**Football**

**Your Markets**

☒ FT Result ☒ Corners  
☐ First Half Second Half ☒ Cards  
☒ Goals ☐ Winning Margin

▶ Cricket  
▶ NFL  
▶ Tennis  
▶ Basketball  
▶ Horse Racing

Hypothesised Profile window within which one could edit information

Account information such as privacy settings and tool tip options can be adjusted within this editing feature.

Current display shows sports and betting markets display with checkboxes for selection and drop-down menu bars.

## 2nd Generation Prototype Evaluation

### Plan

There were two stages to the planned evaluation, which combined heuristics approaches and persona-driven assessment with feedback from user interaction.

Firstly, a usability study was conducted to gather some feedback on the prototype. A small sample of users were selected with varying degrees of technical competence and gambling know-how. Users were presented with an interactive prototype and were talked through a complicated scenario which made use of as much of the system as possible. As not all of the buttons and tabs had yet been made interactive, a guided scenario was the best way to guarantee the desired 'look and feel' for the user. The scenario involved selecting football fixtures from different leagues, building bets, interacting with the application's tipster feed, chatting with friends and eventually placing bets and watching them unfold. All of this was conducted within the Balsamiq modelling tool's demonstration window. Following completion of the scenario, users were asked to fill in a short questionnaire which was developed using Likert scale multiple-choice selection, with possible responses ranging from 'Strongly Disagree' to 'Strongly Agree'. They were also asked to explain their rationale behind each instance of negative response, and to document any questions or queries they encountered when running through the scenario.

Secondly, the team repeated the heuristics-based assessment originally implemented for the first generation of prototypes, once again using Nielsen's Heuristic categories to organise the problems found. For this generation of prototyping, the application was assessed from the perspectives of each of the three user categories in order to identify where problems would be likely to lie with particular sorts of user, as well as to learn more about which category of user would get the most use out of the application.

### Usability Testing Feedback

Firstly, during the process users were asked to create a coupon using leagues from a particular set of countries. Upon this instruction all users immediately were drawn to the "build coupon link" that is visible on the bar for each country. Users believed this to be the start of the coupon building process, whereas this is in fact the final stage after the users have selected the chosen leagues.

Despite no official instructions to traverse between the tabs at the top of the page many users felt a little confusion as to their layout. Many did not understand the separate rows for sports and markets before either realising or eventually being told that the tabs were nested. It is clear that these tabs need to be made more noticeably nested.

When asked to choose the best odds for a particular bet, a number of the users began calculating which odds were the best themselves out of the odds that were shown to them. It was apparently not clear that there was an order to the displayed odds. There are no symbols or added descriptions as to the meaning of the order and it could seem that these are chosen at random.

When guided towards their bet log, we asked the users to explain what they felt the bet slip was telling them. The reaction was generally successful but the "w\*/l\*" notation had a number of users confused. Users had to attempt to work out what this meant rather than it being intuitively obvious. Users who were unfamiliar with online betting felt it could be some kind of online gambling jargon. However when this was explained users suggested this was clear once they were told. This could pave the way for utilising either a tutorial or help function describing the details behind the notation.

More generally, the overall impression the users gave when they viewed the terminal suggested a professional look and the layout was easy to understand. However, those users who were less familiar with online gambling found the interface to seem immediately daunting with the amount of information on the screen and the complexity of some of the processes involved in placing a bet. Some users commented that this may have been from their inexperience in the field however.

## Persona-driven Heuristics Assessment

Using the personas as specific user types of the system we can analyse the system's compatibility when used by each user type described.

### Match Between System and the Real World

- William Thrill: Natural progression between choosing bet and placing bet as in a betting shop. Multiple bookies available is reminiscent of large events where multiple bookies have their own stands. Coupon builder follows natural linear thought process when placing a bet.
- Will Gambole: No fixed odds coupons provided as are provided by many websites and misses the special offers given on websites. **(2)** Bet slip building is quick and straight forward more like a betting shop. Can process more than one bet at a time on screen as he may do naturally in his head. Chronological listing of bets in the bet log and bet slip is a natural sequence.
- Mattje Fitcher: Reminds him of other desktop applications he is familiar with. Lack of adverts on offers and events limits appeal of placing a bet. Will have to create his own bet, seeming too professional.

### User Control and Freedom

- William Thrill: Customisable tabs allows him to tailor his application solely to horse racing. He is not interested in social media so would not necessarily use a chat feature and can remove this in the profile selections.
- Will Gambole: Build your own coupon provides a large amount of freedom in creating a fairly complicated accumulator. Likes that he can see up to date score information without

having to visit an external site. Ability to bet on multiple bets at any one time is vital to provide flexibility when deciding on bets.

- Mattje Fitcher: As a light hearted gambler feels daunted by level of freedom and control. Feels too much is in his own hands rather than pre set bets. This is a good deterrent for him to do impulse bets provided by websites.

### **Consistency and Standards**

- William Thrill: Why is bet builder not called bet slip as it would be in a betting shop. Unsure what this represents. Uses other standard jargon such as coupon aiding his understanding. Interface is consistent between panels, a more inconsistent interface would be problematic due to his lack computer experience.
- Will Gambole: Enjoys the bet status updates in real time with the score updates without a manual refresh.
- Mattje Fitcher: Does not understand the purpose of so many build coupon links on the screen. The consistent help buttons provide a user friendly experience throughout the program, particularly whilst learning its functionality. Check box function are self evident and the consistency of their use is appreciated.

### **Error Prevention**

- William Thrill: As a security conscious individual he appreciates the three tiered bet selection process involving radio buttons and bet summary boxes. Not easy to place the wrong bet.
- Will Gambole: System can seem over cautious but appreciates the secure nature of this. This can become frustrating when placing a last minute bet when the deadline is looming.
- Mattje Fitcher: As an inexperienced and occasional gambler he likes the security involved making sure he does not place the wrong bet accidentally.

### **Recognition Rather than Recall**

- William Thrill: Not confident when inputting information into fields in a computer so appreciates the guided traversal using buttons through the application. No explicit format when inputting money provides a little confusion at first.
- Will Gambole: Recognition provided in the application allows him to process more information on the screen at once allowing for easier and more fluid use.
- Mattje Fitcher: The amateur nature of his gambling means it is hard for him to keep up with what is within each tab and what all the markets mean. He never has to recall specific information to input into the application easing its usability.

### **Flexibility and Efficiency of Use**

- William Thrill: When tailored to horse racing the application is incredibly efficient to use as he does not have to sift through other sports and markets to get there every time he uses the application. If he feels he wants to start betting on a different sport this is easily achievable. Had some difficulty getting used to the unique nature of application use.
- Will Gambole: Uses the system to its full capacity sifting between multiple sports and multiple markets adding to multiple bets at any one time. Social interactivity provides the

full experience without leaving the interface. Keyboard navigation could provide more efficiency and speed once the user is familiar with the system.

- Mattje Fitcher: Appreciates the flexibility offered but the daunting nature of the interface makes the first few usage attempts particularly inefficient.

### **Aesthetic and Minimalist Design**

- William Thrill: Appreciates not cluttering the screen with unnecessary information. When information is needed it is available via help icons providing an efficient yet non cluttered look. Hard to notice some radio buttons in bet builder and confusion with how to select a bet upon first usages.
- Will Gambole: Understood the purpose of the radio buttons in the bet slip. Would appreciate expandable panels when others are not in use. Information is clearly divided between different entities.
- Mattje Fitcher: Not used to tracking his bets and struggled to follow the layout of the bet log and the meaning of certain symbols. Headed columns may have been useful.

### **Help and Documentation**

- William Thrill: Really appreciated the help icons with clearly marked question mark to describe usage of certain parts of the application.
- Will Gambole: Did not need to help tips but as an experienced better, appreciated the ability to turn them off in the profile page settings.
- Mattje Fitcher: Relied on help to remind him of certain jargon and process of placing a bet in the terminal.

## Conclusions

Additional actions and recommendations were gathered from both the heuristics assessment and the user feedback from the usability study.

### **Analysis of user feedback**

Collating the users thoughts, there are some minor yet influential changes that could be made to the prototype. A number of the changes to be made are driven by complexity issues and lack of user understanding which can be combated via help/information buttons in each box on display describing the purpose and function of the relative box. Also, a significant problem involving the user's natural movement towards "build coupon" before selecting anything for the coupon could be solved by only having the build coupon appear on the country bars that have checked checkboxes within them. Furthermore these links should appear once a checkbox has been ticked within a particular country. This way users are shown a natural progression after they select their checkboxes.

The problems involving the best odds selection could be solved firstly by adding a description in a help icon but also to assign each bookie in the list an icon describing their role in the list. So for example we could give the top bookie gold medal indicating they were the best odds available. The user's favourite bookie could be labelled with a star or thumbs up to show the relationship of that bookie with the user. At the present time the bookies are just listed in what appears to be an arbitrary list.

It must be noted that during these usability tests the interface was black and white. Colour could potentially solve a number of issues in terms of the presentation and understanding of the interface. This would add another dimension of information communication to the users rather than everything involving words. This would be particularly useful in the bet slip where currently "w\*/l\*" and the score are the only indicators towards the current success of a bet.

### **Heuristics Assessment Conclusions**

#### **Positives to take forward**

- The flexibility of the program allowed multiple usage styles. The varying personas highlighted the differences between the varying usage approach possible.
- The layout and flow involved in progressing between panels when placing a bet felt natural to most personas. More inexperienced users found some complications relating to their inexperience but the flow was ideal for those more experienced users.
- Customisation of the application while allowing freedom of use also removed redundant information from the application as the user wished. Any sports and the user is not interested can be removed from the interface as the user wishes. The user can tailor the interface to contain only information relevant to themselves.
- Confusion whilst using the interface by mainly those more inexperienced at betting was generally limited to the unfamiliar nature of the program. Increased usage of the interface



would familiarise the users in its functions. Furthermore, tutorials would speed up the learning process and minimise early confusion.

- Help icons throughout the interface allow users to be reminded of panel functions without being unavoidably bombarded with potentially unnecessary information. Customising these icons in the profile window removes this for more experienced users. The help is there for those who want it.

### **Problems to address before the next generation, or final product**

- Our more inexperienced persona found the number of buttons confusing and inconsistent - in particular the 'build coupon' button. It should be addressed and modified such that buttons only appear for relevant markets when boxes have been selected.
- Inexperienced users similarly had difficulty enjoying the usual experience - the console was too daunting, too unfamiliar, and the learning curve too steep.
  - This can be addressed in a number of different ways. The consistency with which the evaluations have encountered trouble with inexperienced users indicates that perhaps the application should instead be more unashamedly tailored towards gamblers with more experience. Some users were daunted by the scale of freedom given to them!
- All of the user groups noticed the lack of fixed coupons and offers from bookmakers. This lack again discourages casual users who enjoy this sort of coupon. It shouldn't be too difficult to reincorporate this feature back into the application in later stages of design.
  - Similarly, some of the users actually saw the lack of adverts and offers as a negative - casual betters use these adverts to pick bets
- Finally, the terminology used in the application should be standardized to keep it consistent with common usage. For example, 'Bet Builder' should be renamed to 'Bet Slip'.

### **Overall Achievements**

The biggest achievement we have made as a group whilst conducting this project is the design and creation of a highly complex and detailed prototype. It is partially usable in a scenario based situation and the design implements a number of different user requirements and caters for a variation of user backgrounds and skill sets. A significant feature in the design of the application is the change, albeit early on, from the focus on website towards a desktop based application. The main feeling from our review of related work was the inefficiency and complexities of navigating a betting website. The large amounts of information displayed on the site as a whole required a lot of potential pages to visit without a clear methodology within which to do this. This was one of the main requirements we wished to achieve when designing our application. It is with great success we believe we have paved the first steps of the way creating an application which both provides significant amounts of information onto one screen without seeming too daunting, provides the user with easy navigation between all types of information and finally provides a smooth and natural process when placing a bet. This was highlighted by some positive user feedback received in our usability study.

By its very nature this application has required meticulous planning to keep track of all the different usability aspects such a program would provide. Priority was given to the more key parts of the application such as usability across varying skill sets and natural and logical navigation within the program. However, we do not feel that any particular elements were completely forgotten about and were treated with a justified amount of attention. For example the bet tracking system which we were keen to implement from the start of this project has been implemented within the prototypes presented here but is not the fulcrum of the project . Despite this we have still modelled it in such a way that we hope is feasible and also solves a problem that would appear to be in the current website betting environments. Overall, the project began with a melting pot of fairly divergent ideas which successfully converged to form what we believe is a fairly cohesive prototype design.

### **Success of the Team's Approach**

Whilst undertaking this project there are a number of positives and negatives relating to the approach we took as a team, determining its overall success.

Perhaps fundamentally, the drive within the team was a determining factor to the overall success of the project. This drive was apparent most notably because we were all interested in the subject matter and ideas behind the project, allowing us to pursue a solution potentially for our own benefits. A particularly exciting aspect of this is the fact that the designs we produced were actually original concepts of an application. The ideas we put forward are not currently within the world of sports betting. We are potentially breaking new ground in the way people place, manage and track their sports bets.

As a team we managed the workload well by sensibly delegating work to the appropriate members in the team, fundamentally based on their skills sets and interests. We gave each other clearly defined tasks and roles within the group. Furthermore we were keen that whilst we would discuss things as a group and all input valuable criticisms and improvements to the group's work, each member would then go away and work solely on their own set part of the project. Decisions were made as a group before each member individually took a certain part of the project further. By not intruding on each member's work, we conducted a particularly efficient approach.

As a group we feel we did a particularly large amount of research into the area, not only focussing on betting sites but also on related work to each main concept within the application. The research was sufficiently strong allowing us to act upon the most successful implementations across all manner of applications: betting sites, desktop applications, comparison sites and odds comparison sites. Drawing in all the most functional parts from all these, we could begin to design a user-friendly yet ambitious and complicated interface.

Despite these positives there will inevitably be some drawbacks to the approach and potential improvements for the future. When conducting evaluations with respect to our chosen personas we perhaps did not focus on the users scenarios explicitly; particularly in the first generation prototype. We do feel like we improved upon this during the second prototype but perhaps could have used the personas to better effect during the first prototype evaluations.

Furthermore, despite successfully managing the large number of components within the application well, the team did often focus on more of a system-orientated design rather than focussing on a few of the components of the application which originally drove the idea behind the project. A good example of this involves the bet tracking system. Originally, along with odds comparisons, this was the main focus of the project rather than the system as a whole. As it was these two entities took a back seat and slotted into the "bigger picture" of the system as a whole. They were given a smaller amount of attention due to the new focus of producing a system that conducted a large number of functions all at once. This is not necessarily a negative approach but does differ slightly from what we were originally keen to implement and was not necessarily deliberate.

Lastly, we all agreed that whilst the meetings we undertook were eventually successful, they were perhaps a little informal at times without a rigid structure within which we knew at all times where the project was going and what needed discussing. Meetings were often scheduled last minute without proper planning detailing what we would need to discuss and what we wanted to achieve by the end of the meeting. Overall, generally managing our time more successfully could have further improved efficiency with which the project was undertaken and implemented.

Overall, as a team we are happy with the prototype we designed and are particularly pleased that we are along the first steps to creating a solution to a particular problem faced by a number sports betters, from casual to professional. We feel satisfied that we have created a better betting experience for betters, and not for worse!

## References

Nielsen, J. (1994b). Heuristic evaluation. In Nielsen, J., and Mack, R.L. (Eds.), [\*Usability Inspection Methods\*](#), John Wiley & Sons, New York, NY

<https://www.bestbetting.com>

<https://www.bet365.com/>

<https://www.betbrain.co.uk>

<https://www.betfred.com/>

<https://www.comparethemarket.com>

<https://www.easyodds.com>

<https://www.gocompare.com>

<https://www.kelkoo.co.uk>

<https://www.oddschecker.com/>

<https://www.paddypower.com/>

<https://www.skybet.com>

<https://www.super6.skysports.com>

<https://www.travelsupermarket.com>

Appendix A: Usability Questionnaire

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The amount of information on the screen was not daunting					
2. The user interface had a clear and minimalist design					
3. The process of building a bet felt natural and linear					
4. The tab system was unambiguous					
5. The interface looked professional					
6. I felt confident using the interface					
7. I did not feel confusion when using the interface					

If you answered disagree or strongly disagree to any question please state which question and why.

If you encountered any questions whilst using the interface please write them down as you think of them.



## Appendix B: Usability Study Scenario

### User Analysis Guidelines

From the main screen you can see the default selections of football and full time results as a sub tab of this.

We would like you to build a coupon for you to bet with using teams from the Spanish competition "Copa Del Rey" and the UK based Barclay's Premier League. (open both leagues when built)

While doing this look at the tipster/twitter feed and try to select the bet that is tipped by @squatjogs. (For your convenience these particular selections are highlighted).

Look at the new tip for Tipster B and edit your bet in accordance with his tip.

You have now had second thoughts about your selection of Swansea to win the game. You now want to remove this from your bet slip.

Now look at the new tip from @athers.

You would like to now begin a new bet without deleting your bet you were just building. (You will need to minimise bet 1 box)

Following @athers tip you agree that Betis will win but that Malaga will draw.

You like the look of this bet and want to share the bet with your friends.

So, you can start a chat.

Text input is not possible with this prototype so a sentence is pre written for you. Send this message to your friends detailing the contents of your bet.

You now would like to place your original bet and put money on it. You like the look of Bet365's odds and decide to select them for a bet.

Check the bet summary to check your bet is correct.

You have had a change of heart and see that Bobbies, your favourite bookie is offering the bet for the same odds. Choose to select the bet with Bobbies.

Check the bet summary to check your bet is correct.

(Here you would type in the amount of money you wish to place on the bet but just click the amount to have it inputted automatically)

Check you are happy with the returns of the bet before eventually placing the bet.

Its kick off time and you want to start tracking your bet, select live scores and fixtures.

Now view your bet to begin tracking it.

## Human-Computer Interaction

You can see from the live vide-printer that two goals relating to your bet have gone in. See the changes this has made to the status of your bet.

You now wish to add another leg to an unfinished bet you were building earlier. You wish to add a Chelsea win to your unfinished bet involving Malaga and Betis.

Send a message to your friends about the latest goal at villa.

Now after chatting you wish to place your unplaced bet with the best odds available.

You wish to place this bet with one pound and then upon viewing the returned amount you would like to win more so you up your stake to two pounds. (click the stake box again).

Place your bet.

View your second and first in play bets as you wish.

Do you feel like you can understand your current status of your tracked bets?

When viewing your bet you can see Tottenham have scored and Man City have scored as shown in the live scores and Fixtures printer.

The status of your bet will change as these live feeds are processed.



