

Ad Auction Envisioning - Group 38

Team Members

- Alex - tll1g19
- Carlos - cab1g19
- Jamaal - jm3g19
- Stoyan - sv1u19
- Tom - tdh1g19
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Contents

User Understanding	2
Stakeholders	2
Personas	3
Requirements Planning	4
User Stories	4
Product Backlog	5
Project Planning	6
Increment Plan	6
Sprint Plan	6
Day Zero Burndown	7
Project Setup	8
Risk Analysis	8
Summary of Agile Methodologies and Tools	8

User Understanding

Stakeholders

Primary:

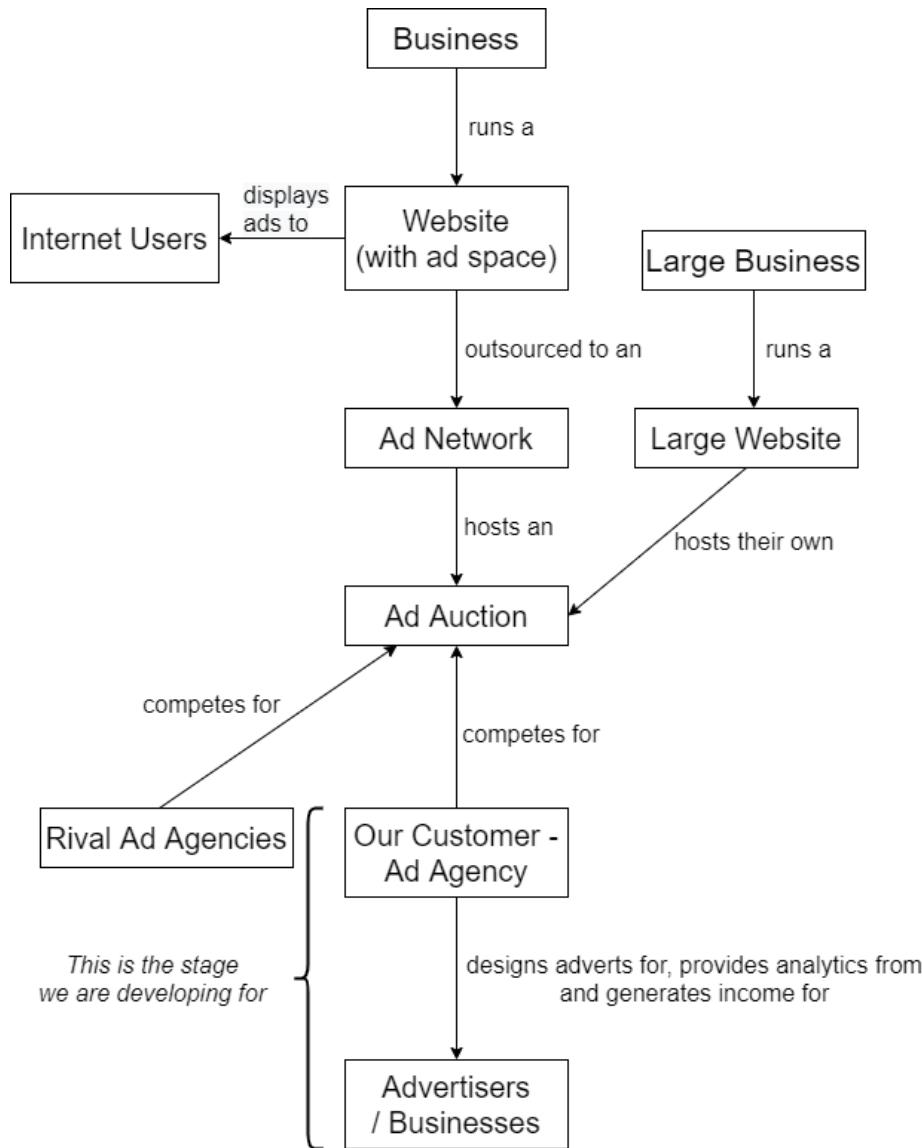
- Customers of the ad agency - who need to know how well the campaign is going

Secondary:

- Ad agency - company who are
- Advertisers / Businesses - people who have a product to advertise
- Targets of ads - internet users
 - Users which click the ads
 - Users which ignore the ads

Tertiary:

- Competing Ad agencies - compete against our client
- Ad Networks - host the ad auctions for websites
- Large websites (eg: Google and Facebook) - host ad auctions themselves



Personas

Target of Ads

Steve:



Steve is a 20-year-old university student. He has used the internet most of his life, so he is computer literate. As a student, he mainly uses the internet for research, and also uses it for entertainment in his free time. He finds ads annoying, so uses AdBlock often. Even when he sees ads, he rarely clicks on them.

Lucy:



Lucy is a 40-year-old who doesn't use the internet often. When she does use the internet, she mainly uses social media to keep in touch with friends and family. She doesn't mind ads, so she often clicks on them when using social media.

Advertisers / Businesses

Jeff:



Jeff is a 55-year-old business owner. His business mainly sells car parts and tires in a physical store and wants to start his online store. He is passionate about cars and has a 4 car collection. He doesn't use social media too much because he uses all of his time managing his business. He is conservative because all of his life he was focusing on his physical store and didn't trust the online market, but now he wants to give it a try. He is sceptical about new tools and approaches that could make working life easier.

Stephany:



Stephany is a 28-year-old up-and-coming artist. She does all the work from her house by herself. She recently started selling her works online after finding the interest people have in buying her work. She is very open-minded and familiar with technology and has seen how easy technology can boost one's business, so now she is trying to expand her business and gain more popularity through social media and internet advertising.

Bianca:



Bianca is an 18-year-old singer. She recently started her career as a singer having published 4 songs in the last year. She is also very interested in fashion and has decided to start a business designing and selling clothes. She has been surrounded by technology ever since her birth and has gained a lot of popularity through social media platforms. She is using that to boost the sales of her clothes.

Ad Networks

Jordan:



Jordan is a 47-year-old advertising auction executive. He is responsible for setting up auctions for competing advertising agencies to promote businesses. Most of his time is spent travelling to meet their clients that frequently participate in ad auctions. Jordan represents a car and art magazine website that needs car-related and art-related adverts from the ad agencies.

Requirements Planning (Justify the INVEST !)

User Stories

1.

As an <ad agency>

I want <to give my clear and detailed information about their ad campaign>

So that <they can see the success of their campaign>

As an <ad agency>

I want <see how many clicks an ad campaign is generating>

So that <I can relay useful metrics to the clients>

As an <ad agency>

I want <to see how much impressions generated by ad campaign>

So that <I can relay useful information to advertisers>

As an <advertiser>

I want <to know what age range of users are clicking on my ad>

So that <I can create better ads to reduce the bounce rate>

As an <advertiser>

I want <to know what gender are clicking on my ad>

So that <I can create better ads to maximise the click through rate>

As a <advertiser>

I want <know what time people are clicking on my ad>

So that <I can get more conversions>

As an <advertiser>

I want <I want to know the income of my customers>

So that <I can get a better understanding of my ad targets>

As a <business owner>

I want <to see the conversion rate of sales from my ads>

So that <I can judge the investment>

Product Backlog

Must be done:

Info	Ad agency	Advertiser
Impressions	Give advertiser info to decide	Know how many people see their ad
Clicks	^	Know how many total clicks on an ad
Uniques	^	Know how many different (unique) users click on an ad
Bounces	^	Know how many click but don't interact with the page
Conversions	^	Know how many click and interact with an ad
CTR	^	Know how many clicks per impression
CPA	^	Know how much money needed per acquisition
CPC	^	Know how much money needed per click
CPM	^	Know how much money needed per thousand impressions
Bounce Rate	^	Know how many don't interact with the webpage after the click
Total Cost	^	Know how much ad campaign costs

Should be done:

- As an advertiser, I want to know the gender of users, to get a better understanding of ad targets
- As an advertiser, I want to know the ages of users, to get a better understanding of ad targets
- As an advertiser, I want to know the incomes of users, to get a better understanding of ad targets
- As an advertiser, I want to know data about website use, so I know how useful a website is at advertising
- As an advertiser, I want to see a chart of metrics, so I can visualise the data
- As an advertiser, I want to be able to compare graphs, so I can compare data visually
- As an advertiser, I want to define a bounce, so I can more accurately tailor my data

Could be done:

- Compare data to other campaigns
- Customisable appearance

Won't be done:

- Mobile responsive GUI
- Saving charts as files

Project Planning

Increment Plan

Increment 1: 24/2 - 10/3

- Read data (Small)
- Compute data as metrics (Medium)
- Design basic GUI (menu, display metrics) (Small)
- Code basic GUI (menu, display metrics) (Medium)
- Display metrics as charts (Large)

Increment 2: 10/3 - 21/4

- Give user time granularity control over charts (Medium)
- Display metrics as a histogram (Large)
- Give user control to filter metrics and charts by date range etc. (Large)
- *GUI customisation (font, colours, graph)* (Small)
- *Display metrics over time* (Small)

Increment 3: 21/4 - 5/5

- Additional chart functionality (XLarge)
- Allow user to define a bounce (Small)
- *Load and compare campaigns* (Medium, but need to finish charts' code)
- *Saving charts as files* (<Large)
- *Printing functionality* (<Large)
- *Mobile responsive GUI* (XLarge)

The bullet points in italics represent our optional objectives for each deliverable and will carry over to the next if incomplete.

Sprint Plan

The primary purpose of increment one is to deliver a user interface. This will be a general starting point for the product and is an ideal first impression for the first deliverable. It should be easier to receive and later work on feedback, based on something that the customer can see. Meanwhile, we will also work on some functionality in the background, like reading and computing the data. This will put us in a very good position for deliverable two to immediately begin working on different parts. Whilst we have set these teams, we will not try to stick to them religiously so that we can be more agile with our development.

Team 1: Alex, Tom (2 days)

- *Read data* (Small)
- *Compute data as metrics* (Small)

Team 2: Vlad, Carlos (8 days)

- *Design basic GUI (menu, display metrics)* (Small)
- *Code basic GUI (menu, display metrics)* (Medium)

Team 3: Jamaal, Stoyan

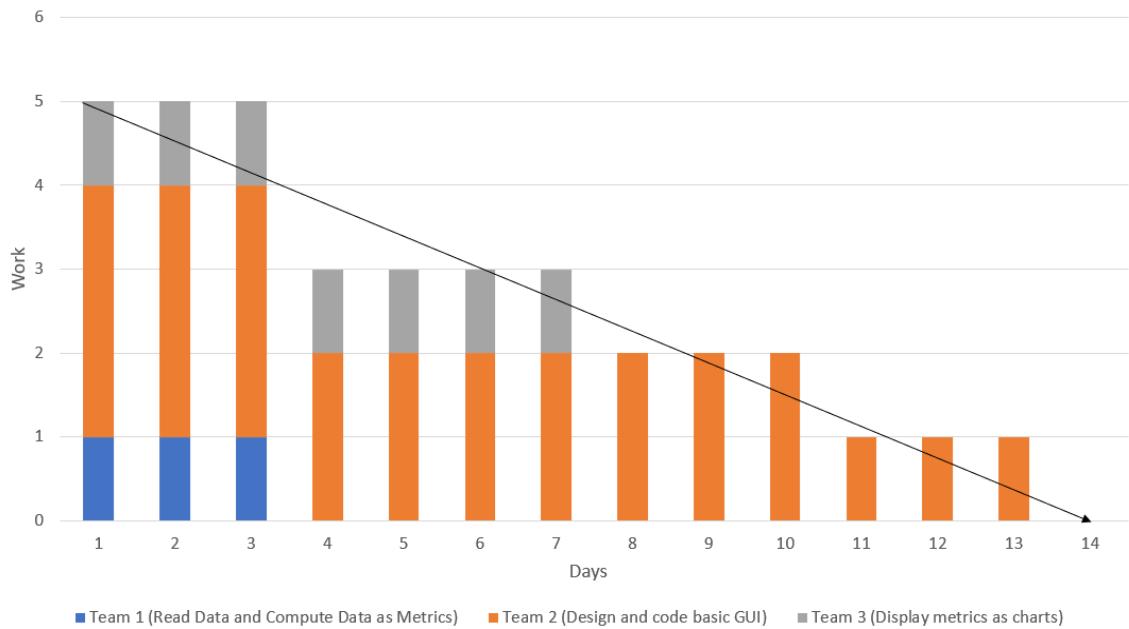
- *Display metrics as charts* (Large)

Scrum Master: Alex

Day	Team 1	Team 2	Team 3
24/2	Envisioning Deliverable Day		
25/2	Read data	GitHub Design GUI	
26/2	Compute basic data		
27/2	BIG SCRUM (> 1 hr)		
28/2	Compute chart data	Code basic GUI	Display metrics as charts
1/3	Performance optimisations		
2/3			
3/3			
4/3			
5/3			
6/3	BIG SCRUM (> 1 hr)		
7/3		Refinements of the GUI	
8/3			
9/3			
10/3			
11/3			
12/3	Increment 1 Deliverable Day		

Days highlighted in red will represent quick SCRUM meetings where we address what we are currently working on and to determine if we are still on schedule.

Day Zero Burndown (More Focus on Charts and Backend)



Project Setup

Risk Analysis

Description	Class	Chance	Severity	Risk	Mitigation
Someone is busy (deadlines, travelling, etc.)	Project	5	2	10	Make team members aware of when someone may be unavailable in advance
Someone can't work (due to them leaving, health issues, etc.)	Project	1	5	5	Have other members informed about what each member is doing, in case they need to be replaced
New technologies	Product	3	2	6	Staying informed
Stuck on code	Project	5	2	10	Working in pairs, solving problems together
Losing data	Project	1	5	5	Backups

Inefficient / unoptimized code	Product	3	3	9	Testing out several solutions before implementing them
Losing the client	Business	2	5	10	Always keeping in touch with the client

Summary of Agile Methodologies and Tools

Agile methodologies:

- Sprint plans
- Scrum meetings
- Pair programming

Software Tools:

- Java
- Swing
- JFreeChart
- Jira Software - tool for agile project

Communication:

Our main form of communication has been through Discord. This has allowed us to very easily organise meetings, record our progress and share files. We can separate our conversations into different channels so we are more organised and aware of what is going. Discord facilitates voice and video calls which will come in very useful when we need to work as a six or in our pairs.

Alongside Discord, we have been using WhatsApp a lot too. It's a lot more informal so we can use it for very general questions and conversations. Whilst Discord can do anything that WhatsApp can do, we are all more likely to check our phones for messages there.

Documentation:

For documentation purposes, we needed two different bits of software. For the envisioning stage, we have been using Google Docs for word processing. This has allowed us to work collaboratively online as we can see what everyone is working on, and we can all work on the document at the same time. For the later increments, Google Docs will also remain a useful tool as we can update our user stories or present new ideas easily and formally.

For incremental development, we will also be using GitHub for documentation. The tools that GitHub provides includes commit messages, pull requests and issue tracking. We will use a repository that we will all be able to access to allow for seamless collaborative work.

Programming:

When it comes to the actual programming of our project, our main programming language will be Java. This is the language that we are most familiar with collectively and also allows us to create graphical user interfaces using Swing. *We have chosen Swing over JavaFX due to its efficiency and usability when it comes to developing a user interface. It will also be a lot*

easier to set up for those who may be less experienced with this kind of programming. This part is essential as we have to create a visual display that allows the advertisers/businesses to see the performance of their ad campaigns. An important part of the user interface will be charts that concisely display the metrics in an approachable way. There are two options for creating charts: JFreeChart and JavaFX Charts. We are likely to decide on these options during the first increment as we are not yet familiar with which of these will be better for our design.