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Citigroup

Global Markets Front Office UX Consultant

My role

I led the design, user experience, user feedback, usability and user testing for an application known as the Trader Toolkit, a state-of-the-art strategic real-time streaming analytics platform, back-testing and alerting framework for generating tradable insights for cross-market use cases from the beginning of November 2016. I worked within a small team of software developers, data strategists and a data scientist.

Until August 2018 I led efforts to evolve the entire application and expand into other areas of the business.

The product

The application started life serving Front Office Global Markets as a way of visualising, analysing and editing data in real time. Dashboards and widgets were used as a way of presenting data in a completely customisable environment and could be shared and customised by anyone at the bank with the appropriate roles.

The application was built using modern web technologies - we employed a Couchbase data store and Kafka pipelines alongside an array of internal and external data streams, Node JS and NPM for our web server, user session and package management needs and Webpack, React and Redux for serving content, managing the state and constructing web components. I led the direction of the frontend system and developed a fast, state-of-the-art and highly flexible frontend style system complete with theming.

My responsibilities

As the sole UX/UI designer it was my responsibility to direct the course of the application using a user-driven approach to add real value to the business. I worked directly with the development team and the business to assess the state of the application, gather feedback and prioritise the workload. My day-to-day work consisted of liaising with users and stakeholders, converting ideas to a clickable prototypes, creating pixel perfect designs, managing the book of work and UX strategy in line with the Citi standard, quality assurance testing while maintaining a positive outlook and reputation.

My primary responsibilities comprise collecting direct feedback from a demanding and highly engaged user-group. I leveraged both written, and in-person meetings to collect the appropriate information, including watching users design, or use prototypes of my work. This allowed me to study body language in relation to cursor movements and keyboard interactions and conclude subtle difficulties that they may think unimportant or could even feel awkward about expressing verbally. Many users had never used the application before meaning I could gather objective feedback drawing comparisons from industry standard software such as Eikon and Bloomberg proving invaluable when understanding specific use cases.

During my time at Citi I developed strong relationships with users and stakeholders allowing them to speak openly about new ideas. I was regularly commended on the impact I'd had on their experience and improvements made under my leadership. I contributed to the open discussion and development of ideas on Citi's internal social network by writing tutorials, documenting changes in releases and I provided constructive criticism to others. I was a proponent of Citi's global push toward a unified look-and-feel working alongside UX designers across the business to discuss strategies, best practices and drive changes on our respective projects.

Users' requirements

Automated trade entry: I discovered some trading desks would maintain spreadsheets of significant trades and update them manually. The process didn't take much time but was prone to human error, switching context could affect train of thought and others on the desk may be waiting for updates - it was wasted time. After a discovery session and few rounds of feedback I was able to identify a clear and simple solution for detecting certain trades, storing them automatically into our system and immediately sharing to all dashboards with the permitted roles - I took notes, sketched ideas and communicated regularly with both the business and development team to achieve this. The new solution was implemented within a month, all existing data was migrated over. No more pestering for updates, the streamlined workflows had a significant impact in day-to-day routines and traders could focus on more important matters.

Automated alerting: A user wants to know what happens to the value of USD/CAD:spot:mid when the NFP forecasts are announced and be notified if the basis jump is above 5 points. This feature already existed but was convoluted and somewhat hidden. Through user feedback sessions I was able to reduce the process from 6 steps to just to 3. Step 1: Using the events table [widget], right-click the desired event and select "Backtest". Step 2: Select "Setup alert", enter the definitions and thresholds of the alert (for example "> 5 B.P within 5 days") and press "Save". The alert will be stored and monitored in the background. When the alert is triggered a popup notification appears which can be clicked for the user to investigate further.

My accomplishments

- Chart widget redesign - new features include plotting multiple instruments, setting the scale of axes, seeing OHLC for all plots, setting chart type, a drawing mode and download an image of the canvas.
- Time series grid redesign - new features include row/column filters with support for scientific notation, manage rows/columns by typing, overlay analysis, reduced UI spacing, export dataset and context menu.
- Time series grid configurator redesign - Focus on reducing the steps/time required to populate a grid. Improvements include instrument grouping, keyboard support and presets.
- App header redesign - Focus on improving the app structure and comprehension with quick access to widgets and dashboards, improved contrast, app search and user and theme settings.
- App search experience - Fasttrack new and power users with preset dashboards, widgets and commands like "plot usd/jpy:spot:mid against eur/usd:spot:mid" and widget taxonomy.
- Widget menu redesign - Categorisation, concise descriptions and conventional UI patterns.
- Redesigned modal UX - Implement consistency in patterns and structure, add keyboard support (ie, esc to close, arrow and tab keys to navigate and submit).
- Scatter plot redesign - Improved legibility and contrast, use colour intensity to indicate time instead of size, highlight last and penultimate markers, see plot statistics and line of best fit.
- Tooltip component redesign - Improve contrast against UI, improve structure and legibility.
- Widget structure redesign - Architect a more flexible composition, expose frequently used controls, increase header contrast, ability to see the currently "active" widget and drag and drop concept.
- Remove a tutorial system in favour of a more intuitive UI.
- Implement a context menu across the app with a focus on streamlining processes and interactions.
- Designed a simple new-user experience using empty dashboard states, preset and popular dashboards, empty state for all widgets and concise hints for quick guidance.
- Designed loading indicators for page, request and widget load - in some cases users could intervene.
- Designed a colour-coded, popup notification system.
- Designed a colour-coded state-based notification system for widgets, modals and dashboards.
- Progressive, extensible design system built with HTML5 and a BEMIT influenced LESS framework.
- Custom iconography to better suit the environment, reduce load time and maximise legibility.
- Improved typography for a modern feel and maximise legibility at all sizes - especially small.
- Debugging component to save the developer's time and help deliver value faster.
- Designed a full-featured dashboard for monitoring and filtering global FX flow in real time.
- Term structure widget design concept.
- Designed a widget for visualising and comparing change in real time with powerful filters.
- Global cross filter design and experience for filtering entire dashboards with a single field.
- Designed and delivered a customisable sidebar for news articles and predictions from Agolo.
- Built a theming framework using CSS custom properties.
- Designed a multi-asset comparison widget.

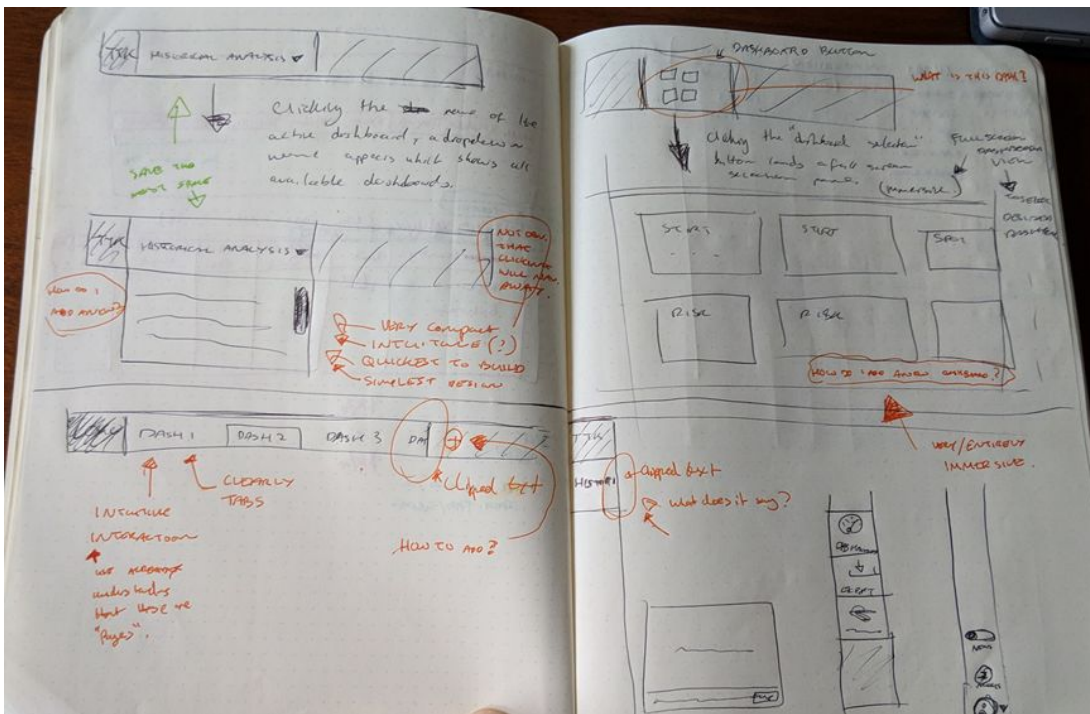
Examples of work

The vast majority of work created is confidential and cannot be shared. Please see the images below for examples of work I am able to provide.

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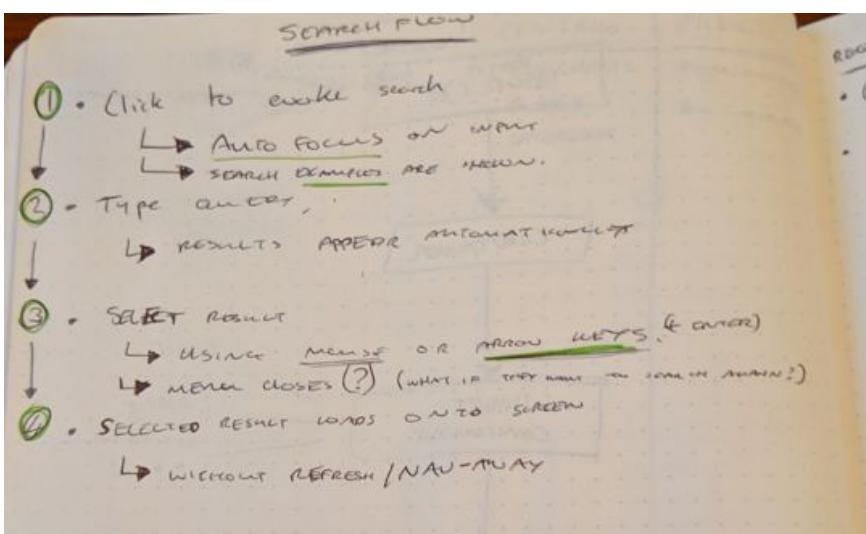
My notes were taken during business and team development meetings, sprint planning, user interviews, conferences with professionals and peers. I've added some photos of some research notes below.



Application header related sketches. Figuring out how to represent dashboards and their components.



Sketching a dashboard concept driven by global filters across 30 dimensions.



Identifying steps within the global search journey.

GWYYbg\chgÆ

These screenshots are taken from a demo (www.youtube.com/watch?v=z4ld-9634WU&t=1456s) about how we enhanced the client's experience at Citi by creating a seamless conversational UI. The stills show some elements of the application like dashboards, the intent system and a few of generic widgets.

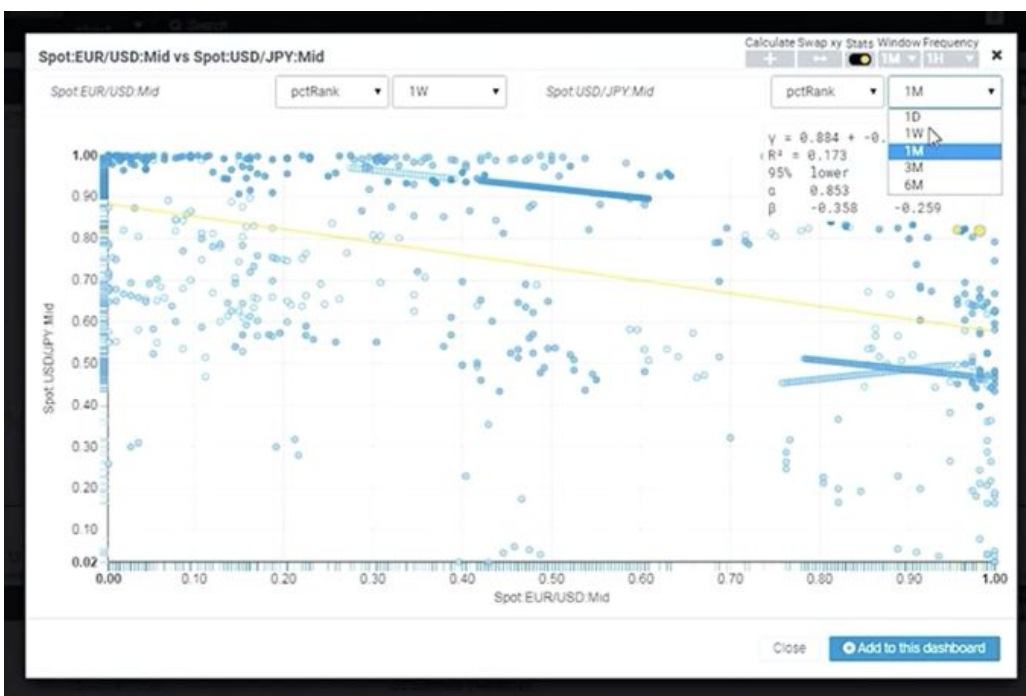


Chart widget. Controls include a search facility, drawing and analysis tools, plot type and capture buttons. USD/JPY Spot:Mid is being plotted and the coloured circles represent weighted economic events.

Type	Date	Name	BP Jump
USD	17-Jul-18 14:15	US Industrial Production	4
USD	16-Jul-18 15:00	US Business Inventories	4
USD	16-Jul-18 13:30	US Empire	4
USD	16-Jul-18 13:30	US Retail Sales	20
FOMC	13-Jul-18 16:30	Powell Speaks Humphrey Hawkins	16
USD	13-Jul-18 15:00	US U. of Michigan Conf	6
JPY	13-Jul-18 05:30	Japan Ind Prod	9
USD	12-Jul-18 13:30	US Initial Jobless Claims	3
USD	12-Jul-18 13:30	US CPI	31
JPY	11-Jul-18 00:50	Japan Machinery Orders	8

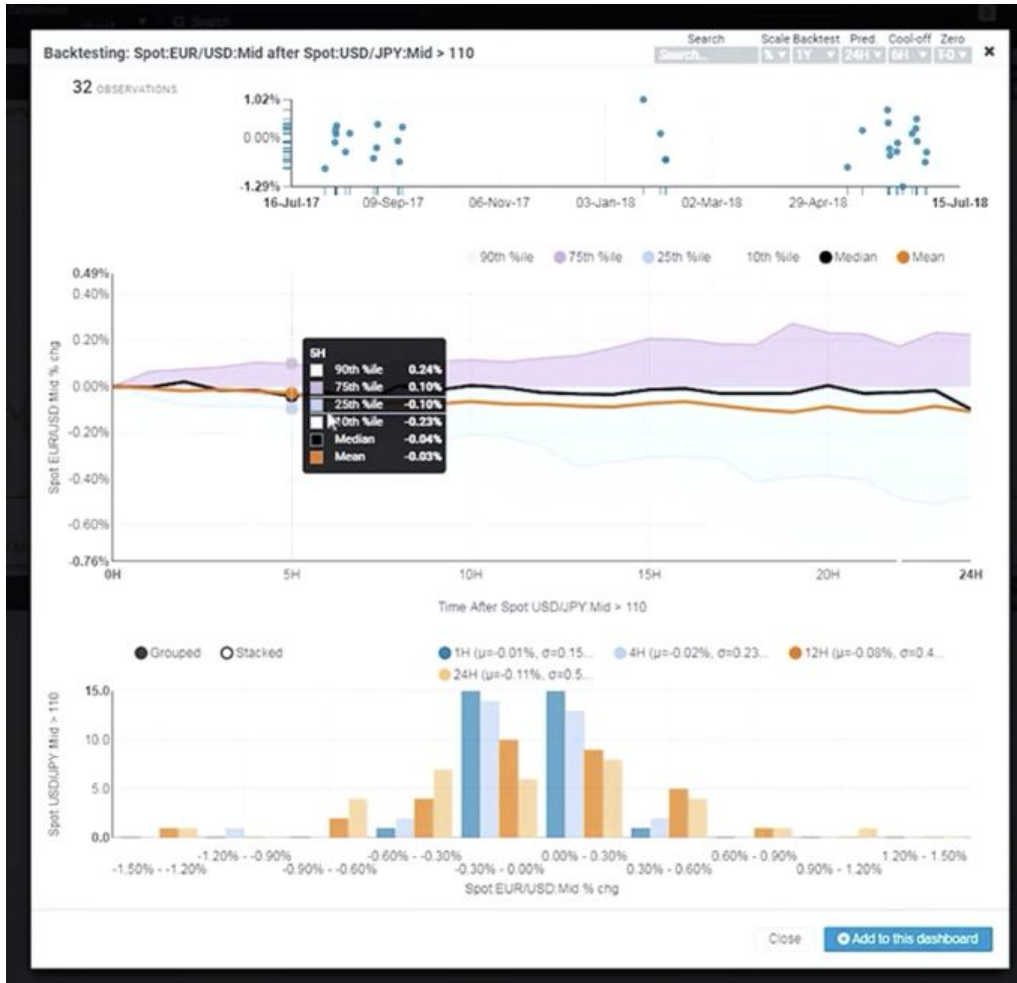
Showing 1-10 of 10 items

Table of events with controls for defining the lookback and future prediction windows, basis point filter, configuring an alert, linking to chart to highlight associated events and filters for each column.



Scatter plot widget in a modal displaying the correlation between EUR/USD:Spot:Mid against USD/JPY:Spot:Mid

and is in the process of configuring a specific metric to investigate further. Users can swap an instrument using the search component and can specify which metric to measure.



A widget for backtesting a series of market events or alerts. In this case the change in value of EUR/USD:Spot:Mid every time USD/JPY:Spot:Mid shifts more than 110 basis points, over a 1 year period and forecasting 24 hours into the future. All graphs on the application are interactive allowing users to manipulate and investigate datasets quickly and in real time.

Front end web developer

My Role

During my time at Univers Labs I worked both as part of a team of developers and also solely to deliver projects of varying levels. These ranged from medium-sized company websites to large B2C and B2B web apps where we collaborated directly with some of London's best branding and design agencies.

Outside of my job description I assisted the lead in-house designer in creative thinking and ideation techniques, I created design deliverables such as clickable prototypes, wireframes, design systems, branding materials, iconography and was held responsible for all generation of web assets within the company.

My accomplishments

- Collaborated with Saffron Brand Consultants on their new website to a very high standard by building a bespoke, modular widget system coupled with Wordpress (saffron-consultants.com)
- Collaborated with OPX on their new website with very thorough requirements and design system specifications. I built a sophisticated and modular widget system using Wordpress (Since been replaced - web.archive.org/web/20171018150421/https://www.opx.co.uk)
- Designed Datarama's KYC and due diligence tool for emerging markets.
- Developed Datarama's marketing website. Built a flexible Wordpress widget system (datarama.com)
- Developed Evolve's marketing website. Built a flexible Wordpress widget system (evolveuk.biz)
- Delivered a marketing website for Sage using Wordpress, SVG animations and modular widgets.
- Delivered tailored and highly flexible Wordpress modules for Science Group's website ecosystem - a single CMS to manage and maintain 6 public facing websites. (<https://www.sciencegroup.com/>)
- Developed website redesign for Candy Black using Squarespace CMS (since been changed).
- Improved company processes and empowered clients by implementing a bug reporting system.

My Responsibilities

I worked both independently and as part of a small team to develop websites, interactive infographics and online experiences for a broad range clients. As the sole developer I would handle the entire end-to-end build of a website starting with an initial discovery phase along with defining technical specifications, the build phase followed by a UAT phase and finally the launch phase. While working as part of a team I would collaborate daily with colleagues, input and track tasks and host and participate in demos with clients.

Examples of work

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Trading Games

Lead Designer

My Role

I led the entire design process from conception to delivery of all assets, pages, components, marketing materials, everything. As a team of 3 developers and a designer we used an agile process with daily and weekly meetings to discuss progress, the book of work, user activity, market activity and areas of exploration.

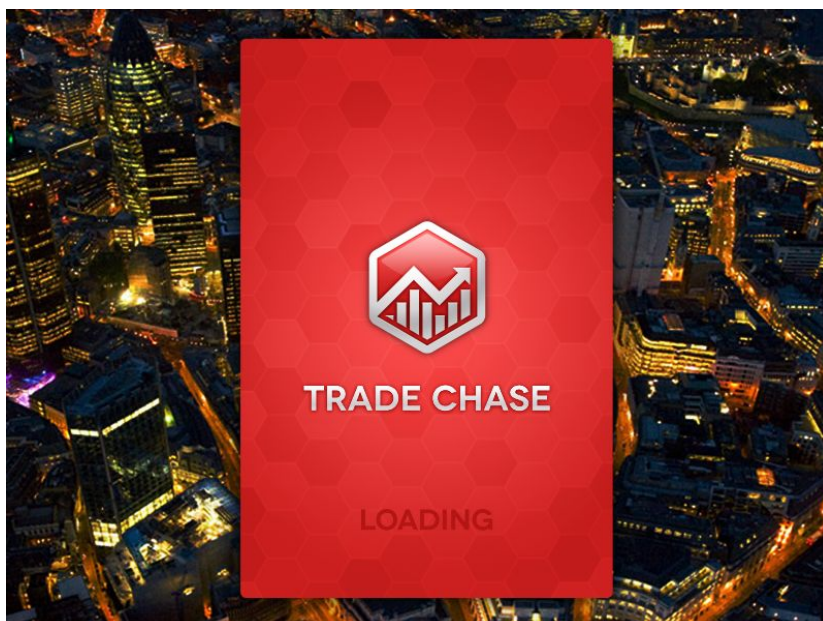
As the application grew I assumed the responsibility of managing the entire frontend style system and built a performant CSS framework. I spearheaded the social media presence and explored different platforms and blogs to maximise our reach, I created action plans for our book of work gathering insight from the event tracking and activity reports, I ensured that all public facing content was SEO friendly and embraced customer service duties to ensure our user base was happy and that issues were dealt with promptly.

My accomplishments

- Redesigned the game entry experience.
- Redesigned the in-game page to increase user engagement and maximise conversion rates.
- Designed an end-game experience to maintain user engagement and provide a sense of progress and satisfaction. Experiences were dependant on game results and could include audio.
- Design achievements and rewards system. Categorised into tiers, (ie, "100 correct bets") achievements were an important tool for driving engagement.
- Removed teams page after discovering that it didn't resonate with our audience. Instead users competed using chat walls which included real-time and achievement related updates.
- Created a design system and supporting assets for use across the platform.
- Designed the marketing website and portal.
- Implemented Google click and event tracking to monitor activity.
- Designed onboarding experience to verify users. Progress indicators and skeuomorphic designs of document types kept users engaged and added a layer of fun. With an initial failure rate below 10% we proceeded to split-test the process with insight from tracking reports to solve drop-offs.
- Designed a wallet page with a graphical representation of cash and bonus balance.
- Designed Your Bets page for users to see their statistics such as biggest win and longest streak.
- Designed the platform for use on mobile devices. I created wireframes, prototypes and hi-fidelity designs and materials for mobile-specific conventions.

Examples of work

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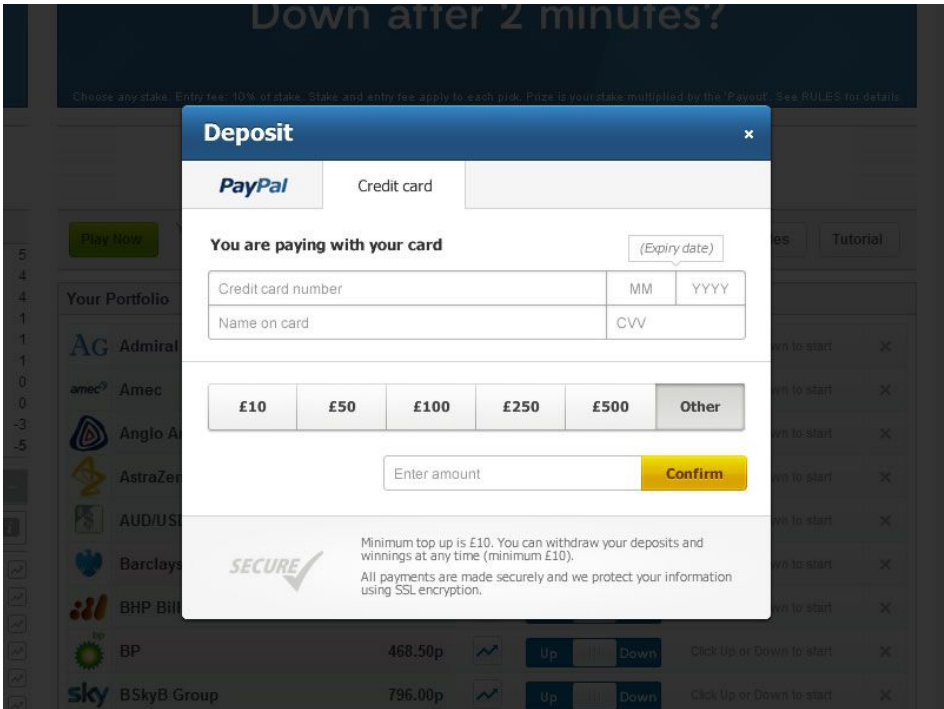
A high fidelity design of the app launch screen.



A portion of the game page while a game is in progress. The portfolio holds the user's preferred instruments with a countdown bar for active picks the colour of which indicates the current status of a position. The plot shown displays the price of silver over a 15 minute period with all analyses enabled and a icon embedded highlighting an open position and its direction.



The wireframes of the Android application. Screens include the launch experience, onboarding process, game selection, in-game, wallet, your bets, user settings and legal documents screens.



A modal for adding money to an account, in this case by credit/debit card.