Final Report

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recapt

Capture your expenses

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Abstract

Expense tracking is a must for any person on a budget but there is no easy solution to detailed item tracking without a lot of manual work. Hence, this venture aims to bridge this gap by presenting an AI-powered tool for tracking and visualizing expenses. Customer surveys have been conducted to decide on the feature set of the MVP. The vast majority of respondents wanted simpler ways to track their expenses and many found it difficult to manually enter items in a receipt line by line.

The developed prototype has a simple intuitive graphical user interface, with this app, users can track their expenses by taking a picture of their receipts and will have access to detailed analysis and visual charts of their expenses.

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Introduction

Whenever we buy something at a supermarket or at a department store, the cashier politely asks whether you would like a receipt. For most people they say no and for the few that say yes, these receipts are considered waste and end up in the trash.

However, these seemingly useless objects are a gateway to your entire expense history; if tracked properly they could tell your top expenses, how prices have changed over the years and even and allow for a detailed price comparison between different stores and it becomes easy to answer a question like where can I buy the cheapest carton of milk.

This all sounds very promising but also it is a very time consuming and arduous process to manually collect all your receipts and take record of all the items in all of each of these receipts and at its core this is what this venture is about; making this process as seamless as possible.

What is recapt?

recapt is an AI-based solution to help users track their receipts and manage their expenses in as much detail as they like whether they are just interested in tracking total spending per category or whether they are interested to know how much they have spent on ice-cream over the past year. The app is fully customizable to help the users be in charge of their expenses.

The process is simple, the user takes a screenshot of a receipt and the app takes care of the rest, it scans the receipts and by using AI-technology it extracts individual items in the receipt, individual quantities, prices and where the purchase took place. The app stores all this information in one place that can be searched at any time by the user. The next figure shows a typical usage workflow for the application.

Figure 1: typical usage workflow

Sustainability Goals

Any new venture wants to make money and profit, there is nothing inherently wrong with that but any venture needs, as part of its mission, to make the world a better place for everyone. Each venture will contribute differently based on its area of application. In 2015, the UN adopted an Agenda of sustainable development that includes 17 sustainable development goals[1]. The next figure shows these goals. These goals desire to achieve sustainable development for all people.

Figure 2: Sustainable Development Goals

We, the founders, upon starting this venture wanted to make the world a better place. After evaluating this venture goals and mission it is clear that this venture will contribute in three main goals; No Poverty (Goal #1) by helping people manage their expenses in fine detailed manner, In addition, the venture will help with Industry, Innovation and Infrastructure (Goal #9) as we try to use cellphone cameras, something that has existed for many years now, to introduce a novel solution to the problem of paper receipts. Moreover, we will help with Sustainable Cities and Communities (Goal #11) as this venture tries to reduce paper waste and revolutionize receipt handling.

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[1] "About the Sustainable Development Goals"
https://www.un.org/development/desa/disabilities/envision2030.html. Retrieved 13 April 2020.

Product Description

One of the core requirements is the ease of use of the solution both in terms of learning how to use the system and in the number of steps required. The set of requirements can be summarized in the following list:

1. **Automation**: Instead of the user having to manually enter each line item of the receipt into the app for tracking, the solution needs to automatically extract information and store it.
2. **Simplicity**: The user is not required to purchase new hardware or gadgets in order to be able to use the solution.
3. **Efficiency**: The app should have a small memory and processing footprint and the user is able to install the app and use it on a typical smartphone i.e. the user is not required to have a high-end smartphone.

Technology Description

Optical Character Recognition (OCR) is the process of using computer vision to automatically detect and extract text from an image (e.g. printed receipt). Many traditional OCR systems rely on hand crafted rules to detect text which achieved sub optimal accuracy.

This app uses an OCR engine that is driven by Deep Learning. Deep learning is the next evolution of machine learning that learns through an artificial neural network and allows the machine to analyze data and learn complex structures. Incorporating deep learning into OCR has allowed the accuracy to improve drastically and the algorithm is able to extract text, quantities and prices of different lines.

After detecting text using the OCR engine, the data is fed into the parser to extract relevant details and discard irrelevant ones. Later, this parsed data is shown to the user for review and confirmation. Finally, the data is stored in the cloud so that the user can access it any time and on any device.

| Capture	OCR	Parser	Review	Storage
•The receipt is scanned by taking a picture using a smartphone camera.	•The text is extracted using OCR from these invoices.	•The OCR results are parsed to extract relevant details and discard irrelevant ones.	•The data is shown to the user for review.	•The data is stored in the cloud so that the user can access it any time and on any device.
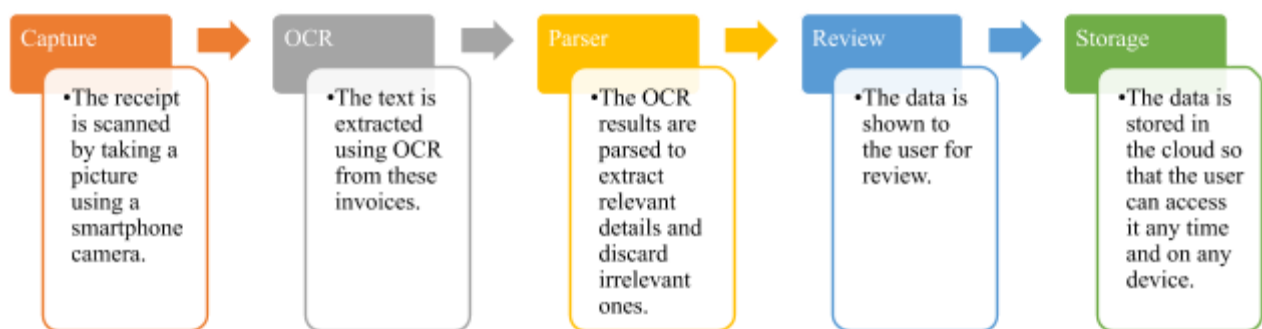
Figure 3: Detailed workflow

Methodology and Work Process

A key to the success of a venture is following a continuous cycle of prototyping and seeking customer feedback so that customers' opinions are an integral part of the design from the get go. During the development of this venture we followed the same approach.

Ideation

As part of the ideation phase, a market survey was conducted among KTH master students to see the potential for the receipt scanning app. The next figure shows a screenshot from the survey. More than 95% of the respondents agreed that paper receipts are needed to become digital.

Figure 4: Market Survey

Based on these results a prototype was then developed that contained the minimal set of features for it to be a usable product. Furthermore, we made a "How to" video showing actual footage of the app usage. This video had two main purposes: (1) to be used to create brand awareness on social media and (2) to use it when surveying the customers again about the prototype.

As an aside, due to the ongoing virus situation, it is difficult to talk directly to customers and showing a "How to" video is the next best thing to actually having the opportunity to interact with the app.
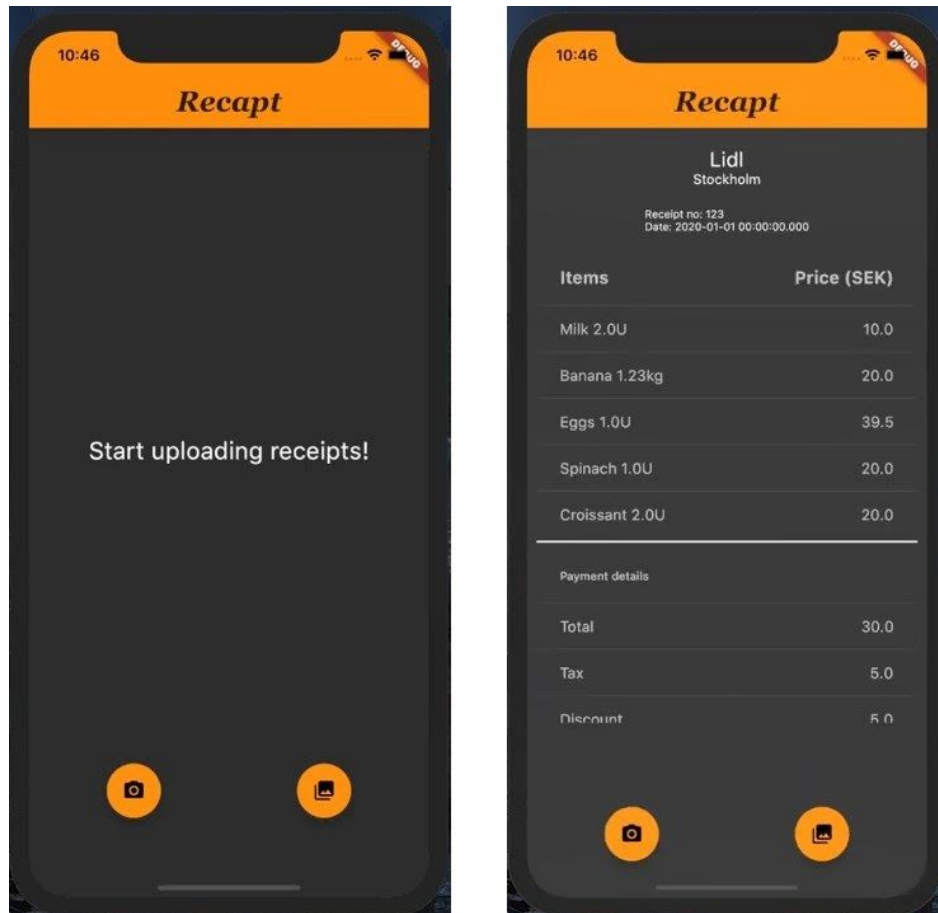
Figure 5: Initial Prototype

Design Iteration

We conducted a more thorough survey to understand what our customers like or dislike about our app. The survey wanted to assess the problem validity (do people care about financial management? Do they want a tool to automate it? etc.) and solution validity (do people like the core features? Are any important features missing? etc.).

The survey results indicated that 68.4% think that financial management is very important and 55.3% of respondents have practiced at least one form of financial management. Furthermore, 44.7% think that tracking expenses in detail (line level) is very important and at least 39.5% keep a record of the original receipt while 31.6% keep the receipt and maintain a record of it.

After shopping offline, what do you do with the receipt?
38 responses

- Keep and record it
- Only keep it
- Throw it out
- Depend on the need of that goods. if just for me, just throw it.. but if for reimbursment of company, keep it carefully

26.3%
39.5%
31.6%

Figure 5: Survey Results for user action with receipts

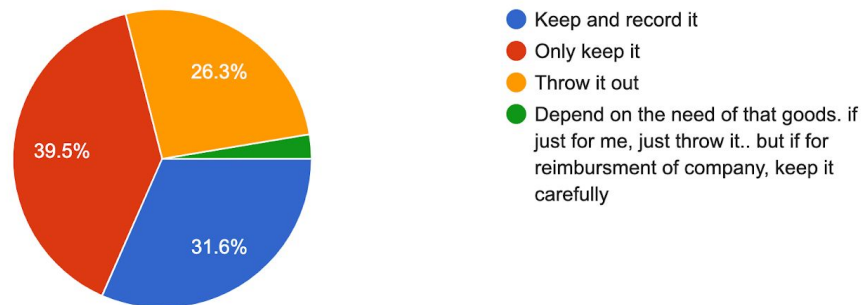The results indicate a high preference for recording and tracking expenses, however, the survey revealed that the number one customer pain point (60.5%) finds the process very time consuming and that it takes a lot of effort.

In addition, the survey showed general positive reactions towards our initial prototype. 89.5% of respondents thought that the automatic item detection feature was the most important feature, 36.8% thought that the customizable charts were most important while 44.7% favored the price comparison feature. The next figure shows the top most important features based on the survey results.

What features do you like the most? (you can choose at most three)
38 responses

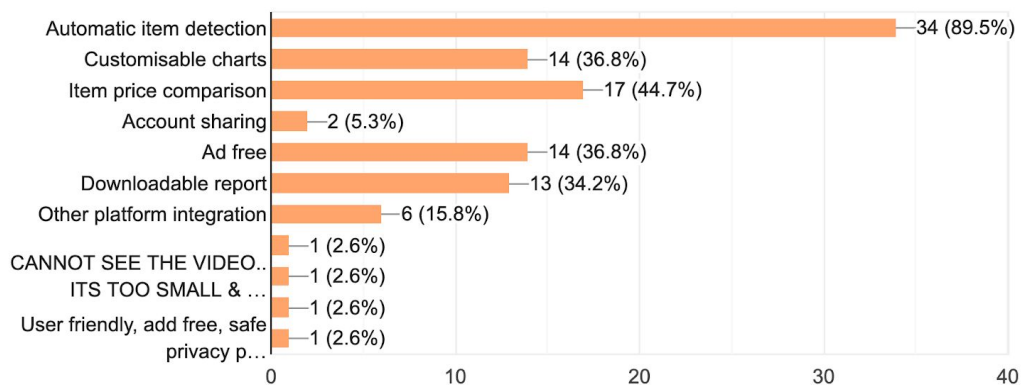| Feature	Count
Automatic item detection	34 (89.5%)
Customisable charts	14 (36.8%)
Item price comparison	17 (44.7%)
Account sharing	2 (5.3%)
Ad free	14 (36.8%)
Downloadable report	13 (34.2%)
Other platform integration	6 (15.8%)
CANNOT SEE THE VIDEO...	1 (2.6%)
ITS TOO SMALL & ...	1 (2.6%)
User friendly, add free, safe	1 (2.6%)
privacy p...	1 (2.6%)

Figure 6: Survey Results for most important feature

Moreover, the survey showed that 44.7% of respondents would actively use our product if it were available on the market and at least 55.3% had a willingness to pay depending on the price point.
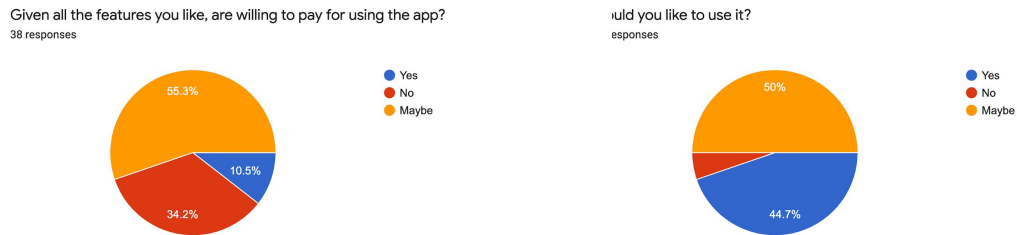
Figure 7: Survey Results for customer willingness to pay

The Final Prototype

The results of this survey were analyzed and used to reach the MVP version of our product. In this version of the product, a number of bug fixes were introduced in addition to enhancement to the overall app performance and the item detection algorithm.
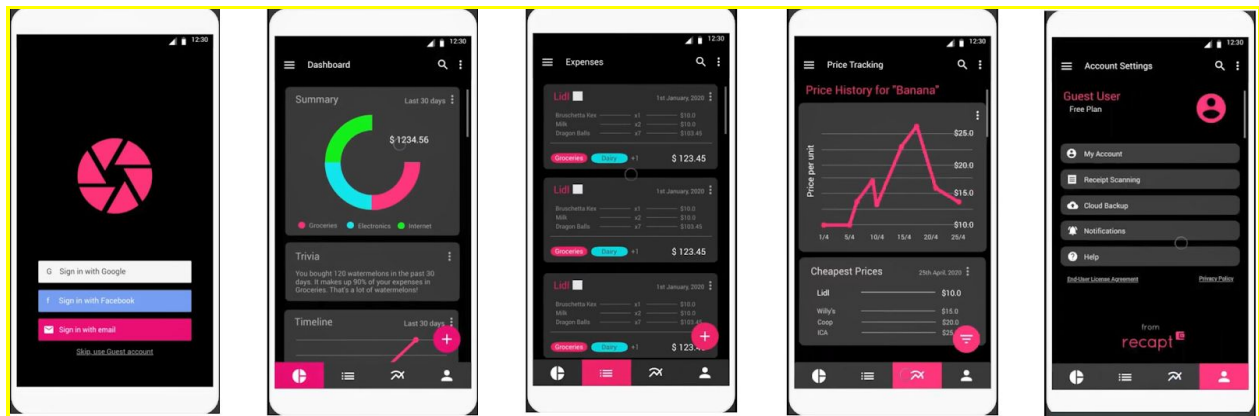
Figure 8: Final Prototype

As before, another survey was conducted to understand what our customers like or dislike about the updated user interface. The survey also asked the participants about what they think is the most important feature and what feature they think needed improvement.

From the survey results, on a scale of (1-5), 38.5% gave the app a score 5/5 for understandability of the app and 61.5% gave it a score of 4/5. In addition, respondents gave the app a generally positive review score and at least 80% are likely to recommend the app to a friend.

Rabbit Model Analysis

For any startup to be successful in this day and age it needs to be highly adaptable to the ever-changing situation; not just locally but on a global scale. Not only that but a startup, or any company, needs to predict what changes or new players that might enter the market in the future that would affect the dynamics of the market and the role of the different players.

For this venture, we have identified three major points that might affect the market, namely, the transition to a cashless society, the pre foliation of online ordering and delivery of grocery and the end of paper receipts. In the next sections we will discuss each of these points and how we are preparing to adopt to them.

Cashless Society

In a cashless society financial transactions are no longer conducted with physical banknotes but rather digitally. More electronic payment systems appear each year like PayPal, Google Pay or payment by smartphone via NFC.

Sweden is one of the countries that is closest to a full transition to a cashless society[2]. It is estimated that over 80% of the population use a digital payment form and between 2016 and 2018 card payments increased by 25%. As such, they are very close to a complete switch.

At first glance, the relationship between the use of banknotes and expense tracking might not be very clear. But it shows a trend of people preferring the digital format including receipts and hence the whole premise of the venture (receipt scanning) might be at risk but it is also an opportunity because currently there is no digital replacement for the physical receipt.

It is true that most stores and supermarkets allow you to create some sort of loyalty account and receive digital receipts on each purchase. However, this solution does not scale because it means that a user needs to have multiple accounts for every possible store that might use. A more practical and scalable solution is needed, one that allows preserving the anonymity of the customer.

A similar success story, that is also Swedish, is Swish which is a mobile payment system that was born due to the need for an easier money transfer system. For example, if you are out with friends and it is time to split the bill each one would pay their share in cash. But as Sweden is becoming more digital, paying a share means sharing bank details and each person uses their own bank which probably has a different interface and sometimes requires different fields. Hence, Swish was a solution that is as simple as giving someone your phone number. What also contributed to its success was that it was started as a corporation between six large banks.

As such, the solution needs to be a technical solution that is simple to use but also a corporation between large stores and supermarket chains so that it gains enough momentum and large-scale

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[2] "Sweden – the first cashless society?". September 11, 2019

adoption. Our venture can significantly benefit by designing and working the technical solution before the actual needs arise.

Online Grocery Stores

Another key player that is affecting the market is the increased use of online grocery shopping and delivery. These businesses growth will be amplified by the current world situation and the spread of the COVID-19 virus as more people go into self-quarantine. Albeit these services are very convenient they simply shift the problem of managing printout receipts into digital receipts in email where you have to sift through and categorize manually.

Hence, even though the format and channels are different the premise of the app, managing you purchasing history, still remains. However, it needs to be adapted to serve this new customer's needs before another player enters the market.

One idea is to develop some sort of a browser plugin that automatically detects receipts in your mailbox and passes them along to the app to be processed and indexed. This way the app can serve both segments: print out receipt scanning and email receipts.

End of Paper Receipts

Paper receipts are relics from a different time; they have to go away at some point. Because smartphones have become a ubiquitous part of everyday life it stands to reason that they will be replaced by some smartphone functionality. Perhaps future receipts can be transferred via Near Field Communication (NFC) technology or maybe a less complicated solution is QR code scanning which just needs a camera and can work on a large number of phone models. Regardless of the technology that is going to replace paper receipts there must be a transition period until the new technology is fully adopted and accepted by society as the new norm.

The best solution right now that serves as a middle ground is receipt scanning to get all the benefits of having a digital copy of receipts while still keeping a physical copy if needed. This venture can be a market leader during this transition period and help accelerate the process due to advances that have been done by Artificial Intelligence (AI) and specifically Deep Learning (DL) over the last few years.

The benefits of this solution are more obvious in the case of business customers because for tax and legal reasons they need to keep their expenses which can be expensive in the case of paper receipts. Businesses can be skeptical of new solutions and they want to use trusted solutions and by allowing them to still keep their physical receipts alongside a digital copy this reduces their perceived risks.

Business Model Canvas

Key Partners

Local merchants are one of our key partners because each merchant has a specific receipt format that needs to be supported. Also, our app can allow them to target advertising to specific customer groups based on purchasing habits.

Key Activities

Initially, the key activities will be the app development and the AI solution to achieve the desired level of accuracy. Once launched another key activity is attracting new customers to the platform and customer retention.

Key Resources

Number of active users is one of the key resources of any mobile based app. In addition, the collected user data is a key resource that can be aggregated to extract insights and trends about buying trends and purchasing habits.

Value propositions

Offering the customers, a cross platform solution that is free and that will help them track their expenses and stay within their budget through an easy to use interface and a set of fully customizable charts and graphs.

Customer relationships

The app offers a free tier so they are little risks in trying out the app. In addition, the AI based solution offers high accuracy with little required manual corrections. Finally, the users are in control of what they want to track and how they want to report it (customizable charts).

Channels

Main apps stores for different OS (mainly: Android and iOS) would be used as a main channel of distribution. Potential customers can be reached through ads and social media interactions (e.g. Facebook, Twitter).

Customer segments

There are two segments of customers. Ordinary users who are interested in tracking their expenses and small business who want an affordable digital solution for all of their paper receipts. The first is a larger segment but the second can be charged more.

Cost structure

The most important costs for this venture would be salaries of developers, and the expenses on servers, app infrastructure and online marketing.

Revenue streams

The revenue stream will come from two main sources. The first being ads that are shown to customers who opt for the free tier version of the app. The second stream is the monthly subscription for premium features.

The Business Model Canvas

Key Partners 🔗	Key Activities ✅	Value Propositions 🎁	Customer Relationships ❤	Customer Segments ⬤
Local Merchants	App development AI training Add merchants Add/Engage customers	Cross Platform Customizable charts Help you follow a budget	Free Accurate Customizable	Buyers on a budget e.g. students Small businesses
	Key Resources 🧑‍🏭		**Channels** 🚚	
	Active Customers App/infrastructure User Data		Website Social Media App store(s)	

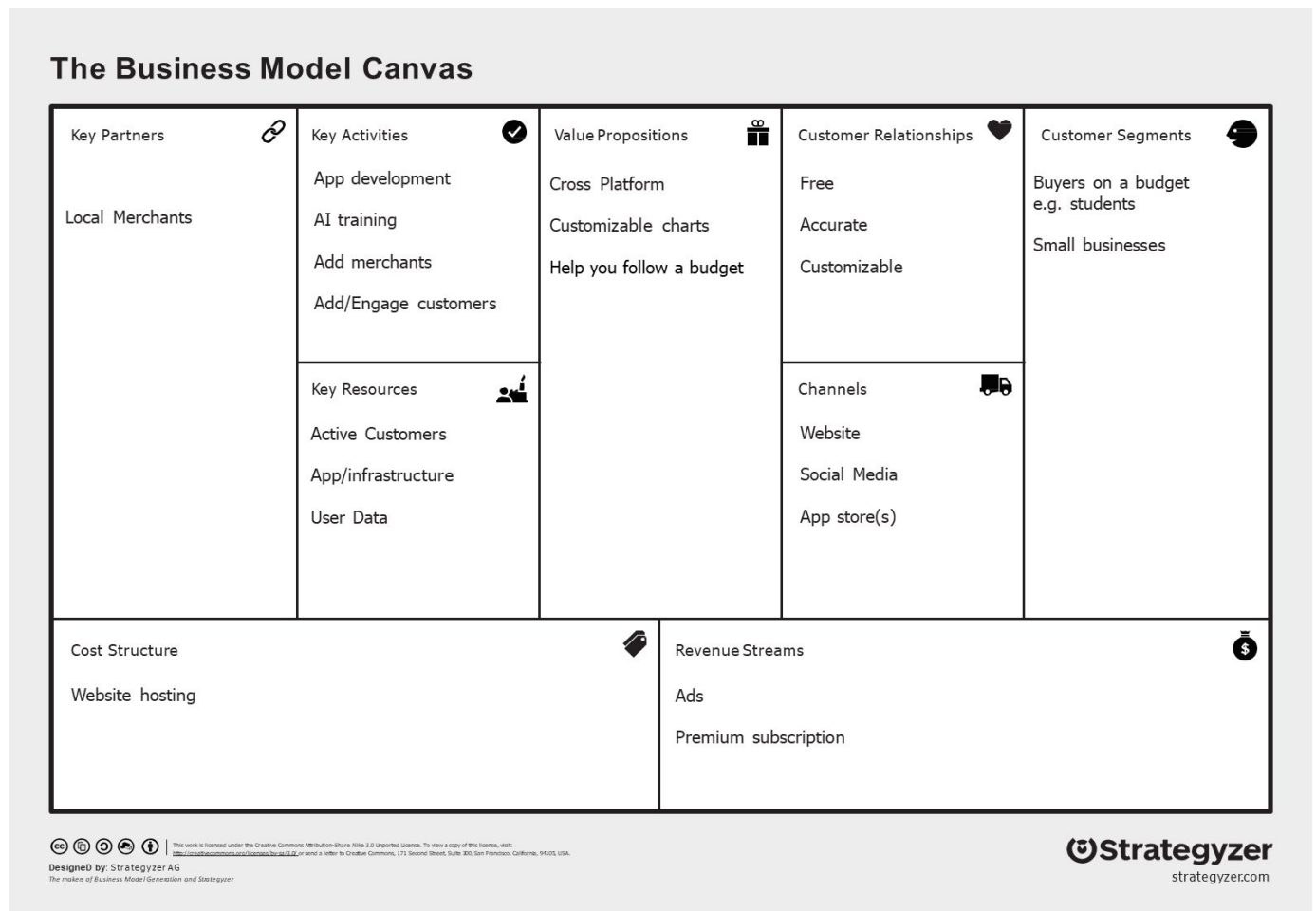| Cost Structure 🏷	Revenue Streams 💰
Website hosting	Ads Premium subscription

Figure 9: Business Model Canvas

Marketing Strategy

The SOSTAC ® marketing model, created by PR Smith, is a popular and widely used model for marketing and business planning. The model offers a logical order for tackling marketing plans, and can be used to assess the processes critically. It is an acronym for Smith's six fundamental facets of marketing: situation analysis, objectives, strategy, tactics, action and control.

Situation Analysis

Company Outline

Recapt is founded in Stockholm by five EIT Innovation and KTH students. With tagline "Capture your expenses", Recapt positioning itself as an easy to use and simple application that helps users follow a budget. The other value propositions are its cross platform and customizable charts. Since it is still in the early stage of startup, Recapt has a lack of brand awareness at this point.

Customer Outline

1. Ordinary users who are interested in tracking their expenses, with age range from early 20 to mid 40 which usually techno savvy people. They live in developing countries and developed countries, with middle income to upper middle income economies.

2. Small businesses who want an affordable digital solution for all of their paper receipts, usually startups and businesses that work in technology.

Competitor Outline

1. Expensify
   Expensify is an expense reporting app that targets both corporate and end clients. Once users photograph receipts, artificial intelligence identifies the merchant, date and amount of the transaction, then automatically categorizes and saves the expense. But it doesn't give itemized details of the purchase. Expensify has a good reputation and brand awareness.

2. Snapcart
   Snapcart is a gamified receipt scanner app that will give cashback in return for grocery/marts and pharmacy stores' receipts. They compete with Recapt with regards to itemized detail technology, not on business solution. It will create user expectation in terms of technology to at least have the same performance as existing apps.

3. Google Sheets/ Microsoft Excel
   They do not directly compete with Recapt, but many people manually input their expenditure on Google Sheets/ Microsoft Excel to track expense history. Not only they have high brand awareness, these two giants are the icons of technology.

<u>Environmental Factors</u>

Economic forces

In developing countries, many people have the need to be able to manage their spending as they face the need to get a better living standard. While most people in developed countries such as Sweden where managing their spending is not a priority, environmental awareness can be a reason to be conscious buyers. However, most of these expense tracking has occurred on paper or Excel sheets. As the pandemic occurred, a weak, slow-growth economy forces trend is expected to continue and most people begin to focus more on the "value" they receive from their spending. The expense tracking application provides more detailed information to help people get this value.

Political forces

There are no expected political influences or events that could affect the operations of Recapt.

Legal and regulatory forces

In recent years, more attention has been paid to GDPR and the security of network and information systems. A large percentage of expense tracking applications is collecting sensitive information both to the users and to business owners. Although Recapt can guarantee to comply with said regulations, the users' trust needs to build and maintain to be able to give a feeling of security when using the application. While new regulation may be introduced to ensure data privacy and security, all the expense tracking applications will naturally have some speed bumps.

Technological forces

A major emerging technological trend involves Artificial Intelligence (AI). AI is a tool that enables a lot of tasks including expense tracking to be able to make it run automatically. As this trend continues, current software-based products may have to be adapted to match the new technology and gain advantages.

Sociocultural forces

In today's society, users have less time for an application that requires user actions such as manual input. The hallmarks of today's successful products are convenience and ease of use. In short, if the product does not save time and is not easy to use, users will simply ignore it. Application-based expense tracking fits this user need quite well. An application-based expense tracking also fits in with other societal trends: a move to a paperless society, the need to automate repetitive tasks, and the growing dependence on mobile phones, for example.

SWOT Analysis

Strengths

- A small size company promotes quick response to users' needs.
- Implemented easy to use UI and itemized data as users' request with competitive pricing.

Weaknesses

- Haven't been established as a reputable expense tracking app (no review on app store yet).
- To operate the business will require funds from either loans or investors.
- At this stage, Recapt depends only on one product.

Opportunities

- The market is huge since there are no geographical boundaries and still growing because not many people use autonomous expense tracking at this time.
- Could maximize partnership with KTH and EIT Digital.

Threats

- Inability to migrate user data from competitors in the same business could discourage users to try a similar application, making conversion from competitor seems impossible.
- Initial poor service or product quality could discourage users from returning.
- Whenever the related regulations are updated, we need to develop solutions that meet the standards.

Objectives

Recapt is in the business of helping people track their expenses. Besides formulating a solution for easy-to-use itemized tracking, Recapt should establish an objective to build brand awareness by having popularity at least the first two pages of searching results when using keywords of competitor's brand, as well as some other top keywords. The more people remember the brand, the more likely they are to directly type it in the search bar. In other words, visit Recapt website proactively.

The major marketing objective is to generate new users and gain a better understanding of their needs and satisfaction through marketing research. Recapt can improve the products it now offers through knowledge of its users' needs and specific opportunities for new product offerings. Recapt also should create new features that can utilize its current equipment, technology, and knowledge base. Since Recapt is a small size company, improving product line and even changing business strategies will be easier to do.

Another objective should be to analyze the paying users to determine if there are ways to keep users paying monthly subscription by offering package prices for several months at a time. Alternatively, paying and repeat users might be willing to join the referral program to get other

clients in return for discounts or added customer services. To accomplish its marketing objectives, Recapt should develop benchmarks to measure progress. Regular reviews of these objectives will provide feedback and possible corrective actions on a timely basis.

Strategy

<u>Marketing Mix</u>

In order to devise strategies and do marketing efficiently, Recapt needs to keep the four P's of marketing mix in mind: product, place, price, and promotion.

Product

Recapt is an expense tracking application of specialty providing itemized data to its users. Recapt's intangible attributes are its ability to hear user feedback, its speed in responding to users' demands, and its anticipation of new user needs. Intangible attributes are difficult for competitors to copy, thereby giving Recapt a competitive advantage.

Place

The application can be downloaded from the app store with the operating system iOS and Android. Monthly subscription can be done directly in the application.

Price

Recapt used an affordable pricing strategy and can vary by region. In addition, Recapt differentiates prices for individuals and enterprises. This is intended to get a high market share from business.

Promotion

We believe this business has seasonal trends in demand and will have peaks in the end of year to new year since people become aware of the importance of expense tracking. Riding the trends, Recapt will focus its promotional in that period of time using advertisement on social media.

<u>Online Marketing Strategy</u>

Most users go online these days to find and/or review new products and/or services to purchase. As such, having the right online marketing strategy can help secure new users and gain competitive advantage.

The four key components to online marketing strategy are as follows:
1. Keyword Strategy: identify what keywords would like to optimize for the website to gain popularity.

2. Search Engine Optimization Strategy: plan ahead updates Recapt will make to the website so it shows up more prominently for top keywords.
3. Paid Online Advertising Strategy: write down the online advertising programs will be used to reach target users.
4. Social Media Strategy: plan ahead how Recapt will use social media websites to attract users.

Conversion Strategy

Conversion strategies refer to the techniques that can be employed to turn prospective users into paying users. Conversion can be boosted by improving sales scripts or increasing social proof (e.g., showing testimonials of past users who were satisfied with Recapt).

Referral Strategy

A strong user referral program could revolutionize success. For example, if every one of the users referred one new user, the user base would constantly grow. However, such growth will rarely be achieved unless Recapt have a formalized referral strategy. For example, determining the best time to ask users for referrals and what will be/ how much the reward for the users.

Retention Strategy

Retention strategies refer to techniques that invest in getting existing paying users to subscribe more often or becoming repeat users. By using retention strategies such as a monthly newsletter or user loyalty program, Recapt can increase revenues and profits by getting users to subscribe more frequently over time.

Tactics

Values Matrix

A values matrix helps prioritize all the tactics that have come up with when measuring the strategies on it. Essentially, it helps choose the tactics that have the highest business value and take the least amount of resources to implement.
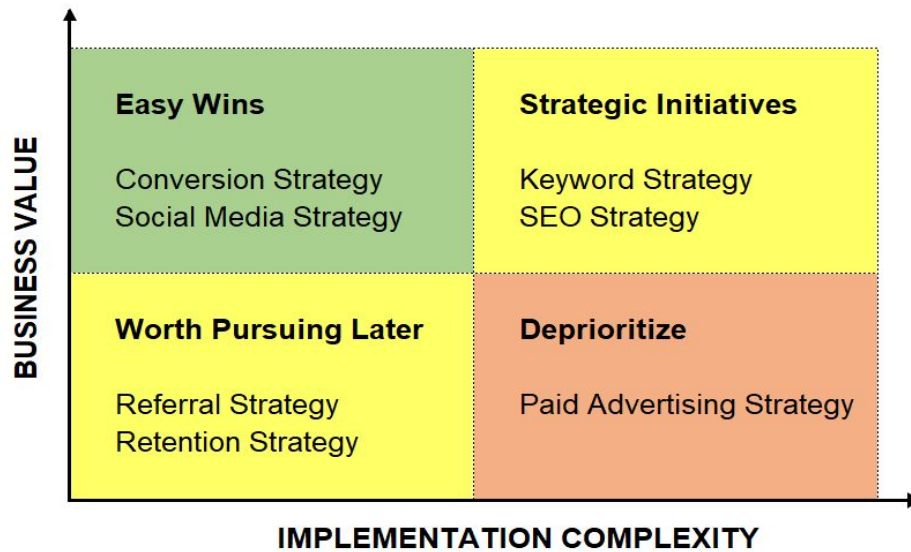
Figure 10: Values Matrix

Business "value" depends on strategic objectives while implementation "complexity" encompasses the time it takes to implement, internal resources needed, and design costs.

- High-value, low-complexity: "Easy wins" that should be considered for a plan.
- High-value, high-complexity: Larger strategic initiatives that require effort and time but pay enormous dividends.
- Low-value, low-complexity: Might or might not be worth the time. Revisit these features later or brainstorm ways to make them of higher value.
- Low-value, high-complexity: Items that should be deprioritized.

Marketing Plan

Tactics explain how to implement the strategy. In this marketing plan we will schedule the better alternatives to implement than others at achieving strategy goals based on the values matrix.

Marketing Channel	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
Website	X		X		X		X	
Blogging	X		X		X		X	
Social media		X		X		X		X
Monthly newsletter		X	X	X	X	X	X	X
Referral program					X	X	X	X
Christmas campaign					X	X		
New year resolution campaign							X	X

Figure 11: Marketing Plan

<u>Budget</u>

The total budget for the referral program, christmas campaign, new year resolution campaign, and the user survey will be equal to 80 percent of the annual promotional budget for the coming year.

The breakdown of the budget within the project will be a 20 percent allocation to the referral program, a 30 percent allocation to christmas campaign, a 30 percent allocation to new year resolution campaign, and a 20 percent allocation to new feature/ product line development based on user survey.

Action

<u>Website</u>

Website is part of keyword strategy and SEO strategy. This tactic will allow two marketing objectives to achieve, build a brand awareness by increasing traffic and generate more paying users. Certain keywords have more impact on those objectives than others. For Recapt, it makes sense to focus on both product and niche keywords. Initially, Recapt has to create keyword lists then prioritize each list of keywords according to importance for achieving objectives. Elseway, Recapt can analyze the average monthly searches, competition, and difficulty, and choose the ones that will be easiest to rank.

To run this tactic efficiently, use the chosen keywords in the website's content by putting these in page title, meta description, URL, headline, image name, and at least a few times in the body copy (including in subheadlines). The keywords don't necessarily need to be in the exact order. Besides, Recapt needs to build internal links. Internal linking is supposed to help search engines cruise around the website. This is an opportunity to focus on prospective users and direct them from new posts to some of the best content we've ever published.

<u>Blogging</u>

Creating content would be hard with limited man-hours. Recapt could overcome this limitation in several ways including content curation and guest bloggers. Content curation means gathering the most interesting posts on the subject or industry from other sources and adding commentary or insight and putting them into a blog post. Make sure to always give credit to the original source. Besides, we can ask guest writers by sending them a message to see if they're interested in writing on our blog. These approaches will ease our workload. Blogging tactics will be carried out in conjunction with website tactics, which will complement each other in presenting high value contents.

Social media

After having a clear idea of what is already on the website or blog, the next most fundamental step is to determine which channels to create fresh content for. With so many different platforms available, Recapt decided to focus only on one channel, Facebook page, because it can deliver the most impact for the business and that we have time to comfortably invest in.

To get more engagement rate, Recapt will focus to share infographics and interactive contents on social media. Infographics are incredibly engaging. It uses the power of visually appealing content to trick the brain into reading. According to one survey, the data in infographics have more virality than presentations and documents. Meanwhile, interactive content normally refers to content which responds to the user's actions such as quiz, moving image, animation, video, audio, or games.

Monthly newsletter

To save time building e-newsletters, Recapt can repurposing blog and social media content. Because of this nature, the first newsletter can only be delivered a month after the first blog content posted. Additionally, Recapt can provide a rich user experience by asking any user's stories to be featured in the next issue of the newsletter. It also provides a higher engagement rate. Moreover, a monthly newsletter can also be used as an invitation to user surveys to know better users' needs and specific opportunities for new product offerings.

Referral program

Referral program is intended for paying users and repeat users to get an offer on subscription fees if they succeed in getting prospective users to be able to subscribe. New users will also get the same benefit if using the referral code given by existing users. The program is carried out in conjunction with Recapt's campaigns to maximize the effect of user's conversions.

Christmas campaign

This campaign aims to increase brand recognition and get new users by utilizing the momentum where people use large funds to be able to give gifts. The campaign is carried out by making new promotional videos that emphasize financial planning and paid advertisement on social media.

New year resolution campaign

This campaign aims to increase brand recognition and get new users by utilizing the momentum where many people have a new year's resolution to have more control in their expenses. The campaign is carried out by making new promotional videos that emphasize capturing the expenses and paid advertisement on social media.

Control

<u>Performance Standards and Financial Controls</u>

A comparison of the financial expenditures with the plan goals will be included in the project report. The following performance standards and financial controls are suggested:

1. Each project team is responsible for reporting all financial expenditures, including direct expenses, for their segment of the project. A standardized reporting form will be developed and provided by the marketing director.
2. The marketing director is responsible for adherence to the project budget and will report overages to the company president on a biweekly basis. The marketing director also is responsible for any redirection of budget spending.
3. The Christmas campaign and new year resolution campaign will be evaluated two months after launch to determine its profitability.

<u>Monitoring Procedures</u>

To analyze the effectiveness of Recapt's marketing plan, it is necessary to compare its actual performance with plan objectives. To facilitate this analysis, monitoring procedures should be developed for the various activities required to bring the marketing plan to fruition. These procedures include, but are not limited to, the following:

1. A project management concept will be used to evaluate the implementation of the marketing plan by establishing time requirements, human resource needs, and financial or budgetary expenditures.
2. A perpetual comparison of actual and planned activities will be conducted on a monthly basis. The business analysis team, including the marketing director, will report their comparison of actual and planned outcomes directly to the company president.
3. Each project team is responsible for determining what changes must be made in procedures, product focus, or operations as a result of the studies conducted in its area.

How will this venture continue?

Time Investment

The venture will need six months to check the viability of the company and six more months to deliver all planned products. Out of all the surveys that have been done before, we still need one more survey to tune in and add extra milestones in the MVP version of our product. The development of this market-ready app is estimated to be done in mid July and ready to install by users in the marketplace. We will conduct an evaluation in September, two months after release, to learn what features can be developed in order to establish a new product, enterprise edition. Meanwhile, we will have startup tours to pitch our product from July to November and expect to get first funding in November as required to run our planned activities.

From mid November to the end of February, the venture will run massive marketing campaigns in order to grow its customer base and have active communication with the community. Along with that, we plan to develop enterprise versions from November to April, then start marketing this product to the companies in May. Meanwhile, another team will focus on store partnership from November to May.

Considering that three out of five founders of the venture will leave Sweden from the next upcoming academic semester, the division of work and even the continuity of the venture will be hard. In case of any founder leaving the venture, we will need to find its substitute so the plan is still up and running.

Upcoming Activities and Expected outcomes

In order for this venture to continue to grow, we need to keep working on it. There are a number of activities planned for the next period that will help grow our customer base and solidify our position in the market. The next table summarizes the most important of these activities.

Activity	Description	Expected Outcome
Marketing	follow up with the plan outlines in the marketing strategy section in this report.	Increase brand awareness and onboard new customers and reach 10K users by the end of the planned marketing campaign.
Enterprise Edition	Expand our current solution offering and introduce an Enterprise edition of our product. This edition will allow for more customization and integration with other accounting software.	Increase revenues as the enterprise customers can be charged at a higher price point than end user customers.
Store Partnership	Reach partnership agreements with some of the big supermarket	Improve receipt parsing accuracy for the partner stores and allow

	chains in sweden (e.g. ICA, Lidl, etc.)	extraction for richer metadata and increase brand trust by being associated by an established name in the market.

Uncertainty in times of the COVID-19 virus

Entrepreneurs have been greatly affected by the coronavirus pandemic. One might say that the current situation is the ultimate entrepreneurial test as this ordeal has forced many businesses to continuously adapt in order to survive.

The coronavirus pandemic has affected a number of areas and activities. For starters, working and interacting with customers in person is no longer an option. This means it is no longer possible to go to a busy train station to conduct a live customer survey.

Furthermore, As everyone has been hit economically, many businesses are laying off personnel or cutting unnecessary expenditure, hence, it becomes more challenging to sell to companies because you have to convince them that this will have a direct measurable positive effect on the bottom line.

However, as more people are practicing social distancing and there is a growing fear of travelling and human contact, it gives a fertile ground for startups that will provide virtual alternatives to everyday activities. For instance, the current pandemic has catalyzed the growth of many ecommerce websites.

For a startup to survive the current situation it needs to understand three things:

(1) first, a startup needs to do a thorough review of all expenses where any non essential expenses must be cut in order to provide the longest runway.

(2) This crisis is an opportunity to be more innovative and calls for more creative problem solving which is at the core of the entrepreneurial spirit.

(3) This crisis is causing a technology push where more things are going digital (e.g. education, governments, etc.), a startup needs to more quickly and take advantage of this transformation to have a competitive advantage over its competitors.

On a positive note, no crisis can last forever and It should be noted that entrepreneurs are fighters by nature, they are resilient when faced with great odds.

Conclusion

There is a general need for a simple way for detailed expense tracking among users on a budget. An app that uses advances in OCR based deep learning can help meet the needs of the user base. These are a multitude of benefits for using such apps; users can visualize their expenses by category or set budget alerts for certain items. Furthermore, this app could also help compare prices across different stores.

The solution was developed as a smartphone app because smartphones have become ubiquitous in today's world which lowers the barrier to entry for new customers. In addition, using the camera as the main method of input provides an easy to use, simple user experience. The developed prototype has a substantial potential to be further developed to incorporate different types of receipts and other types of customers (e.g. small businesses) beyond end-users.