SCRAN PLAN RELEASE BUSINESS PLAN

MEng Year 3

Department of Electronics
University of York

Software Engineering Group 4

CODEV

Document Control

Version	Modified By	Date	Section Modified	Remarks
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1. Introduction

Codev are seeking investment for the duration of the initial release of our project Scran-Plan. This document consists of analysis of all team costs throughout the first 13 months following release along with analysis of the revenue model, a company cash flow forecast during this period, a profit and loss statement during this period and a balance sheet following the end of this period. A large appendix has been added to the end of the document consisting of all relevant evidence passed from other members of the CoDev team.

The proposed release of Scran Plan relies on a bank loan to the amount of £57,000.00 for the total cost of deployment.

1.1. Product Summary

Figure 1: Scran Plan logo

Scran-Plan is a revolutionary social way to cook and prepare food. Targeting students but not limiting ourselves to this market, we are giving individuals a one stop location to share what they have been cooking, share their favourite recipes, find new recipes and a way to plan their meals in advance. With this, users will know exactly what they need to purchase, taking all ingredients the user already has into account, to cut down on food waste and increase cooking efficiency. Building a database of XML presentation style recipes, laid out in steps; users can cruise through this database, filtered to the user's desires, deciding what they want to eat in any given time frame. With the social element thrown in, users can add and share recommendations and recipes with friends, add their own recipes and build up a chef profile. Think Strava of cooking, Goodreads of good food, Google Calendar of meal planning, Facebook of recipes, LinkedIn for Chefs and the Instagram of the world's most amazing meals!

2. Deployment Potential and Costs

2.1. Important Deployment Assumptions

All deployment costs have been broken down and analysed.

2.1.1. Marketing

Found in Appendix A, document 5.2., our marketing manager has put together a full plan for our first year of release. With this plan, targeting mainly social media in order to deal with the new Covid-19 situation we find ourselves in during this release, we have set the following goals:

- Following the first ad campaign - hope to generate 500 daily active users.
- Following the second ad campaign - hope to have 2000 daily active users.
- Following the third ad campaign - hope to have 5000 daily active users.
- Following the fourth ad campaign - hope to generate 11,000daily active users.
- Following the fifth ad campaign - hope to have 23,000 daily active users.
- Following the sixth ad campaign - hope to have 47,000 daily active users.

With each ad campaign costing a total of £2.300.00 and spanning a 2-month period. We will retain a marketing specialist during this first year totalling 6 hours a week to ensure smooth running of the campaigns. Further details of the ad campaigns found in 5.2.

2.1.2. Cloud Storage and Backend
Found in Appendix A, document 5.3., our XML and Server Manager has put together a Backend and Server Costs Analytics document covering the first year of release. These prices start very low due to the generous free capabilities of Firebase and grow to just over £400 in July 2021. This can be seen in the cash flow forecast in section 3.

2.1.3. Algolia Searching
Found in Appendix A, document 5.1., our Testing Manager has put together an Angolia Searching Costs Analytics document covering all future use, over the first year he predicts minimal costs starting at 29 USD monthly. These prices can rise as high at 400 USD but level out at around this number which is very financially achievable following the first year of release.

2.1.4. Further Labour Assumptions
Found in Appendix A, document 5.4., our Project Manager has put together an Future Labour Requirements Costs Analytics document covering all future required labour during our first year of release. This covers two developers on 25 hours a week, two chefs to build up our recipe database on 20 hours a week to constantly offer the platform new content, a single marketing expert to run the marketing campaigns on 6 hours a week and a bookkeeper to maintain the monthly books for the company. The monthly cost of labour for our first year stands at £5,712.64, the labour requirement will be formally readdressed following July 2021.

2.1.5. Extra Deployment Costs
A further cost to development is the publish to the Google Play store at 25 USD taken from our first month of release, July 2020.

Due to the Covid-19 pandemic, we are planning to not renew our lease and will instead maintain the current work set up of all users working from home, making use of Google Hangouts, Slack, Trello, GitHub and Clockify to keep the team working towards our single mission. This will also relieve further financial pressure posed by the extra costs associated with a premises.

2.2. Company Revenue Model
For application monetization we are looking to offer the application as a Freemium service.

Free users will have access to the basic application that will display with adverts, adverts will be placed:
- On the home page, within the horizontal scrolls between every 5 or so recipes.
- On the social feed between every 5 or so posts.

Free users will be able to still:
- Build up a profile.
- Follow and be followed by their friends, sharing recipes, what they have cooked and cooking tips.
- Add recipes and build up a bank of cooked meals, reviews and photos.
- Search the database for meals and follow the presentations through to cook their desired meals.

Gold membership users will have the same access to the application but with the added benefits of:
- Zero advertising.
- Full access to the meal planner where users can build up a weekly plan of meals.
- Generate a shopping list for their meals to make shopping easier.
- All future gold added benefits.

2.2.1. Premium User Revenue
The initial proposal of the premium service will be available as a 3-day trail, following on from this trial users will have to options to pay for either a membership in the following timescales and costs:
- Monthly (£1.99),
- Quarterly (£4.99),

- Yearly (£14.99).

If we now estimate that around 50% of our gold userbase will opt for a monthly billing, 20% will opt for quarterly and 30% will opt for yearly, we can build a picture of what sales revenue will look like for any given number of gold users.

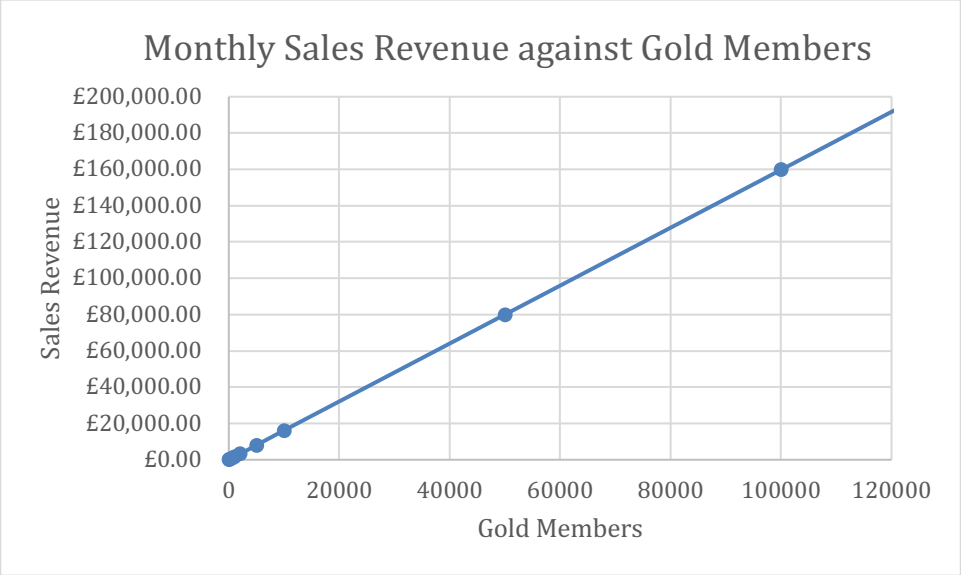


Figure 2: Graph showing potential revenue generated from Gold Members.

2.2.2. Admob Revenue

Admob income is very difficult to estimate. As we are working with an application that is available in every country in the world and we need to rely on daily active users making impressions and clicks with the advertising.

As we are aiming at students in the UK, we shall make a simplification here and specify that our average daily user is more likely to be from a tier 1 country (i.e. US, UK, Canada and Australia). Due to this we will estimate the average cost per click (CPC) to be around £0.27, we will estimate the click through rate (CTR) of our users to be around 1.1%. We will then estimate that our users will see roughly 4 pages of the application on each visit. This will give us an average Cost Per Thousand (CPM), which means the cost per 1000 pageviews, of £2.94.
Using these assumptions, we can estimate potential revenue produced with free daily active users from ADMOB:

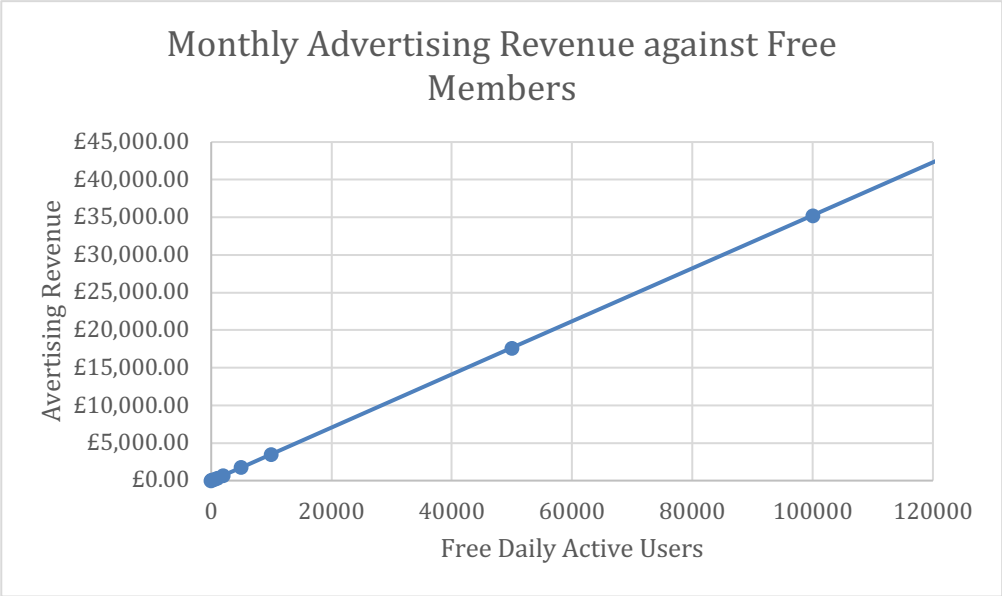


Figure 3: Graph showing potential revenue generated from ADMOB.

2.2.3. Summary of Revenue Model

Although no revenue is assured, revenue remains purely a matter of generating an active user base. This revenue model serves to highlight the potential of the Scran-Plan project, given development funding.

3. Future Earnings Analysis July 2020 – July 2021

With this all put together, a picture of the first year following launch can analysed to see where the company will start making money and how much capital the company will required in order to make Scran Plan a reality.

3.1. Cash Flow Forecast July 2020 – July 2021

From this cash flow forecast we can begin to build up a picture of company. This cash flow relies on a bank loan totalling £57,000.00 supplied to CoDev in two instalments. One totalling £40,000.00 on the 1st of July 2020 and the second one totalling £17,000.00 on the 1st of December 2020. This financial backing leaved CoDev with sufficient breathing space for differences in user generation estimates.

Note: Cash flow starts with Codev at £0, CoDev is likely to bring a small amount of capital through from the development phase.

CODEV

Table 1: Predicted Cash Flow Forecast for CoDev July 2020 to July 2021

Month	July	August	September	October	November	December	January	February	March	April	May	June	July
Daily Active Users (start of month)	0	250	500	1250	2000	3500	5000	8000	11000	17000	23000	35000	47000
Credit													
Long term loan	£84,577.43	£84,577.43	£84,577.43	£84,577.43	£84,577.43	£101,577.43	£101,577.43	£101,577.43	£101,577.43	£101,577.43	£101,577.43	£101,577.43	£101,577.43
IN													
Loans	£40,000.00					£17,000.00							
Monthly free user Revenue	£0.00	£103.95	£207.90	£519.75	£831.60	£1,455.30	£2,079.00	£3,326.40	£4,573.80	£7,068.60	£9,563.40	£14,553.00	£19,542.60
Monthly gold user Revenue	£0.00	£39.93	£79.86	£199.66	£319.45	£559.04	£798.63	£1,277.80	£1,756.98	£2,715.33	£3,673.68	£5,590.38	£7,507.08
OUT													
Labour													
Developers labour	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00	£2,500.00
Chef labour	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00	£1,920.00
Marketing labour	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64	£1,142.64
Bookkeeper	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00	£150.00
Other Overheads													
Marketing Campaign	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00	£1,150.00
Adding to Google Play Store	£20.43	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Agolia Searching	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72	£23.72
Firebase hosting	£0.59	£0.59	£2.49	£8.70	£15.05	£27.65	£40.53	£65.93	£91.88	£142.85	£194.95	£297.08	£401.43
Weekly interest (16.86% APR)	£1,188.31	£1,188.31	£1,188.31	£1,188.31	£1,188.31	£1,427.16	£1,427.16	£1,427.16	£1,427.16	£1,427.16	£1,427.16	£1,427.16	£1,427.16
Totals													
Opening Balance	£0.00	£31,904.30	£23,972.92	£16,183.51	£8,819.55	£1,880.88	£12,554.04	£7,077.61	£3,302.36	£1,227.73	£2,555.28	£7,283.89	£18,816.66
Total cash in	£40,000.00	£143.88	£287.76	£719.41	£1,151.05	£19,014.34	£2,877.63	£4,604.20	£6,330.78	£9,783.93	£13,237.08	£20,143.38	£27,049.68
Total cash out	£8,095.70	£8,075.27	£8,077.17	£8,083.37	£8,089.72	£8,341.17	£8,354.06	£8,379.45	£8,405.40	£8,456.38	£8,508.47	£8,610.60	£8,714.95
Net cash flow	£31,904.30	(£7,931.39)	(£7,789.40)	(£7,363.97)	(£6,938.67)	£10,673.16	(£5,476.43)	(£3,775.25)	(£2,074.63)	£1,327.55	£4,728.61	£11,532.77	£18,334.72
Closing balance	£31,904.30	£23,972.92	£16,183.51	£8,819.55	£1,880.88	£12,554.04	£7,077.61	£3,302.36	£1,227.73	£2,555.28	£7,283.89	£18,816.66	£37,151.38

3.2. Forecast Analysis

From this cash flow forecast we can begin to build up a picture of company costs and earnings over the first year following release. Putting both monthly costs and monthly earnings into a graph over the full 13 months analysed here be get the following result:

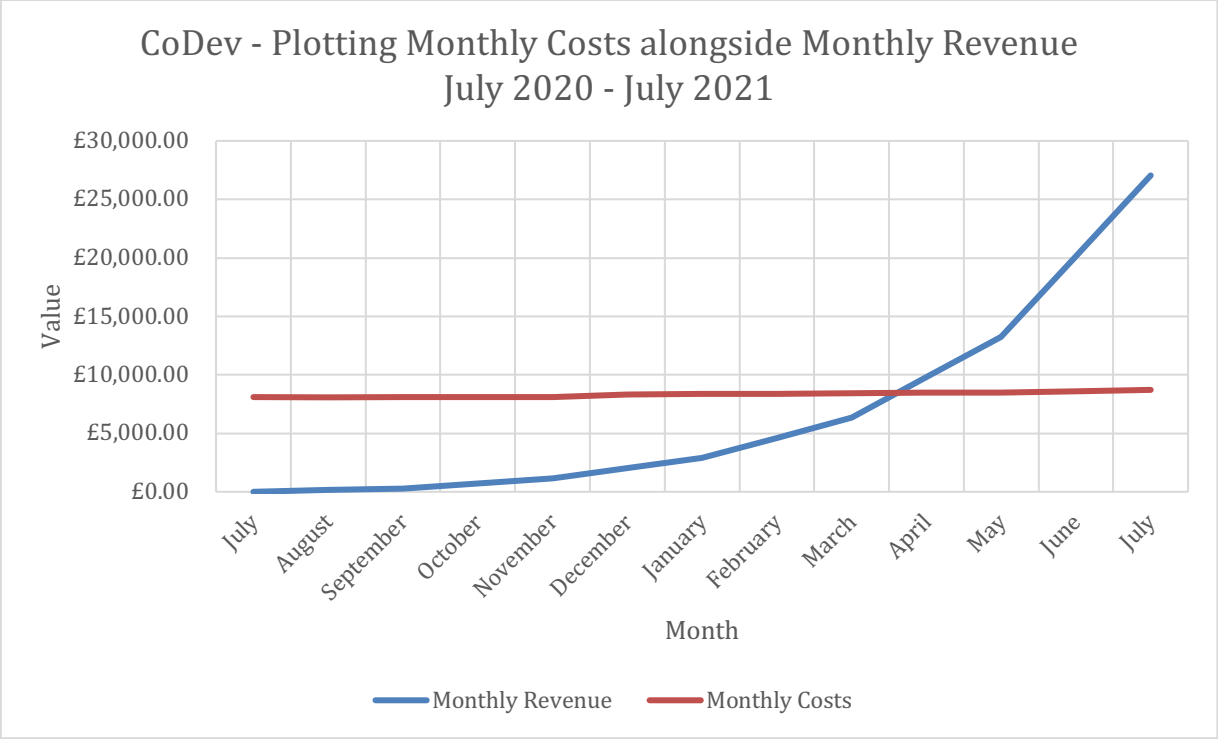


Figure 4: Monthly costs alongside monthly revenue between July 2020 and July 2021

We can see that a steady start is to be expected with the company not actually starting to make a profit until April 2021. However, with these projections the company will really start making its money back in its second year of release where we will not only be able to pay back all of our loans but we will be able to grow as a company and look to taking on more developers and become a leading social platform within the food industry.

3.3. Profit and Loss Statement (July 2020- July 2021)

From the cash flow forecast a profit and loss statement can be built for CoDev between these periods.

Table 2: Predicted Profit and Loss Statement for CoDev July 2020 to July 2021

CoDev Profit & Loss (July 2020 - July 2021)	
Sales Revenue	£88,343.09
Cost of Sales	£0.00
Gross Profit	£88,343.09
Overheads	£90,832.84
Net Profit (PBIT)	(£2,489.75)
Interest	£17,358.87
Profit Before Taxation	(£19,848.62)

3.4. Balance Sheet (July 2021)

Following this a balance sheet can be drawn up to show CoDev's predicted assets in July 2021.

Table 3: Predicted Balance Sheet for CoDev July 2021

CoDev Balance sheet July 2021		
Fixed Assets		
	Tangible fixed assets	£0.00
	Financial fixed assets	£0.00
Current Assets		
	Cash in hand & at bank	£37,151.38
	Stock	£0.00
	Debtors	£0.00
Current Liabilities		£0.00
Long term liabilities		(£101,577.43)
Net Assets		(£64,426.05)

3.5. Post July 2021

Following the first 13 months of release, Scran Plan will have the financial capability to not only pay back all loans and investment but to really grow, build up a larger team and increase the value delivered to its customers.

4. Financial Needs Summary

Having a bank investment of £57,000.00 will see Codev through the first 13 months of release where the company expects to grow enough to be able to financially support itself and begin to pay back bank investment and grow further as a company.

In an age when social applications are thriving, Scran-Plan has the potential to bring enormous real value to its customers and thrive on a global scene.

5. Appendix A: Relevant Evidence

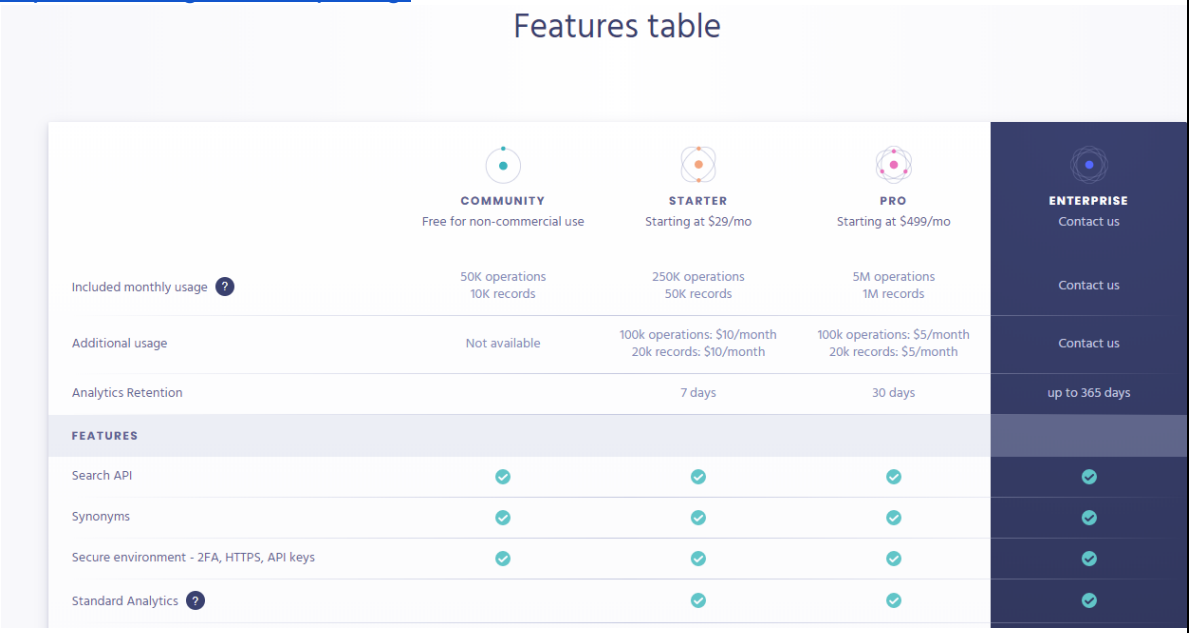
5.1. Algolia Searching Finance Details

(Written by Testing Manager Nathan Billis)

Algolia Searching Finance Details

Pricing	Records	Operations	Additional Usage
$29/mo	50K	250K	100k operations: $10/month 20k records: $10/month
$499/mo	1M	5M	100k operations: $5/month 20k records: $5/month

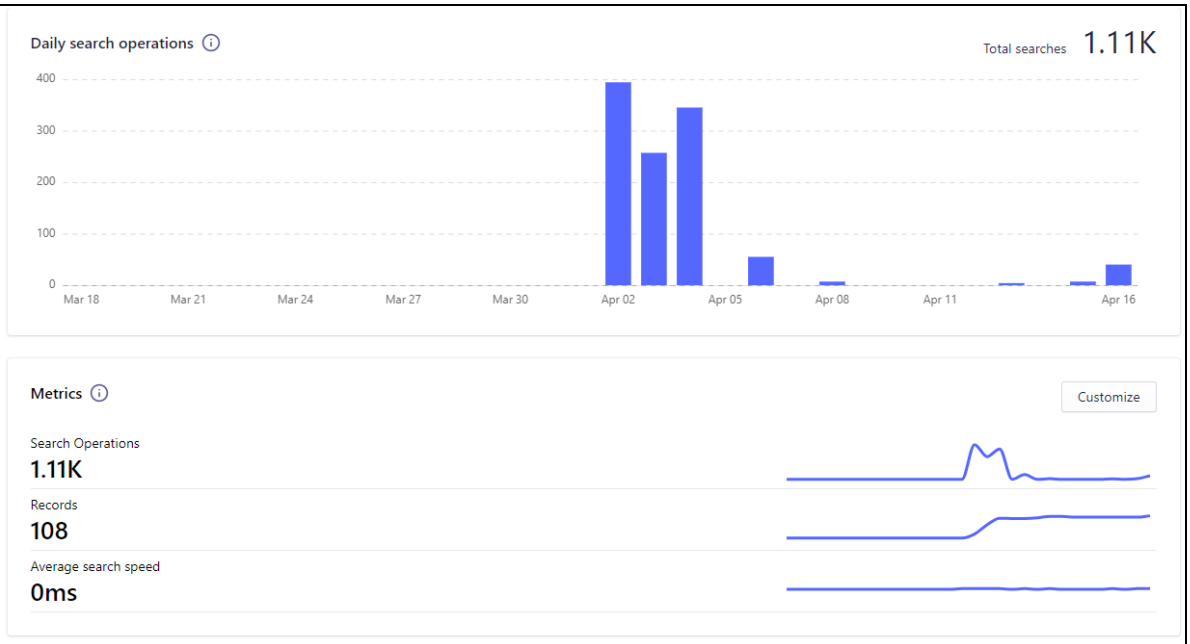
https://www.algolia.com/pricing/



Benefits:

- Search analytics
- Abilities to roll out search updates without having to change the codebase
- Used by industry leaders
- 99.999% uptime
- We retain owners of our data at all times
- Searching scales as the company scales

Our Analytics from the past 30 days (16/4/20)



Initially Algolia will cost $29/month, once we reach 250k operations and 50k records. For every 100k operations over that it will cost $10/mo additional and for every 20k records it will also add $10/mo.

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5.2. Marketing Ad Campaign Estimate

(Written by Marketing Manager Becky Anderson)

Marketing financial plan

Our marketing aims at students that want to cook easier, cheaper and healthier meals. This document contains information on how the company will market the application. There will be a marketing campaign for each iteration of the application meaning a total of 3 ad campaigns.

Outreach initiatives

Contacting influencers and bloggers to secure honest helpful reviews. Paying influencers that have a following particularly within the student community allows a large outreach and can gain interest.

The following are some typical prices for advertising through influencers. (TARA JOHNSON | JAN 24, 2020) (Available at: https://tinuiti.com/blog/paid-social/how-much-do-influencers-charge/)

- **Facebook influencer pricing:** $25 per 1000 followers
- **Instagram Influencer pricing:** $10 per 1000 followers
- **Snapchat Influencer pricing:** $10 per 1000 followers
- **YouTube Influencer pricing:** $20 per 1000 followers

“Micro” influencers (10,000 followers or less) have a very dedicated following and tend to have higher interaction from their following. They are also cheaper to work with, so we would target these people.

Social media

Most companies have a social media budget that covers people working on marketing and paid advertising through social media

Promotion on social media, Facebook, Twitter, Pinterest and other platforms are available at a small cost.

We will be focusing on Instagram as this platform is the most popular for uni students. The level of interest/interaction is Instagram, Facebook, Twitter, Pinterest, Snapchat in that order.

All social media is free to set up, however advertising through these social media does cost. Most social media are set up with the CPM (cost per thousand impressions) model. You pay for every 1000 views of your ad. There is also the CPC (cost per click) model that allows you only to pay when people click on your advert however the prices are slightly higher, you only pay for interested users.

Businesses can create Instagram adverts that appear as sponsored posts in users' feeds. We can expect to pay £5 for every 1000 views for photo ads and more for 1000 views of a video. Facebook works in a very similar way.

Setting a £500 budget for social media per iteration gives us the money to pay somebody to be in charge of social media and also the cost of advertising.

Campus-based advertising

Our main marketing strategy will be campus-based advertising. This is due to the number of students we would meet in a small amount of time. Setting up at freshers fairs across the country is a good way of increasing interest and getting our name out there.

1000 flyers for an average £15. In a variety of campus events. Have to hire someone to do the advertising, wage of £8.21 an hour. 7 Foot roller banner for £25 which can be reused in every event.
We would want to go to a lot of unis around the country advertising.
Poster printing- To place at universities when on campus. 100 for £30

Estimate users & Time scale

Following the first ad campaign - hope to generate 500 daily active users.
Following the second ad campaign - hope to have 2000 daily active users.
Following the third ad campaign - hope to have 5000 daily active users.
Following the fourth ad campaign - hope to generate 11,000daily active users.
Following the fifth ad campaign - hope to have 23,000 daily active users.
Following the sixth ad campaign - hope to have 47,000 daily active users.

Total budget

Type of marketing	Price
Flyers for 100 unis	£1500
3 hours of work	£24.63
banner	£25
Poster printing (ten per uni)	£300
Social media ads & work	£500
Influencers pay	£500
Total	**£2849**

CODEV

UPDATE TO MARKETING PLAN 27/04/20

In light of COVID-19, our marketing strategy has to change. Getting rid of all face to face advertising. This however is not a bad thing, our marketing surveys tell us that 89% of people find out about a new app online. Focusing on this will reduce our overall marketing cost.

Type of marketing	Price
Social media ads & People working	£1500
Influencers pay	£800
Total	**£2300**

These figures come from 8 influencers with 10,000 mainly on Instagram and Facebook and the social media ads and people working covers the wage of someone who is in charge of the social media sites and the paid ads on different platforms

I will need a total of 15 hours for the 3rd iteration to complete what is set out in the marketing plan

5.3. Backend and Server Cost Analysis

(Written by XML and Server Manager Jun Ma)

Cost of Firebase

Currently, we have 7 daily active users and 15 recipes.

Last 30 days Usage of Database

For each DAU a day, reads are 150, writes are 130 and deletes are 2 approximately. Reads are free for 50K/day. Writes are free for 20K/day. Deletes are free for 20K/day.

Last 30 days Usage of Storage(The first 5GB is free)

The usage of recipes is nearly 70 MB. The target recipes are 1000 and each DAU uploads 1 recipe each month. The storage of recipes is 4667MB with 4.7MB increase for one DAU one month.

The usage by users' profiles or pictures uploaded is nearly 30MB one month. So, it cost 0.14MB for storage for each DAU a day.
Each DAU uses 150 reads, 130 writes and 2 deletes per day for Cloud Firestore. Active user uploads one recipe per month and spends 0.14MB/day uploading his own file.

Month	Target DAU	Cost(Storage + Cloud Firestore)
July	250	0.05$ + 0.675$
August	500	0.16$ + 2.88$
September	1250	0.44$ + 10.17$
October	2000	0.89$ + 17.46$
November	3500	1.68$ + 32.04$
December	5000	2.81$ + 46.62$
January	8000	4.62$ + 75.78$
February	11000	7.11$ + 104.94$
March	17000	10.95$ + 163.26$
April	23000	16.15$ + 221.59$
May	35000	24.06$ + 338.23$
June	47000	34.68$ + 454.87$

5.4. Further Labour Analysis

(Written by Project Leader James Pearson)

Monthly personnel costs going forward

Developers = £12.50
Chefs = £12 (Average according to reed.co.uk as of 21/05/2020)
Marketing = £15.87 (Average according to reed.co.uk as of 21/05/2020)
Bookkeeper = £150 per month

	Hourly rate	Monthly Costs
Developers x 2	12.5	2500
Chef x 2	12	1920
Marketing	15.87	1142.64
Bookkeeper		150
	Total per Month	5712.64

Developers

Two developers on the books going forward working on the application doing 25 hours a week. This will be to maintain the application and keep a steady stream of featured updates arriving while monitoring the reported content.

Chefs

Two chefs to be hired on the average hourly rate to attract established and experienced personnel. Hired for 20 hours per week, they will be required to create a steady stream of quality recipes and easy to follow instructions so that the customer base is getting value for money. Not all chefs have permanent contracts so hiring on shorter more flexible contracts may benefit the company and that of the hired chef if changes need to be made.

Marketing

A part time marketing specialist doing 6 hours a week making sure that the brand is constantly visible to our target market.

Bookkeeper

Average Bookkeeping cost to cover the monthly finances.