SecretAIry

Design Innovation Strategies

DAM120

Lecturers:

Ya-liang Chuang & Jim Steenbakker

Team AI-B

Students:

Lars Hak - 1234489

Martijn Peeters - 1261843

Joris Raaphorst -1685368

Philip van Veelen 1639595

TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

EXECUTIVE SUMMARY

There has been a surge in the number of software programs that use artificial intelligence (AI) to assist users with a variety of tasks in recent years. These programs are intended to simplify users' lives by automating operations that would otherwise be performed manually.

Even though Canvas is a primary source of course information, according to the results shown in Appendix 5, only 10% of students believe Canvas is a great way to help organize courses and projects, implying that Canvas is insufficient for most students' organizational needs.

Students' tedious chores are scattered across many platforms. By automating operations and making information easily available, they can save time and effort that can be spent on learning activities.

AI can be a useful tool for students to employ to assist them navigate academic software more quickly. AI can help students save time and stay organized by automating their notes, agenda, task list, and document access. 80 % of educators and 60 % of students believe our application to be a viable solution to manage their data in an educational setting. (Appendix 5 & 6)

That's why we created SecretAIry, a clever plug-in for learning management systems like Canvas. Our purpose is to reduce the stress that students face.

A business model canvas was made based on comments (Appendix 4, SecretAIry platform validation) about how navigating LMS can be a time-consuming and unpleasant experience (Figure 1: Final Business model canvas) to ideate a viable business model. This business model is the foundation upon which our concept is built. We then produced a demonstrator version of the application.

The benefits of using SecretAIry include the ability for students to upload meeting notes or enter what information needs to be stored with the click of a button. The barrier to switch between separate applications can be eliminated by making Canvas's existing platform more optimized and user-friendly.

It will extract the relevant information and place it in a tab with parameters such as time, course, and duration using natural language processing (NLP) (Mordor Intelligence, n.d.) based on the template the text most closely resembles. The initial templates will be Agenda items, To-do's and notes, however, there is potential to add custom templates, such as recipes, quota's, contacts or shopping lists.

The following is our business model: We will sell a license to Eindhoven University of Technology so that they can rent out our software to their students. Since students have no interest in paying for our services but have a need for them, our revenue will come from academic institutions. The university's statistics will increase if student and instructor efficiency is improved. The business model canvas expands upon this concept (Figure 1).
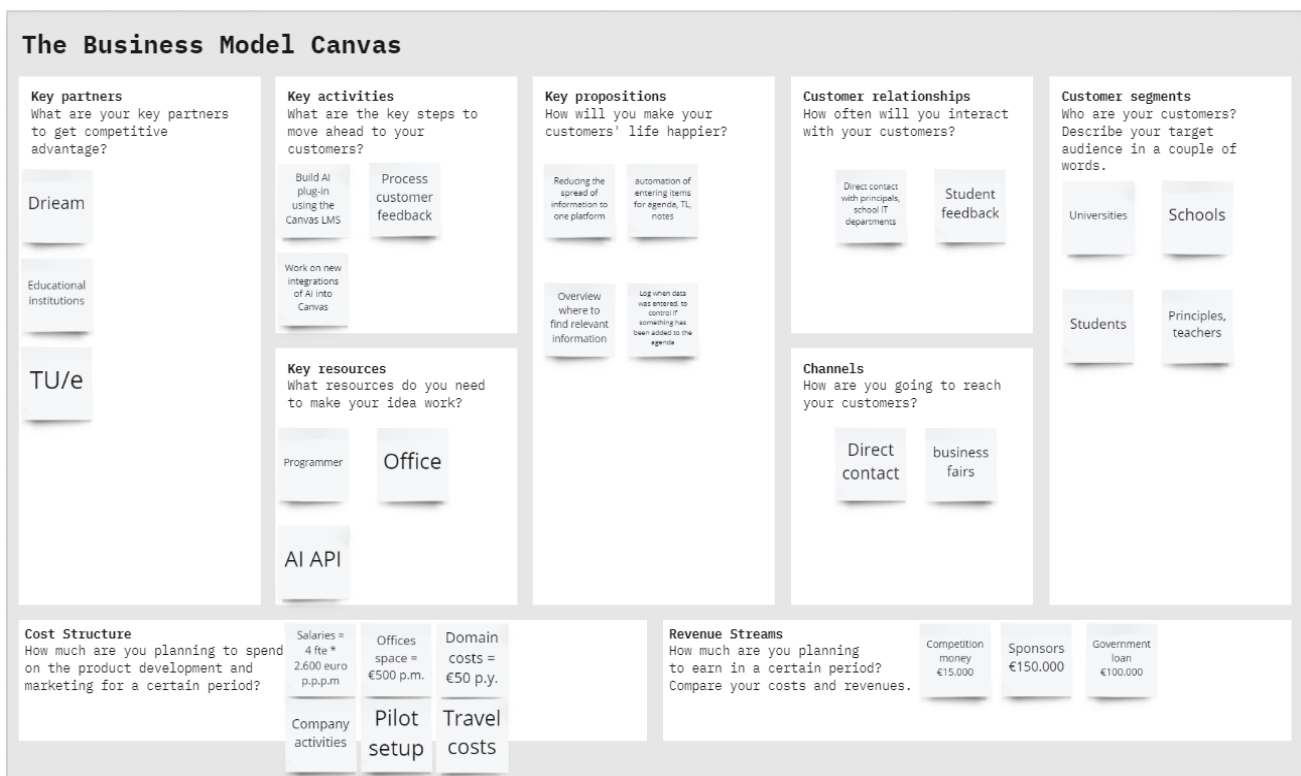

FIGURE 1: FINAL BUSINESS MODEL CANVAS

Around 70% of the TU/e students that are willing to use or test the product initially based on our questionnaire with a demonstration video, however, by spreading to other institutions than the TU/e and migrating to other platforms, the market size can be increased.

In Figure 2 the value flowchart of our business-to-business-to-consumer model is presented, containing the marketing, revenue and customer benefits, which will be expanded upon in the corresponding chapters.

When the market of educational institutions is saturated, there is potential to pivot into the professional market. Plug-ins can be embedded using HTML, making a business using this type of embedding highly flexible.

Based on the Expert interview with Gert Guri (Coordinator Education on Entrepreneurial Learning at Eindhoven University of Technology) (Appendix 10) the decision was made to take the needs of students and shift them towards the needs of universities, since they are the decision maker in the purchasing process. By quantifying effectiveness and using direct sales we will sell our product, but using bottom-up pressure from students, student unions and departments, schools will have increased motivation to make use of our application.

After the minimal viable prototype is complete, it will be deployed in our hub network. After gathering feedback, a prototype will be created.

Student teams would make highly successful ambassadors of our product and act as a validation or referral of the implementation of our product. That is why we will reach out to student teams, and enable them as early adaptors of our prototype.
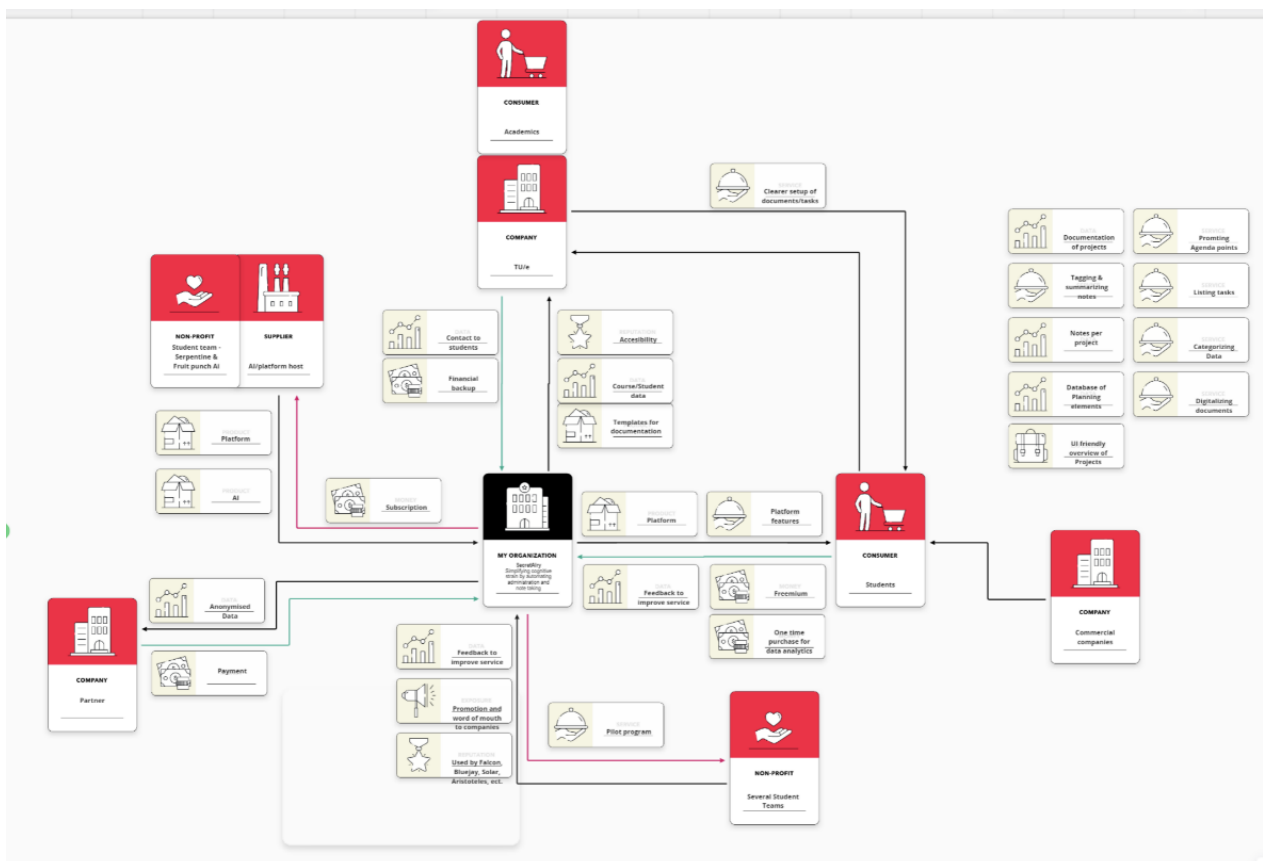

FIGURE 2: VALUE FLOWCHART

PROBLEM DESCRIPTION
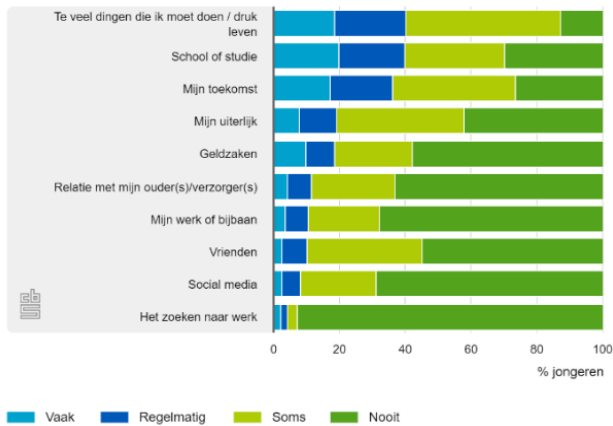
3.1.1 Stressoren voor jongeren, 2021

FIGURE 3: CBS STATISTICS ON STRESS (KLOOSTERMAN, 2021)

According to the student organization ISO, 53% of students experience burn-out symptoms. (Het Interstedelijk Studenten Overleg, n.d.) As shown in Figure 3, which indicates different causes of stress among young people, the stress which leads to these burn-out symptoms is caused by a busy life combined with their study. Students studying at higher education levels like HBO and university form the group that experiences the most amount of stress. They are tasked with a large amount of work combined with performance pressure causes   stress. Based on these statistics there is clearly space need for support of students, in which AI technology could play a part.

The goal of the product is to reduce the stress experienced by students. To be able to find a solution which will reduce the stress, the pains of the students were investigated more in detail. From interactions with students, it became clear that students are trying to organize their study and their life around it with a high number of apps and other sources (interview week 5, question 5). The incentive to reduce the number of different sources is high. Over 65% of the students want a platform where all information related to their study and life is organized in a logical and accessible way.

At the TU/e, Canvas is used to communicate course and project information from lecturers to students. Canvas is a widely used Learning Management System (LMS) where information about projects and courses are present. Although Canvas is such a main source for course information, according to the results shown in Appendix 5 (Interview desirability testing question 12), only 10% of the students think Canvas is a great way to help organizing courses and projects, which introduces the pain that Canvas is not sufficient to most of the students to fulfil their organizing needs.

It is investigated what AI driven processes will improve on the efficiency of organizing information. Besides trying to study the information provided via canvas or taking meeting notes of different projects, students are organizing information by processing it themselves to create their to-do lists or to update agenda points. Students tend to have found their own way of organizing their to-do's and/or meeting notes. However, if there would be a software which would help organizing this information, around 45% of the students are willing to use it (Interview desirability testing questions 5 and 11).

These mundane tasks that students perform are divided over different resources (digital and physical). Which means that there is a lot of time to be saved which can be used for studying. We approach initially consists of students from the TU/e who use Canvas. But Canvas has even more users to target. It has 30 million users worldwide over 4000 institutes. (Wikipedia contributors, 2022) Among these 30 million users there are 13 thousand students on the TU/e provided with canvas as an LMS (Eindhoven University of Technology, 2021),

Before expanding to other institutions as the TU/e the market size can be around 70% of the students on the TU/e, since they are willing to use or explore the product. Coming from the results shown in Appendix 5 (Interview desirability testing question 13) There is a split in customer segment between the buyer and the user. Students are not willing to pay for an extra service for Canvas while also having to pay tuition fees. This results in that the buyer of the product will be the institution who is providing the LMS to the students.

VALUE PROPOSITION

Based on the feedback (Appendix 5) on how navigating LMS can be a time-consuming and unpleasant experience, we created a test version of the application. SecretAIry is an educational interface that streamlines the process of navigating an LMS and helps students organize. It uses Canvas and improves the user experience by integrating AI. It contains agenda items, meeting notes, to-do lists, and can be expanded with templates.

The advantages of using SecretAIry are that students can upload meeting notes or type what information needs to be stored by the press of a button. Then, basic Intelligent document processing (IDP) (PR Newswire, 2022) enables the system to differentiate tasks/to-do items, notes, and meetings to be planned, purely from text. This leads to a smaller workload on students, and less time required to enter, store, and find files, since the items can be found in their corresponding tabs.

By making the existing platform of Canvas more streamlined and easier to use, the need to switch between different applications can be eliminated. Making a platform more centralized means students have a minimised risk of missing information, do not have to browse multiple user interfaces, and will have to spend less time on tasks that do not directly contribute to the learning experiences. 80% of educators and 60% of students believe our application to be a viable

solution to manage their data in an educational setting. (Appendix 5 & 6)

From an expert interview with Headmaster Gert Guri (appendix 10) it can be concluded that teachers are not willing to adopt a recent technology that has a steep learning curve, since most current teachers are not from a digitally native generation. By automating tasks, the teachers should have fewer problems with the LMS, making it an appealing alternative.

Further, to be charging schools for a user license to use the plug-in, it is essential to prove the validity of the plug-in. We will do this by measuring improvements of students. This way, educational institutions are incentivized to purchase such a license.

Since drop-out rates and teacher retention are important metrics to evaluate departments (De Witte & Cabus, 2013), student and teacher burn-out symptoms are not primarily in the university's best interest. After validating a pilot, the measured improvement for students can be used to validate SecretAIry towards clients.

Although the online platform is not the only contribution to stress within education, the idea of combining an LMS with an IDP AI is a new idea that directly tackles a specific problem within the educational system to relieve an unresolved pain for multiple stakeholders.

CONCEPT DESCRIPTION

SecretAIry can be found in the Canvas user interface as an icon (Figure 4: A screenshot of the SecretAIry user interface). When clicking on it, a new side menu pops up. This is where the upload, agenda, to-do list, notes and log are stored.
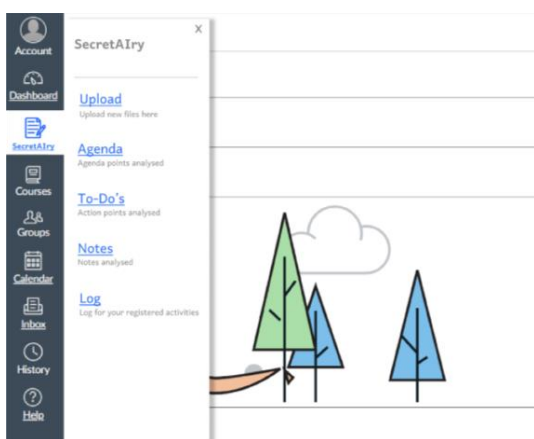

FIGURE 4: A SCREENSHOT OF THE SECRETAIRY USER INTERFACE

Firstly, By making the existing platform of Canvas more streamlined and easier to use, the need to switch between different applications can be eliminated. (Figure 5: Text upload page). Using natural language processing (NLP) (Mordor Intelligence, n.d.), it will extract the necessary information and place it in the correct corresponding tab

with parameters such as time, course, and duration. Please note: the photo feature is included in the menu, since using image processing to use paper notes is something that is planned later in SecretAIry's development.
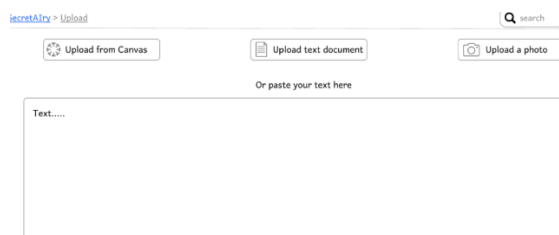

FIGURE 5: TEXT UPLOAD PAGE

Next, a pop-up window will notify the user of the items that will be added (Figure 6: Pop-up window of the UI). This gives the user the chance to check if the information is processed correctly, and the possibility to adjust the added items. This is added since AI can make errors in its understanding of the information, or when the user made a mistake in the submitted text. To avoid frustration, the user can intervene with the system.
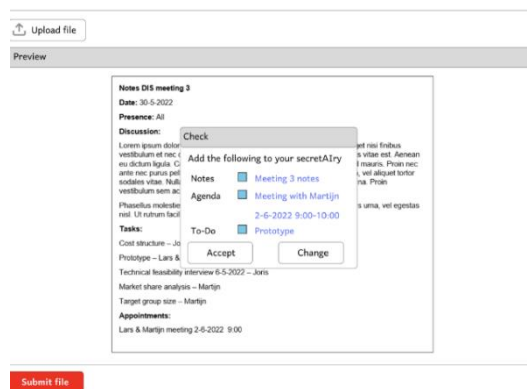

FIGURE 6: POP-UP WINDOW OF THE UI

Finally, Agenda points, Calendar items, to-dos, and notes can be accessed using the corresponding tabs. In Log, the original submission and processing can be seen. In Figure 7: Example of a to-do list, an example can be seen of a to-do list.
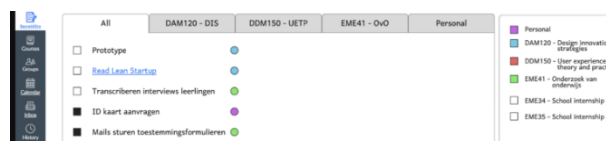

FIGURE 7: EXAMPLE OF A TO-DO LIST

COMPETITION LANDSCAPE

Market size reports and trend analysis on the 4 key AI technologies revealed that the market is estimated to quadruple within the next decade. It appears the competitors maintain a diverse portfolio of targeted industries; this is probably due to rapid recent developments in technology and the versatility of the technologies nature.

Optical Character Recognition
OCR market – 8.39Bn US$ in 2021
OCR growth – 33.4Bn US$ in 2030

Intelligent Document Processing
IDP market – 860Ml US$ in 2020
IDP growth– 4.15Bn US$ in 2026

Robotic Process Automation
RPA market – 1.89Bn US$ in 2021
RPA growth – 30.9Bn US$ in 2030

Natural Language Processing
NLP market – 10.7Bn US$ in 2020
NLP growth – 48.5BnUS$ in 2026
Therefore, the competition landscape is segmented by the adoption of these technologies, to understand the competition's capabilities and potential. Next to this, a divide was made to reveal the offerings of the competition, revealing a strong focus on the B2B market and a lack of B2C offerings.

Considering SecretAIry's targeted sector, evidence of only one competitor was found that also is targeting the educational sector with AI technology. Hyland has developed their 'Brainware' software, which is offered for office, healthcare, higher education, and banking appliances. It's current use in education is supporting educators in transcript processing and transfer credit evaluation. Hylands portfolio consists of a large array of software solutions for many sectors, has 4,1K employees, and had a revenue of 492,7M$ in 2021. (Hyland, n.d.)

It is our vision to make the powerful technology of AI accessible for many, the competition landscape shows us that many of the powerful AI technologies are out of reach of the everyday consumer. Therefore, it offers an opportunity to enter the market without many direct competitors, enabling SecretAIry to empower students with the technology that will drive the 4th industrial revolution (Sorensen, 2021). We aim to become one of the frontrunners in this revolution, ensuring broad accessibility, minimizing the gap between big corporations and small businesses.
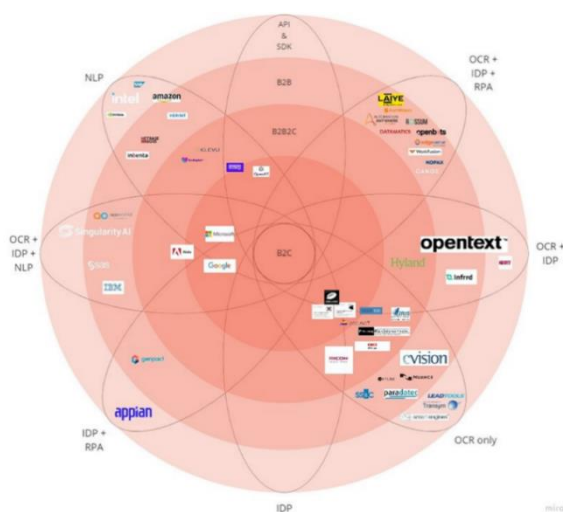

FIGURE 8: COMPETITION LANDSCAPE

BUSINESS STRATEGY

As can be seen in Figure 9: Timeline for the next two years, we have a plan ready for the company. These years will focus on setting up the company, proving the effectiveness of our concept to other parties, gathering funds, and developing the first complete version of our product.
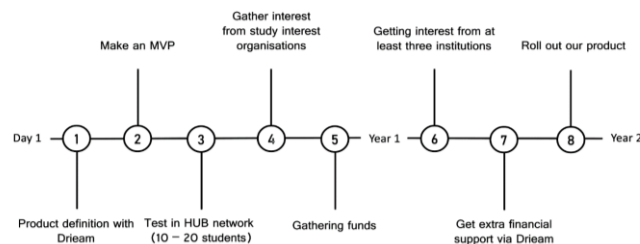

FIGURE 9: TIMELINE FOR THE NEXT TWO YEARS

PRODUCT DEFINITION WITH DRIEAM
DAY 1

We held an interview with the company Drieam (Appendix 8). Drieam makes interfaces for Canvas that a lot of institutions in the BeNeLux, UK, Scandinavia and the US use. They created the Canvas interface that the TU/e uses and which we used for our concept while testing at the TU/e.

Drieam also makes new features in addition to their interface, such as the portfolio (Drieam, 2022). SecretAIry would be such a feature in addition to the interface. Since they know how to develop and sell such a feature, their help is important.

They noted that they don't invest in new features at this moment, since they are further developing the features that they already have. Therefore, we will not gather funds directly from them. However, they are willing to help us with our own path to developing a new feature for Canvas. Our first step would be to sit together with Drieam to make a product definition and product plan that fits our vision and is still reachable. To be coached by Drieam will help us in the long run. When we gather enough interest and have funding already, they would reconsider working with us further, also financially.

MAKE AN MVP
DAY 1-100

After talking to Drieam, we will start making an MVP. We need this MVP to test our product and prove it is useful to students. This MVP is critical for our value proposition towards other parties.

Developing the MVP will mostly be done by the original team of four people. We will ask help with the development via Serpentine (Serpentine AI, n.d.) (Appendix 9). They are a student team focused on the use of AI. They can support us with knowledge, trouble shooting and offer a AI training server which can be used for development. We also hope to come across students that are talented and would want to

join our company later on, when we have the financial support to hire new employees.

TESTING IN A HUB NETWORK
DAY 100-180

Testing the MVP will be done with students within the TU/e. Based on the feedback of the tests, we will change the design of our MVP to something that suits the students even more.

After altering our product, we will test the effectiveness of our product by calculating satisfaction and work effectiveness via standardized tests. We can use these outcomes to get back-up from student interest organisations.

GATHER INTEREST FROM STUDENT INTEREST ORGANISATIONS
DAY 180-250

Student interest organisations are meant to listen to students and their needs and interact with institutions to represent their best interest. This means they are a great way to get the attention of institutions. Doing this bottom-up is more logical, considering that SecretAIry is a student-focused product.

Our goal is to get in contact with these student organisations, show our product, and convince them of the need students have for our product. Likely, a lot of them will support us in our journey and find ways to get us into these institutions in a practical way, functioning as our ambassadors.

GATHERING FUNDS
DAY 180-365

Funds will be gathered after testing and gathering interest from the student organisations. We will get funds from different parties. This is explained in the financial plan.

GETTING INTEREST FROM THREE INSTITUTIONS
DAY 200-550

While developing our product further, our next goal is to get three different institutions to have an interest in our product. This will be done mainly via the student interest organisations. We hope to get in contact with at least six different institutions of which three are willing to buy/rent our product.

EXTRA FINANCIAL SUPPORT FROM DRIEAM
DAY 500-630

Integrating our product with Drieam's interface would mean a lot of collaboration with Drieam as a company. Since we want to work together with Drieam to get this product perfect for these institutions, we will have to come to an agreement. We expect to share our income from these institutions with Drieam in exchange for direct financial support.

This can only be done after we have three institutions ready to buy our product, since Drieam does not want to take any unnecessary financial risks with new features. And they only receive a small fee per feature, per student, per year, which means that we need a lot of students for the product to be viable.

DEPLOYMENT OF OUR PRODUCT
DAY 630-730

In the last 100 days of these two years, we want to get ready for the deployment of our product. At this point, we have been working half a year with an MVP and the rest of the time on the first version of our real product.

FINANCIAL PLAN

In this financial plan, we will shed a light on our costs and earnings in the first two years. Since we are a software company, most of our costs will be in salaries. This will have a significant impact on our start-up. We will make use of our own time and energy and, student workers and sometimes specialists.

We will not be at that point right away. We're starting the company with no substantial proof that institutions would buy our product. Which means that we'll have to get through making an MVP and testing it to get data for our future investors.

We'll do the development of the MVP on our own at first, with some help from Serpentine. Which means that we will have no salary costs in the first half year, since we're not giving ourselves salaries in this period. Keeping the company small at first, will have a lot of impact on the costs for the first half year.

COST ITEMS

To start a company, we'll need to pay foundation costs. This will range from €100,- to €1000,- depending on the complexity of the situation (Ondernemen & Internet, 2022). We will keep this estimation at €1000,- to keep security in our financial plan.

We're planning to have our employees fill 160 hours per week of activities. These 160 hours could be defined as 4 fte (full time equivalent), but will be divided into more employees working part-time. The average salary for these employees is defined at €2000,- per month for the first two years of the company. This would be an average of €11,49 iper hour. For the costs of these employees, we estimate €2.600 per month, per fte, since there are estimated costs of 30% on top of the salary (Tentoo, 2022).

For office spaces we estimate for 6 people to be able to work at the office, while the rest is working from home, without any storage space. We expect to pay €500,- per month for the first two years of the company.

We will have to furniture the office with desks and chairs. Assuming we can get old ones at a discount rate from the

TU/e or another institution, we'll have to pay €1000,- in total. This estimation includes desks, chairs, plants and a meeting table.

Communication costs will be set based on T-Mobile `personal deals (T-Mobile, n.d.). This will cost us €32,50 for the first 6 months and €52,50 for every month after that. So averaged on 1.5 years, that will be €45,83 per month.

Domain costs and web hosting will be based on Strato.nl (Strato, n.d.). The costs for the advanced hosting package, for a maximum of 10 people with access, are €11 for the first half year, whereafter it will cost €10 per month.

As we are a software company, we'll need to use some tools to make working easier. We are planning to use GitHub (GitHub, n.d.), Slack (Slack, n.d.), Google Meet (Google, n.d.) and HubSpot (HubSpot, Inc., n.d.). Except for Github, we will use the free versions of the other software in the beginning. For GitHub, we will go with GitHub Teams, which will cost us an average of €43,63/user/year. We assume to use it with 5 users.

Travel costs are not defined, but we estimate to travel to different institutions that are an average of 100 km away. With €0,18/km, this would cost €18,- one way. So that's €36,- for a meeting. We estimate to visit at least 6 institutions twice, which brings us at €432,- for visits.

For setting up our pilot tests, the costs are difficult to estimate beforehand. Moreover, most of these costs are covered by the salaries. It could be a possibility that we have to rent rooms, equipment and software to test our product. We will estimate these costs at €1000,- in total.

CALCULATED COSTS

In the first half year, we don't need many facilities, since we'll be working with the resources at hand, we can get GitHub via the TU/e for free as students, and on top of this, we will not travel often. This means we have the calculation of costs for the first half year in Figure 10: Costs first half year.

Topic	Occurance	Times	Costs		Total costs	
Domain costs	Once	1	€	11.00	€	11.00
Travel costs	Per trip (round)	2	€	36.00	€	72.00
Pilot tests	Total	1	€	1,000.00	€	1,000.00
				Total costs	€	1,083.00

FIGURE 10: COSTS FIRST HALF YEAR

For the 1,5 years after that, we will position ourselves as an autonomous start-up, the following costs have been estimated in Figure 11: Costs after first half year.

Topic	Occurance	Times	Costs		Total costs	
Foundation costs	Start-up	1	€	1,000.00	€	1,000.00
Salary	Monthly/fte	72	€	2,600.00	€	187,200.00
Office space	Monthly	18	€	500.00	€	9,000.00
Office space furniture	Start-up	1	€	1,000.00	€	1,000.00
Communication costs	Monthly	18	€	45.83	€	824.94
Domain costs	Monthly	18	€	10.00	€	180.00
Software	Yearly	10	€	43.63	€	436.30
Travel costs	Per trip (round)	10	€	36.00	€	360.00
				Total costs	€	200,001.24

FIGURE 11: COSTS AFTER FIRST HALF YEAR

INCOME

In the first half year, we will make use of our own resources. Which means we will invest the starting €1.083 ourselves. This is an investment of €270,75 per person, returned after making a profit.

After testing our MVP, we will try to gather funding from competitions. We will compete in the TU/e Contest and other competitions. Moreover, we will pitch at events such as Drinks, Pitches & Demo's on the High Tech campus to gather more interested parties. We expect to gather €10.000 from competitions which will be money that we can freely use.

Next to this, we will gather funds from the Vroegefasefonds, which is a financial back-up for start-ups from the government. We will expect to get €100.000 with a solid financial plan for the long-term. This is a loan with a 4.7% interest per year.

Finally, when our company gets attention from the TU/e as institution, we will approach them for fundings. Not only as a TU/e start-up, but a company that can help the TU/e themselves. We hope to get €100.000 for developing the feature. This will also be a loan, for which we will estimate the interest at 4.7% per year too.

In total, this would bring us €210.000 to cover our costs for the first two years. With €201.084,25 for costs in our estimation, we expect our incoming financial support to cover our costs.

MARKETING PLAN

GET

To acquire universities as direct customers, we will use a combination of direct sales and business fairs. Our sales team will reach out to universities and pitch our product. We will also participate in business fairs that cater to university administrators and staff.

In terms of our strategy, we will first identify the key decision makers at universities. This could be the head of the IT department, the head of the purchasing department, or anyone else who has influence over the university's budget for software.

Once we have identified these key decision makers, we will reach out to them directly and pitch our product. We believe that a combination of direct sales and business fairs will be the most effective way to acquire universities as direct customers.

KEEP

First and foremost, it is important that we have a system in place for outreach programs. This could include sending emails, making phone calls, or even holding events on campus. It is important to stay in touch with our university

customers and let them know about any new products or services that we have to offer.

In addition to outreach programs, we should also make sure to collect customer feedback. This can be done through surveys, focus groups, or even one-on-one interviews. It is important to listen to what our customers have to say and make changes accordingly.

Finally, it is important to keep our university customers up to date on any changes or updates to our application. This could include sending out newsletters, updating our website, or even sending out social media updates. By keeping our customers in the loop, we will show that we are committed to providing them with the best possible experience.

GROW

Referrals and cross-sales are two important ways that we can continue to grow our business via universities as customers. By leveraging our existing relationships with universities, we can generate new leads and customers through referrals. Additionally, we can identify opportunities to cross-sell our products and services to existing university customers.

FIRST MOVER ADVANTAGE

Our company has a first mover advantage because of our blue ocean strategy. No-one has yet built an A.I. application specifically for educational task managing. This gives us a competitive advantage because we can build the first mover advantage into our product. We can also define the market and establish our brand before anyone else does. We continue to develop and improve our product. The customer base will be crucial in helping us to scale up our operations and grow our business.

STICKY GROWTH

Universities are large and complex organizations, with many stakeholders who need to be considered when making changes. Universities are often slow to adopt new technologies, because they need to be sure that the new platform will be able to handle all of their data and meet all of their needs. Finally, universities often have legacy systems in place that are difficult to replace.

All of these factors make it difficult for universities to switch between services and platforms. This results in our ability to achieve 'sticky growth', meaning that once universities purchase our licenses, they will become loyal customers.

ADAPTABLE

Our application can be HTML embedded, meaning it should be relatively easy to implement it into new platforms, opening new potential markets. For example, we could embed our application into a website or blog, making it easy for people to find and use our application. Additionally, we could create a customised version of our application for a specific platform, such as a primary education or business

website. This would allow us to tap into new markets and reach a wider audience.

POSSIBLE RISKS

THE SOFTWARE DEVELOPMENT IS MORE EXPENSIVE THAN ANTICIPATED:

There are a few ways to counter this issue. One way is to keep track of the development process and budget very closely. This way, we can catch any issues early on and adjust as needed. Another way is to use a fixed-price contract with our development team. This way, we will know exactly how much the project will cost and there will be no surprises.

A FAST COPYCAT COMPANY CREATES A SIMILAR APP:

There are a few ways to protect our app from being copied. One way is to file for trademarks and copyrights on our app. This will give us legal protection against anyone who tries to copy our app. Another way is to keep our app's code confidential. This way, no one will be able to reverse-engineer our app and create a copy. Furthermore, due to our first-mover advantage, we will already have a solid network before a copycat can deploy their program. As a last resort, a pivot can be done.

THE TU/e DOES NOT SEE THE BENEFIT OF THE APPLICATION:

One way to counter this is to make a strong business case for our app. This means doing our research and clearly demonstrating how our app will improve productivity for the TU/e. Another way is to get user feedback early on and show how users are benefitting from our app. This will help to build support for our app within the TU/e.

THE APPLICATION DOES NOT IMPROVE PRODUCTIVITY AS ANTICIPATED:

If this is the case, it is important to take a step back and assess why this is happening. Is the app being used as intended? Are there any areas where the app can be improved? Once you have identified the issue, you can take steps to fix it and improve the productivity of our app. There is always the possibility to adjust or pivot, and with in-depth user research, this can be avoided.

FUTURE PLAN

The most recently tested concept revealed how the idea will be received by our potential customers, how it will penetrate the market and can become successful. But this is just the first step. The potential and ambition of this concept go far beyond a simple Optical Character Recognition (OCR) (Grand view research, n.d.-a) (Ali, 2022) and Intelligent Document Processing (IDP) tool for students

After successfully launching, the data from our customers interactions with the program can be collected. An extremely valuable resource, as it will be processed to train

and optimize our algorithms. The system will become smarter with each iteration, creating a smooth and effective experience for our users.

A next step is Robot Process Automation (RPA) (Grand view research, n.d.-b) integration, where users can start to structure and personalize their workflow, and data processing. Making our customers owners of the process.

The following big step is adding NLP, the system will start to understand the context of the content. This is where SecretAIry changes from an efficient tool to a digital workforce. It can filter information based on meaning instead of keywords, and use predictive analysis to generate suggestions for replying to emails, essay drafts, research proposals etc. The possibilities are endless, as the AI can learn from whatever input is given if this input is structured in a chosen or created template (which can be automated by utilizing IDP).

After a few years of having the AI operational, enough data will be collected to train our own AI algorithm. Developing this would allow us to evolve beyond LMS systems and enter the market as a stand-alone AI secretary, offering our services as Private Data AI to any mobile or desktop user in need. Since the platform will be based on LMS based systems. The students that used our system during their studies will already be primed for adaptation of this new technology, allowing us to overcome potential consumer acceptance thresholds.

Doing all of this, a movement can be seen in the landscape of AI. This movement is visualised in Figure 12: Movement in business landscape.
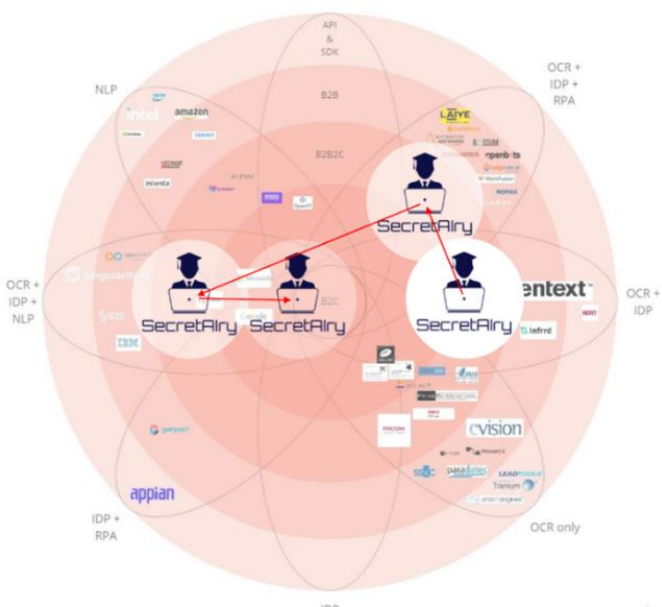

FIGURE 12: MOVEMENT IN BUSINESS LANDSCAPE

GROUP REFLECTION

The work was not clearly divided between the four team members, each of the team members pledged to work equally as hard but the nature of the work would be circulated so everyone had the opportunity to engage in new experiences.

The background of the students differed somewhat, as two students had an Industrial Product Design background from the University of applied sciences, a third student worked on a master's in mechanical engineering and the fourth student as a teacher in the course Research and Design (Onderzoek & Ontwerpen). The differences in background did result in some small differences in approach, mainly between the mechanical engineering student and the rest. This student was given some extra space to get acquainted with the workflow of Industrial Design.

During the project everyone contributed equally to the cause, generally leaning into the skills from within their comfort zone while exploring some skills out of their comfort zone.

Personalities differ, as such they also impacted the role of each student.

Phillips often pushed the team out of the comfort zone to drive discussion, focussing on implementing the lean start-up method and creating new ideas, while implementing expert interview advice.

Lars generally kept the grounded, guarding viability and preventing overly strong imaginations.

Joris drove a lot of the concept development generating ideas and dove deep into the technical feasibility.

Martijn explored the process of Industrial Design and performed many of the interviews with students.

All in all, the group posed to be an effective mix of people in which a lot of space was given for personal development and constructive feedback. This healthy and professional environment influenced the project positively.

During this project many pivots were made, and the result is not resemblant of the first iteration. This required changing the business canvas, hypothesis, prototype description and method of testing often. This late shifting was necessary from a business perspective, making it difficult to create a working prototype in the final stage, which is an aspect where there was tension in the group.

Should we work out our current idea, despite it not being viable, or make a final pivot, and have a less technical final deliverable? Eventually it was chosen to make the final pivot, making the business idea more viable, which was more in line worth the learning goals of the course. We are confident to have made the right decision, because we were told early on to 'kill our darlings'.

This moment was a valuable lesson, and the Lean start-up approach helped the project further.

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Appendix

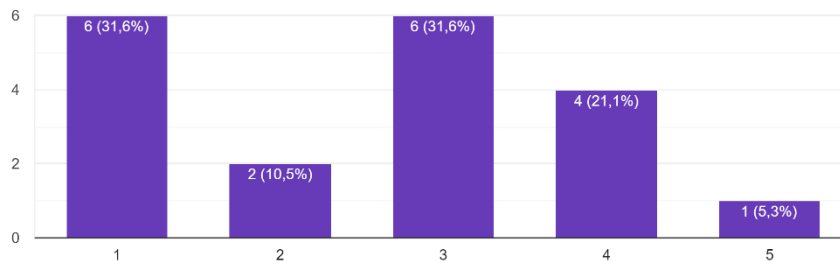# Quantitative Qualitative hybrid research

This research combined quantitative and qualitative elements by interviewing with a digital form as template, filled in by the interviewer.

1. Photographic memory - EyeCatcher

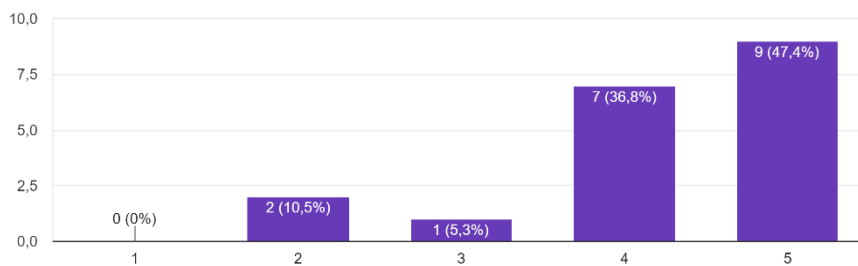(Convenience sampling – targeting people roaming in the streets of Eindhoven)

1. I have a photographic memory

19 antwoorden

2. I would like to have a photographic memory

19 antwoorden

3. For what purpose would you like (not) to have a photographic memory?
   1. Memorizing loads of data in e.g. lectures, memorizing text and conversations
   2. For study purposes
   3. Voor studeren
   4. Fact checken
   5. Herinneringen, one time memory
   6. Remember all the details
   7. To deal with routes, directions and locations.
   8. Remind things, mapping of information
   9. Beter bijhouden van dingen
   10. Soms vergeet ik wel dingen voor m'n studie, snel leren, maar niet omdat er dan heel veel onnodige dingen onthouden worden.
   11. To remember facts
   12. Because it helps me give insight in different scenarios!
   13. Leuke manier van herinneren. Handig
   14. Snel en kort iets onthouden
   15. To recall important information easily and clearer.
   16. Educational purposes
   17. To remember things
   18. Help being better on study and career
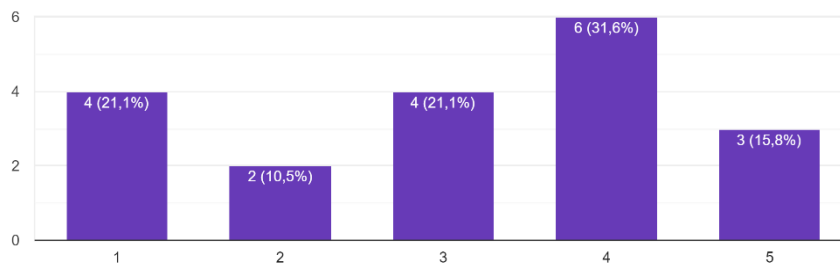   19. Learn easier

4. I think the camera of Google glasses is socially acceptable
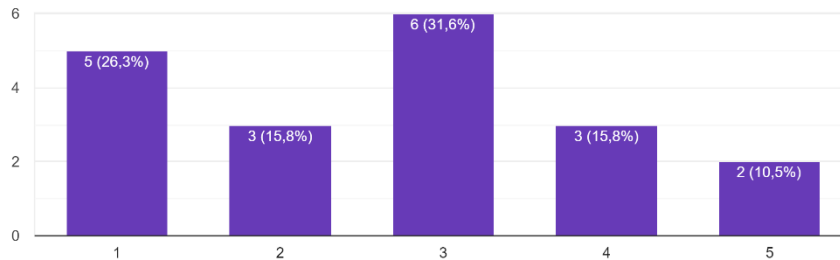
19 antwoorden

5. I think a camera hanging from someone's neck is socially acceptable

19 antwoorden

Imagine a necklace with AI driven Camera to log various factors of life. The AI recognizes different elements and maps them accordingly. It can recall stored data and recognize patterns. Interaction with the AI by the user is mainly by logging input by clicking the button. Output is an app which tracks your behavior/knowledge acquisition.

6. Explain three things you would do with this product
   - 1. Scanning documents 2. Minder uitstellen 3. Consequenter sporten
   - 1. Eten bijhouden 2. Planning, meer structuur 3. Bijhouden van contacten
   - School
   - Meer buiten zijn
   - Analysing data, patterns, etc. In everyday activities, e.g. educational purposes, grocery shopping or sports.
   - Herinneringen
   - Levenslijn vastleggen, herinneringen van een overledenen vastleggen.
   - Safety recording, record information,
   - Notities, dingen die opvallen opslaan, niet zeker of ik het voor gezondheid zou gebruiken, leuke momenten vastleggen.
   - Getting data from lectures, having the most important part from conversations
   - Document vacations. Relive moments from the past. Never loose anything (like keys)
   - It will lead to privacy problems. But if the privacy problems can be addressed it can be nice idea
   - 1.Being an architect, I will definitely use it to analyse user behaviour in the designated neighborhoods
   - It can help the town planners to design more efficiently
   - 3.We can design a more safe and secured environment

- 1. Document my trips, travel, or other life experience 2. Create a pov vlog 3. For sports, it can track my behavior and give feedback on my movements, skills, techniques, etc
- Travelling/vacations, routine forming, sports highlights
- Routine development, character moulding, personality analysis.
- Meetings and work place.
- Nothing

7. I think this kind of logging can help me with behavior change activities

19 antwoorden
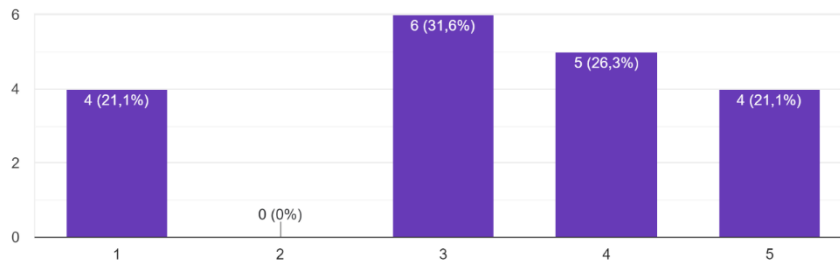
2. Functionalities platform interview

(Convenience sampling – targeting people roaming in the streets of Eindhoven)

Imagine a feature on GoPro, when you point the camera towards a scene or person a smart algorithm analyses the images. When everybody is well framed and smiling it vibrates to let you know that you are ready to take the shot!

1. I think a feature like this would work for me!

9 antwoorden
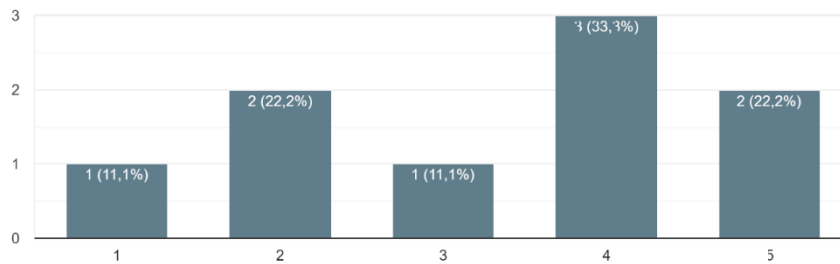
2. Why?
   - It seems really convenient
   - I'm into DSLRs, and like to do everything manually
   - Mensen
   - Don't see what I could use it for
   - Sometimes we are too busy to find the best shots due to being crowded ,busy or want to get a good shot from a stranger
   - Biking and sightseeing
   - Handig om punten in je agenda te zetten
   - Passive active wanneer je hem een signaal geeft, dat bijv 20 sec van tevoren opgenomen wordt. Anders is er weinig verschil met je telefoon
   - Doesnt require to push a button for a selfie

We are currently working on a concept for a small camera that can be worn like a necklace. It enables you to quickly point and shoot pictures (so the camera only records when clicked!) , supported by the earlier described algorithm.

3. I would have no problem wearing a camera driven by an elaborate algorithm

9 antwoorden
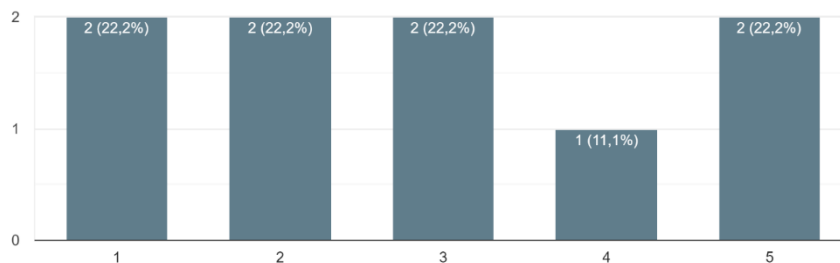
4. Why?
   - because i like technology
   - Don't want random pictures
   - Helemaal niet
   - Not needed, can use my phone
   - Privacy problem

- Best lelijk, maar functionaliteit overheerst
- Im not sure wether is practical or not, because the camera will be shake and we cant check right away the images after theyre taken.

5. I would have no problem having an elaborate algorithm apply pattern recognition on personal photos when it is stored in the cloud

9 antwoorden
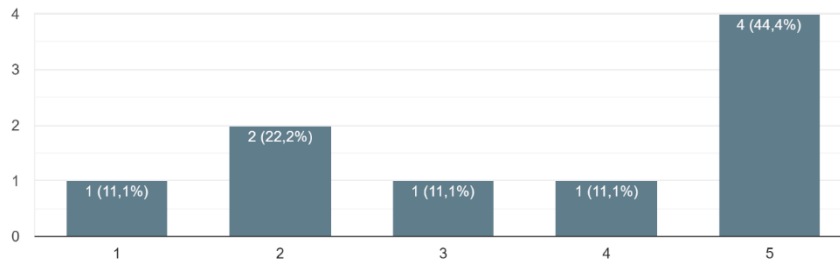
6. Why?
- I am afraid that my data will be misused, for this to work I would prefer only local data
- It's a fun feature, my phone has something similar
- Its kind of easy to pictures you want easily. Also adding object detection will be good
- My phone does this too, but it should be secured well
- Google fotos doet het ook, maar comfortabel is het niet
- Post processing is okay i guess, but cloud is what im scared due to hacker and its safety

7. I would have no problem having an elaborate algorithm apply pattern recognition on personal photos when it is locally stored on the device and not connected to the web

9 antwoorden
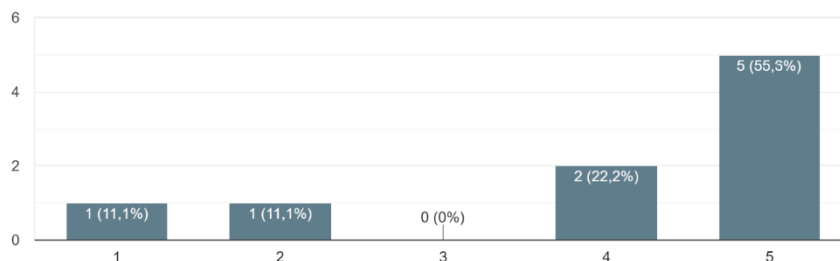
8. Why?
- then it seems more like a built in feature which i have full control over.
- Same reason it's a fun feature
- A bit extreme, but it could be useful
- This will lead to privacy problems. Like information you dont want to share to a cloud
- Persoonlijk lokaal, andere zou via cloud kunnen
- No hack (atleast least possibility)

9. I would love if the algorithm can read the text on the photos I take, so that can help me recall information I have photographed
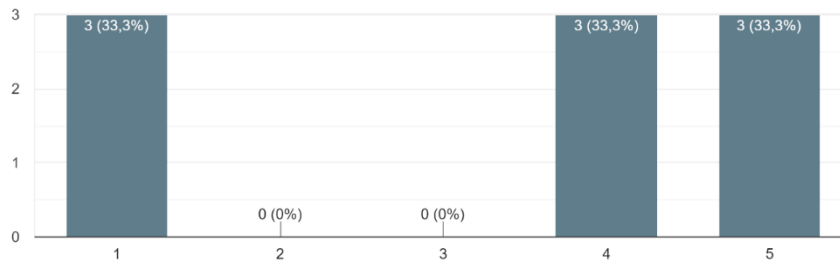
10. Why?
- this seems like a convenient feature
- Recalling information through a picture, no need to scan it into a text
- Handy feature which I would use
- The inage to test already exist. But making a description for images from different type of detection will be great. Like auto caption image
- Would use my phone
- Handig voor afspraken
- Vaak maak ik dat al met mijn telefoon
- Sometimes i just want to copy paste some texts from images

11. I would love it if the algorithm can recognize people on the pictures, so that it can help me file events and store contact information from the people you encounter
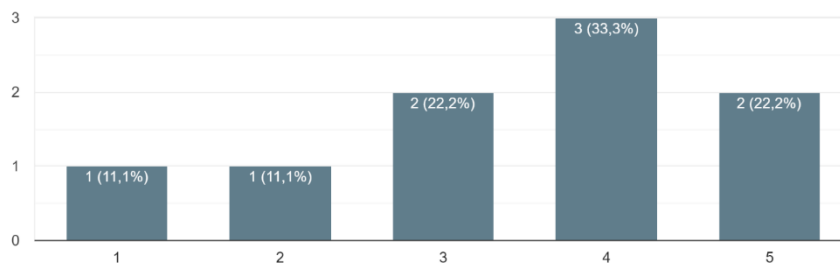
12. Why?
- this also seems very convenient, it would be nice if the pictures of people would be directly assigned to my contacts.
- My phone is already doing this
- My phone can do this
- This will be helpfull.
- Would use my phone
- Kleine dingen opslaan
- Hmmm okay, but no comment

13. I would love it if the algoritm could supply me with an overview of the habits I track with the camera, for instance what I have eaten and drunk
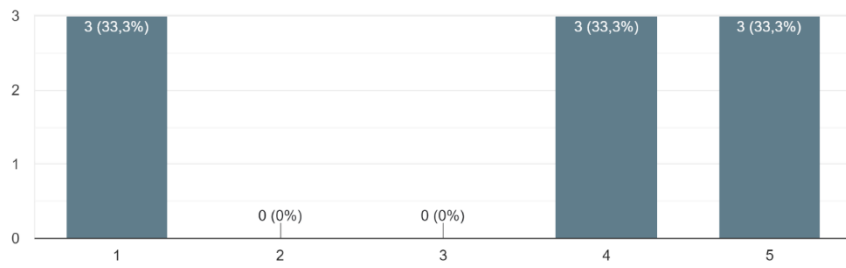
14. Why?
- I would prefer this not to be some health-oriented gadget. I am not interested in tracking my food habits.
- Not interested in tracking things like that at all
- Privacy problem
- I would use this if it is easy to do
- Its okay and innovative, but how accurate?

3. Core vs extra functions

(Convenience sampling – targeting students on campus TU/e Eindhoven)

Imagine a small, quickly accessible camera on your necklace. This camera can include different functions with which you can capture a wide variety of information which will be processed by a smart algorithm.

1. Rank the following functions:
   - Live language translator
   - QR/barcode/product scanner
   - Visual capture notebook
   - High-end UI with image recognition
   - Scanning and organizing documents
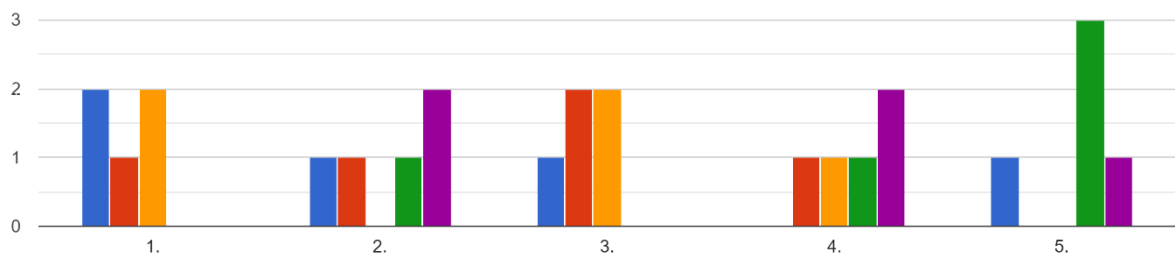
2. Why?
   - Op basis van meeste gebruik
   - Always available, practical translation
   - Niet voor niets een camera bij
   - Handige functies, oudere generatie, werk gerelateerd
   - Photos are the most relevant for me, product is good to use

There already exist apps such as Google Images, Amazon Flow and scanner apps which categorise and analyse pictures.

3. I would be interested in using existing apps combined with the device

5 antwoorden
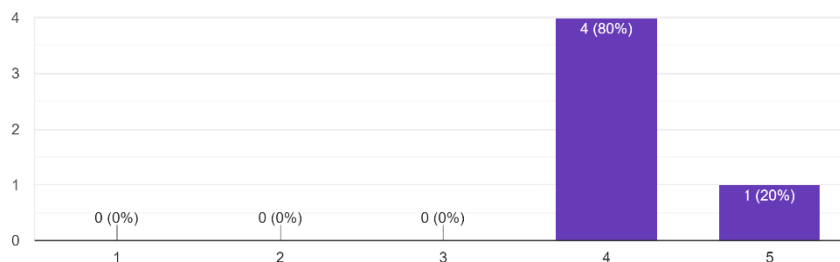
4. Why?
   - Quality of life. Irritating that you have to use multiple apps
   - Ongeorganiseerd
   - Use multiple apps have no order

5. Which apps do you use?
   - Translate, scanapps, google photos
   - Standard Samsung apps.
   - Pdf scanner, qr scanner
   - To do, notes, agenda, weinig social, qr
   - Photos (standard), payment (wbw), travels, drive/docs, social media, Datumprikker

6. Which apps would you like to combine?
   - Translate en scan
   - Integration social media
   - Snapchat, socials
   - Notes, to do, agenda
   - Combi scans and photos division in one app. Notes, agenda's, datumprikker.
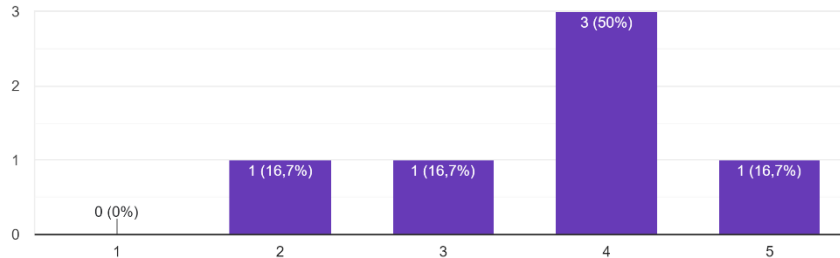
Quantitative research with concept simulation movie

4. SecretAIry platform validation

(Convenience sampling – targeting student on campus TU/e)

1. Information about different courses and projects, such as deadlines, schedules and tasks, are clear and organized available for me

6 antwoorden

2. Why?
   - Goed bereikbaar
   - Ik gebruik to do apps
   - Really depends on the course and what they upload. Some of the teachers don't upload
   - Course info is a bit spread out over different sites but due to habit I have because quite familiar with them. Besides I keep everything organized in my one calendar
   - Much different platforms
   - Sync with google calender

3. I struggle with organizing this kind of information of courses and projects

6 antwoorden
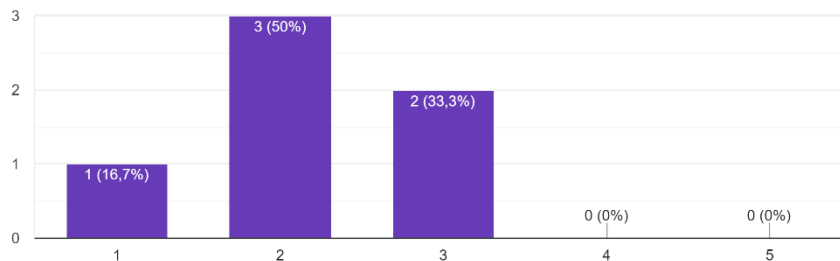
4. Why?
   - Ik houd voor mijzelf een overzicht bij
   - Ik gebruik to do apps
   - If the deadlines are clear in canvas I put them in my calendar as well. So when I plan the upcoming weeks I see all my deadlines in one overview.
   - I get an overview in the first weeks and thus know any assignments needed plus they are visible in my agenda
   - I know where it is
   - I am not that organized, but it do not give problems

5. I would like to have a platform where all information needed to study is organized in a logical and accessible way
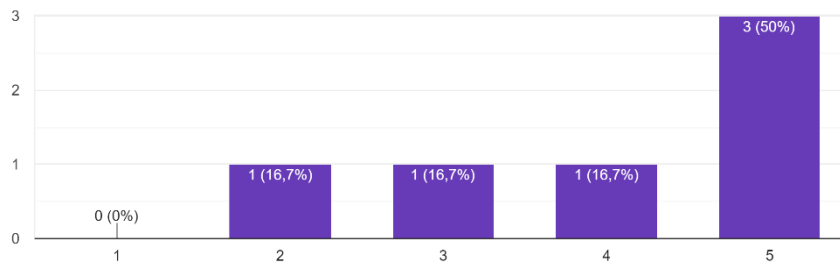
6. Why?
- Zou handig zijn, maar nu gaat het ook
- Ik gebruik deze al
- Now I have to do this myself although all information is available so it shouldn't be too hard to create an overview
- Would safe a lot of time and maybe contradicting information
- Would be nice
- It would be nice, but do not miss it now

7. I am interested in using that kind of platform
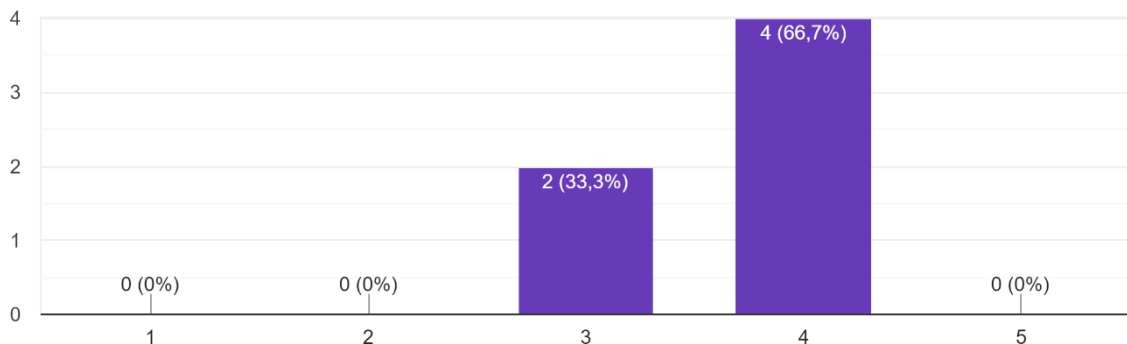
8. Why?
- Alles moet er op kunnen staan, anders geen toegevoegde waarde
- Als alles gecombineerd wordt
- The main benefit for me would be to have everything in one place. but also that it automatically adds a new meeting or deadline to my calendar so I don't have to do this manually
- Would be nice to have it in one place,but having to use an extra service on top of mandatory uni programs can become a bit much
- I know where to find my stuff, i don't know the added value

9. I would use the platform to create a personal task list based on course, meeting and email information
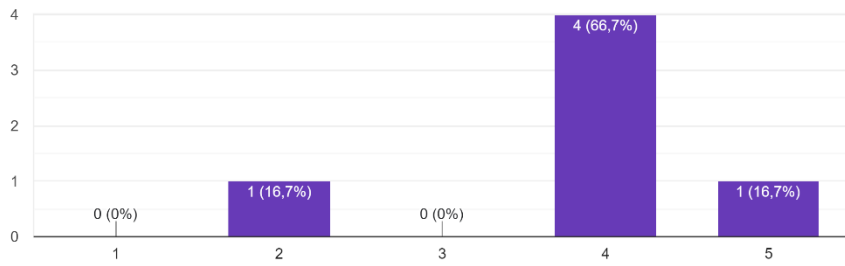
10. Why?
  - Is al een beetje wat ik doe
  - task lists werken goed voor mij
  - I have rocket book in which I keep track of my tasks as I prefer to do it on paper
  - If it is a bit atomated I would less likely forget certain info

11. I would use the platform to keep up a personal agenda including intermediate deadlines, small appointments, etc.

6 antwoorden
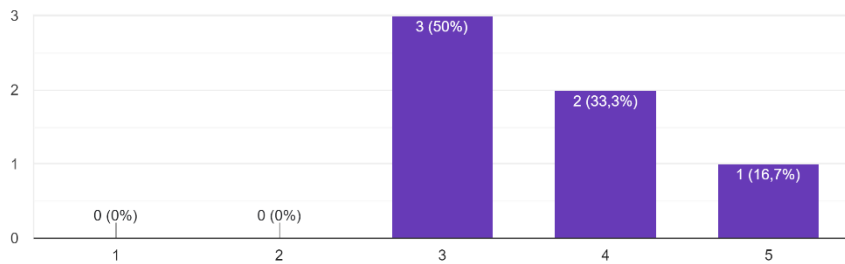
5. Questionnaires for final concept Students

(Convenience sampling – targeting student on campus TU/e)

1. 18+

Meer details   🔆 Inzichten

🔵 Yes	19
🟠 No	0

2. I am

Meer details   🔆 Inzichten

🔵 Bachelor student @ TU/e	4
🟠 Master (+) Student @ TU/e	15
🟢 Employee @ TU/e	0
🔴 Other	0

3. How do you organize your **meeting notes**?

Meer details   🔆 Inzichten

17
Antwoorden

Meest recente antwoorden

"On my laptop I use the program OneNote. I store meeting notes in different...

"In word documents, a notepad or in a thread"

"mainly with the laptop if working in a group"

⋯

5 respondenten (**29%**) antwoordden **notes** op deze vraag.
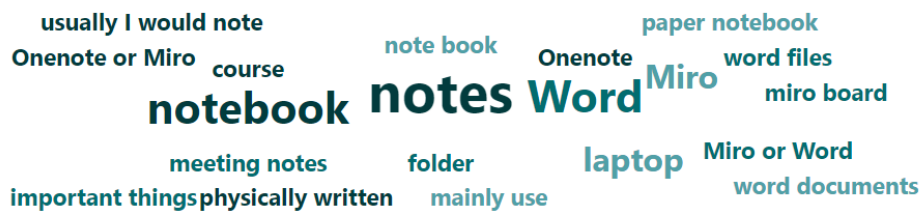
usually I would note   note book   paper notebook
Onenote or Miro   course   Onenote   Miro   word files
notebook   notes   Word   miro board
meeting notes   folder   laptop   Miro or Word
important things physically written   mainly use   word documents

4. To what extend do you agree with the following statement?

   "I have no problems with organizing my **meeting notes**"

Meer details   💡 Inzichten

19
Antwoorden

3.68
Gemiddeld aantal
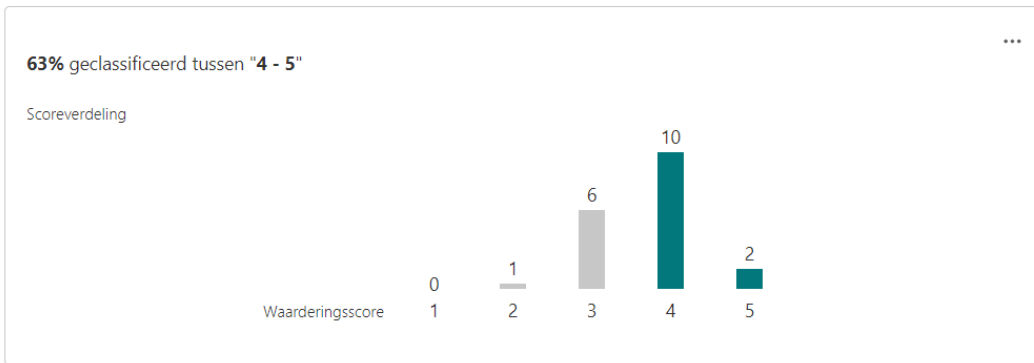
63% geclassificeerd tussen "**4 - 5**"

Scoreverdeling

Waarderingsscore

1	2	3	4	5
0	1	6	10	2

5. To what extend do you agree with the following statement?

   "I would like to have software to help me organize my **meeting notes**"

Meer details   💡 Inzichten

19
Antwoorden

3.11
Gemiddeld aantal

47% geclassificeerd tussen "**4 - 5**"

Scoreverdeling

Waarderingsscore

1	2	3	4	5
2	6	2	6	3

6. How do you organize your agenda?

🔅 Inzichten

18

Antwoorden

Meest recente antwoorden

"I use different colors. I for example have a color for student related activities..

"Google Calendar and a bot that is connected via the API"

"Writing a to do list at the end "

...

7 respondenten (**39**%) antwoordden **Google Calendar** op deze vraag.
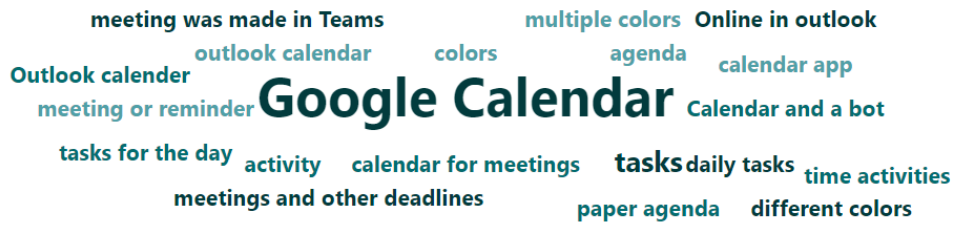
meeting was made in Teams   multiple colors Online in outlook

outlook calendar   colors   agenda   calendar app

Outlook calender   **Google Calendar** Calendar and a bot

meeting or reminder

tasks for the day   activity   calendar for meetings   tasks daily tasks   time activities

meetings and other deadlines   paper agenda   different colors

---

7. To what extend do you agree with the following statement?

"I have no problems with organizing my **agenda**"

🔅 Inzichten

19

Antwoorden

3.95

Gemiddeld aantal

...

74% geclassificeerd tussen "**4 - 5**"

Scoreverdeling

Waarderingsscore   1   2   3   4   5

8. To what extend do you agree with the following statement?

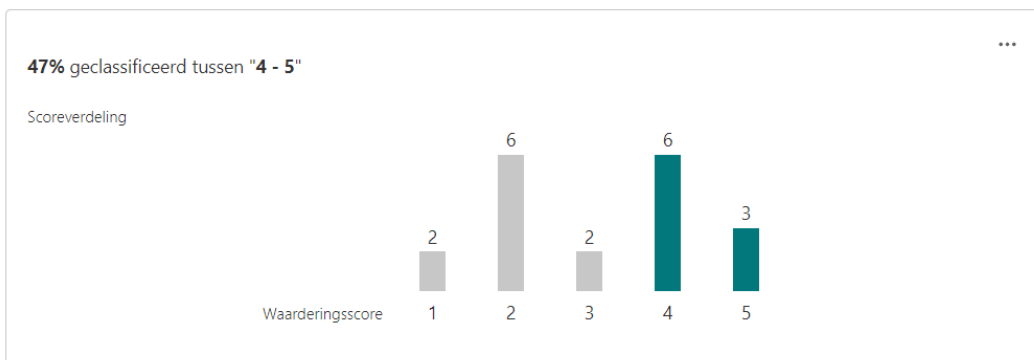"I would like to have software to help me organize my **agenda**"

Meer details   Inzichten

19
Antwoorden

2.63
Gemiddeld aantal

21% geclassificeerd tussen "**4 - 5**"

Scoreverdeling

Waarderingsscore	1	2	3	4	5
	4	6	5	1	3

9. How do you organize your to-do's?

Meer details   Inzichten

18
Antwoorden

Meest recente antwoorden

"I write them down on paper. I don't really organize them"

"Trello and a bot connected via API"

"Only on priority (if you have time inbetween that you have to wait (respond..

5 respondenten (**28%**) antwoordden **paper** op deze vraag.

schedule for a course   Workflowy application   project   paper notebook
Trello and a bot   deadline   Google Calendar
tasks per course   trello   course   **paper**   notebook   Loose papers
notes app   lists   notes   use
paper an stick   application and some times   paper agenda

10. To what extend do you agree with the following statement?

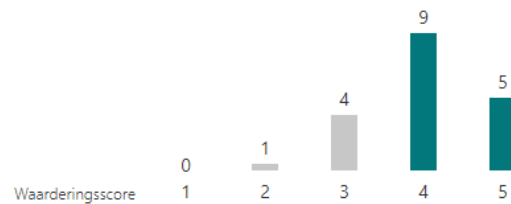"I have no problems with organizing my **to-do's**"

Meer details   Inzichten

19
Antwoorden

3.26
Gemiddeld aantal
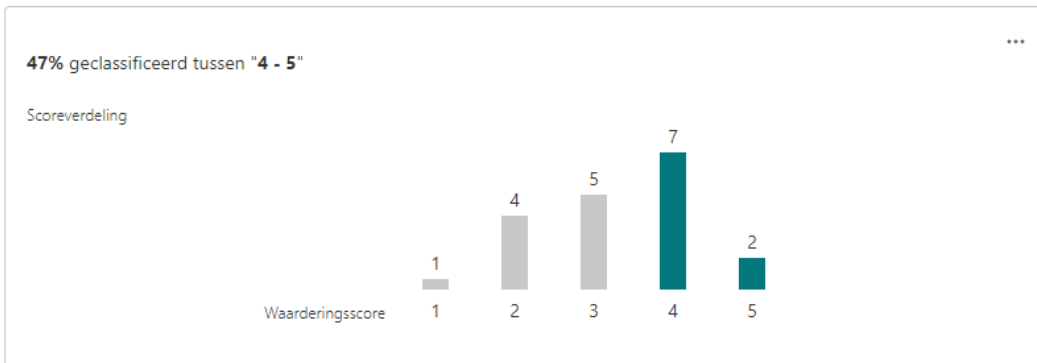
47% geclassificeerd tussen "**4 - 5**"

Scoreverdeling

Waarderingsscore	1	2	3	4	5
	1	4	5	7	2

11. To what extend do you agree with the following statement?

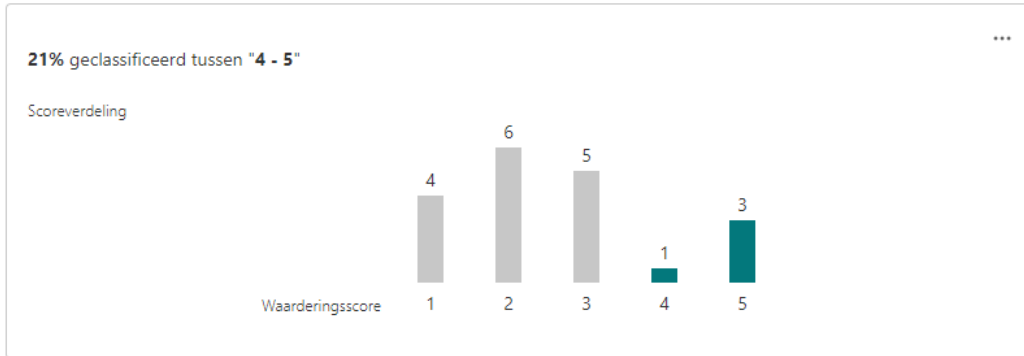"I would like to have software to help me organize my **to-do's**"

Meer details   Inzichten

19
Antwoorden

3.00
Gemiddeld aantal

42% geclassificeerd tussen "**4 - 5**"

Scoreverdeling

Waarderingsscore	1	2	3	4	5
	3	5	3	5	3
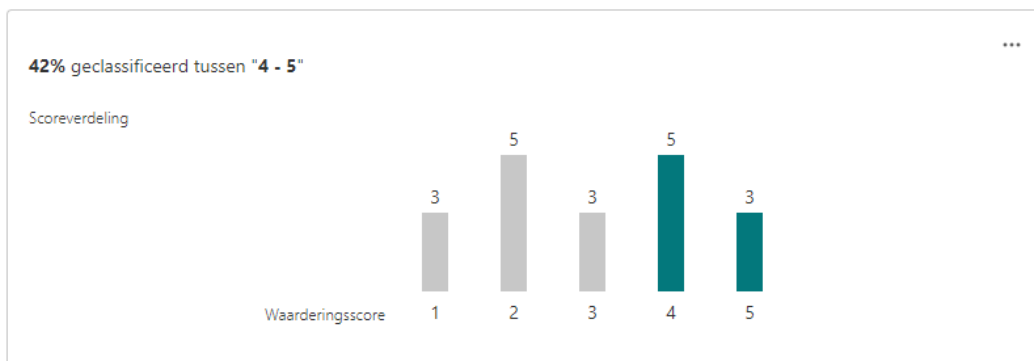
12. To what extend do you agree with the following statement?

"Canvas is a tremendous help in organizing my projects!"

Meer details   💡 Inzichten

19
Antwoorden

1.84
Gemiddeld aantal

11% geclassificeerd tussen "**4 - 5**"

Scoreverdeling

Waarderingsscore	1	2	3	4	5
	9	6	2	2	0
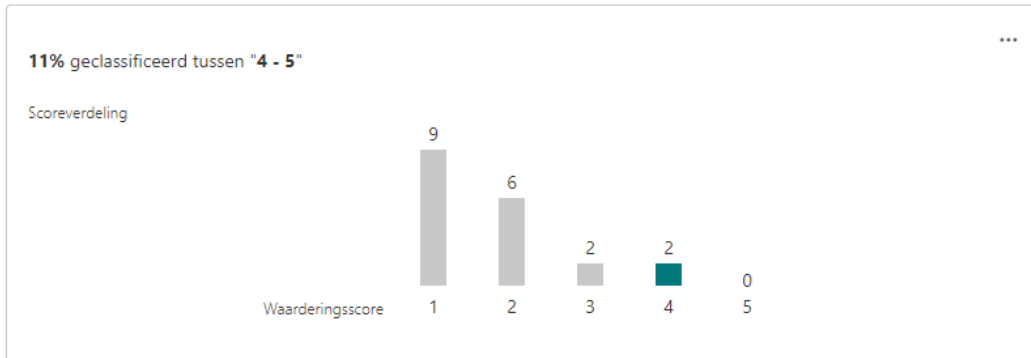
13. To what extend do you agree with the following statement?

"I would like to ... the software solution in the video!"

1= I don't agree
5= I agree
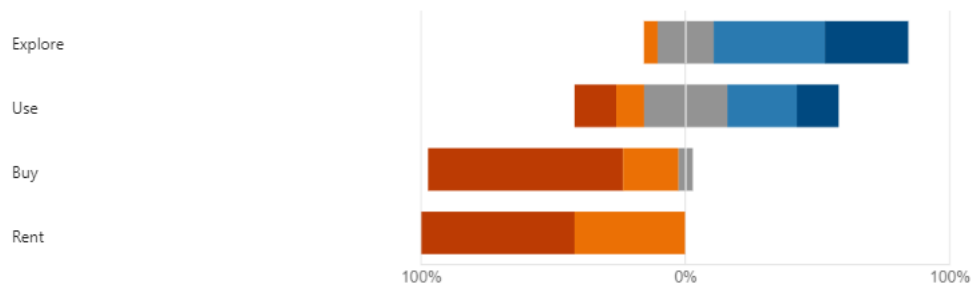
Meer details

■ 1   ■ 2   ■ 3   ■ 4   ■ 5

14. To what extend do you agree with the following statement?

   "I think the software solution in the video is ... "

   1= I don't agree
   5= I agree

Meer details

■ 1   ■ 2   ■ 3   ■ 4   ■ 5

Complicated	
Interesting	
Useful	
Scary	
What I need	

100%   0%   100%
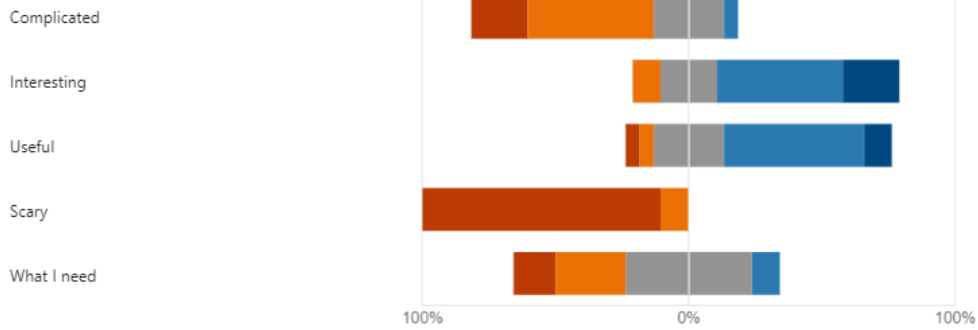
15. If I had to pay 3 cents for each document that I upload, then I would probably ...

Meer details   ☼ Inzichten

● Never use it	13
● Use it less	3
● Get a 4€/month subscription	3

6. Questionnaires for final concept Teachers/Educators

(Convenience sampling – targeting educators on campus TU/e)

2. Could you describe what you felt when you saw the movie in one word? (Emotion)

Meer details   💡 Inzichten

7
Antwoorden

Meest recente antwoorden
"Busy "

"yes!"

---

1 respondenten (**14**%) antwoordden **Uninterested** op deze vraag.   ...

Interested
Relief
Busy Uninterested Nice
Confusion

---
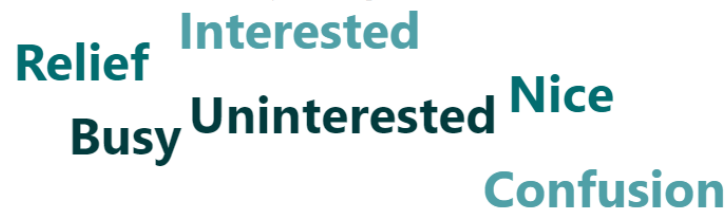
3. Which function seems most useful?

Meer details

🔵 Agenda	3	
🟠 To-do's	0	
🟢 Meeting notes	5	
🔴 No opinion	2	

---
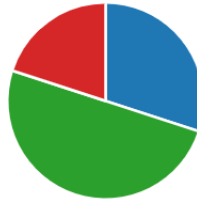
4. Which function would you use the least?

Meer details

🔵 Agenda	2	
🟠 To-do's	3	
🟢 Meeting notes	2	
🔴 No opinion	3	

5. Would you …

■ Yes   ■ Maybe   ■ No

Explore this?

Use this?

Use this often?

Recommend this?

100%   0%   100%
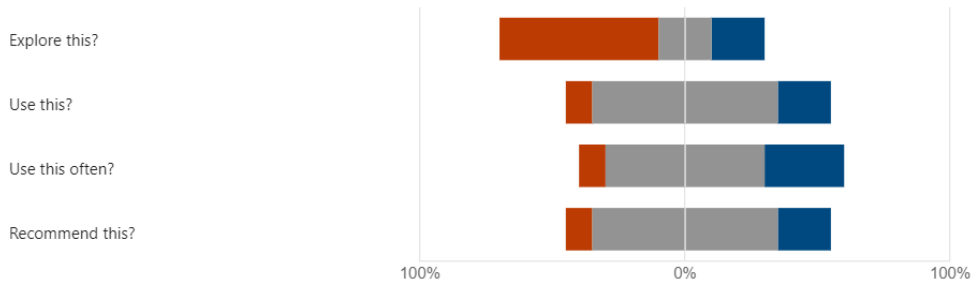
6. Why would or wouldn't you use this?

☼ Inzichten

10
Antwoorden

Meest recente antwoorden

"*I use canvas only to provide course information, all meetings and tasks for …*"

"*Because I feel that in the beginning I have to put in a lot in the system befo…*"

"*this can become an information dashboard which can guide me to informat..*"

…

3 respondenten (**30**%) antwoordden **Canvas** op deze vraag.

meetings and tasks   redundant with other apps   Google calendar
course information   outside canvas   information
information dashboard   staff   Canvas
possibilities for students
canvas environment   usefull   work in Canvas   Overview of todo
information page
e employee   small part of my work   overview per course
learning activities   apps or software

7. If you could make one change to this feature, what would that be?

☼ Inzichten
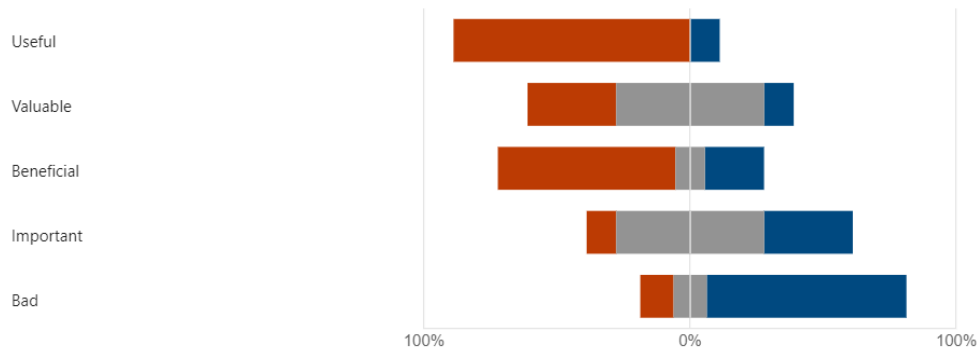
5
Antwoorden

Meest recente antwoorden

"*I would like the TO-do's to be synced with my mobile phone?* "

"*an integrated dashboard so that I can contextualize it according to my own …*"

…

1 respondenten (**20**%) antwoordden **Connect with outlook** op deze vraag.

dashboard   mistake   situation
Connect with outlook
No idea   Editor button   mobile phone

8. Do you think this software would be ... for students

Legend: ■ Yes ■ Maybe ■ No

Category	
Useful	
Valuable	
Beneficial	
Important	
Bad	

100%   0%   100%

9. If anything was possible, what would you change to make this software perfect for you?

☀ Inzichten

9
Antwoorden

Meest recente antwoorden

"Do not need something more"

"I would highlight how AI helps, because at this point I don't feel like there is..."

"possibility to adapt to my own situation, let AI do part of the trick, but leave.."

···

1 respondenten (**11**%) antwoordden **ai and past** op deze vraag.

situation   extension   No idea

Integrate with OneDrive assignments from other students

schedule possibility ai and past main function outlook

canvas trick point time certain assignments agenda

long possible

Expert interviews

7. AI Expert Phillips Hue - Jaine Veenam

Previous to the interview the following framework was presented, it contains a first mental model of the SecretAIry concept. The main focus of the interview was to understand the feasibility of such a concept.

First response on concept

"In basis it is a very good Idea"

AI Challenges

"Handwritten document scanning is very inaccurate!"

"maybe from in the MVP you would just want to focus on the digital documents, not the handwritten one, because it's much easier."

"it's very difficult to train the model, especially from a linguistic standpoint"

"I think for now it should like as a startup we would aim for core. Yeah for English indeed and Dutch probably like because we are Dutch startup."

"To do the Capitalization and train the model that is 1 the Second thing is Which is really taking a step "

Audience

"Make a persona to base your system design on, really ask yourself, who is your target group!"

"For which target audience and how big is the pain point exactly how, even if it's for organising the document."
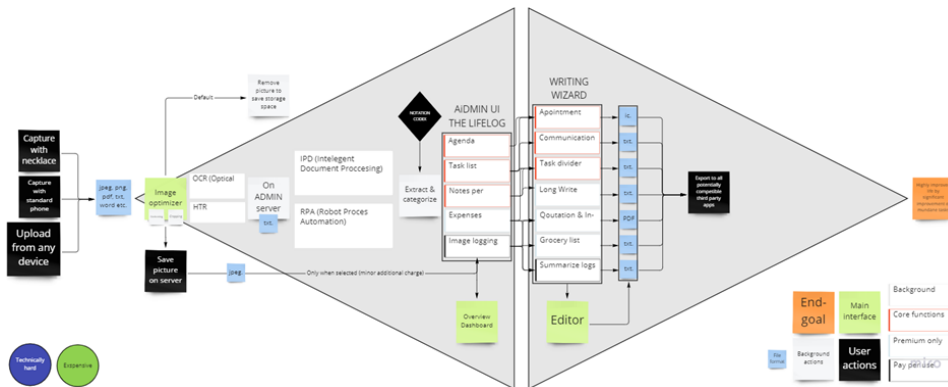
Training Data

"Where are you going to find a sufficient amount of training data?"

"Where are the documents organized? Is it personal or work? Is there a server or cloud which can be utilized?"

"cause I have insane amount of emails. You know meetings and lot of things right and yeah, so if there is something like this I would love to use which can you know from my emails."

There needs to be a very clear and convenient way to train your AI to recognize the elements in your documents and organize them.

Privacy

"I mean, I think the level of privacy anyway has to be really, uh, you know, high for both the perspective, but especially if it's for work like all the emails are super sensitive, right? Like we work on things that we are planning to launch the new business items right? So it's super restrictive. So I think one of the feasibility challenge would be how would you plug in this tool with others because I would not upload my emails right? If email is one of the input and I think email has most of the content, you know the heavy content."

"You are dealing with personal data, so think very hard about privacy!"

"most of the companies use Microsoft right for enterprise, so something that is that works with Microsoft."

"Then you can sell it to any company who is using basically Microsoft right? Or something that works with Gmail."

"it will then be dependent on the APIs that Microsoft and Google offers, and I think from the data privacy perspective, it would be pretty hard"

Competition

"I think Gmail and outlook they have started. So for example in Gmail like if I reply to an email, I do have to type in Some words, but Gmail automatically fills in the gap, Like provides a lot of suggestions on completing the sentences and also even having a forced initial you know quick reply."

"Microsoft is not exactly working on this, but what Microsoft does. Microsoft I already have two level of Classification one is focused email, so the emails which are addressed to me And then others and others are all the emails which I received from the systems and the things which are not important to me, and it learns because if I move one one of my email which I, let's say, receive from it's an auto generated email"

Edge

"Running software locally is called - On the edge!"

"Takes quite some computing power"

8. Drieam

Drieam works essentially from the BeNeLux, the institutions in these regions work on features and testing. But Drieam also delivers to the US, UK and Scandinavia.

Drieam advertises themselves by joining fairs, their network, cold acquisitions and mouth to mouth advertising.

Developments get requested from these educational institutions. This can be done by student preferences, but most of the time the features will be requested by teachers.

Dream is about student independence. They only develop when trow or three customers are interested in a product, since they only get a couple of euros per student per feature, per year.

Their recently developed feature Portfolio has been requested by the Fontys. This feature was created to make students owners of their own education. The feature is about rating their work, not showcasing it. It has been co-created and co-financed by the Fontys. Functionalities are also supported by the market. Every extra functionality which other institutions want, but the Fontys does not care about, are not financed by the Fontys.

One client/institution is a very good use case, but if other clients aren't interested, it will be very difficult. You have to make sure that you can add things to your design to make them interested. But don't change too much about your design that is right for the other institution. You have to make something that is simple and generic. All use cases should be as generic as possible.

The Dutch-speaking part of Belgium has more strict rules and is teacher-centered. In the Netherlands, the HBO are frontrunners in educational innovations. Universities have their priorities elsewhere, mainly research. They want to keep their costs and complexity as small as possible. You have to really add something from a student perspective and build from that. This can be done by, for example, doing a pilot test.

Our concept

When asked about our idea, the employee sees the value in creating a platform to take over other seperate applications. But he wonders if the students will use it. Will it be used for personal documents and school documents? If not, they will need other apps anyway.

Possible features that he noted are

- Protection against having too much to-do's/agendapoints on one day. Warnings for an agenda that is too full.
- "This to-do has been made a month ago, what do you want to do with it", just like the feature Gmail uses when someone hasn't responded to your e-mail.

Current development

At this moment, Drieam doesn't want to make extra features, they are taking time to work on their current features. They are open to share content-related knowledge with us. But they won't support us financially at this moment. We have to gather more information on the interests of different institutions before going back to them for financial support.

When talking about costs, he says that there are a lot of different aspects in the app. But we can use the agenda from the library. It also depends on how custom we want our design. He expects they would need €80.000,- to develop such a feature.

In our case, we could pitch our product at Student Interest Organisations. They represent students and their needs. Our project's scope is a bit out of education, and more towards personal efficienty. This lies more with student interest organisations.

9. Interview Board member of Serpentine

Serpentine is a student team that focuses on educating students in AI.

They work as a non-profit and have no interest in developing products, if students are interested in this themselves, it is fine if they do this themselves and set up a start-up after their studies with the project they have set up here. The IP you develop is therefore sufficiently protected for the first development phase.

They have a server on which the AI can be trained, so this means Deep Learning AI systems.

They receive some support from the TU/e but also have 2 sponsors who support the association financially.

The club consists of 40-50 active members and is mainly focused on creating and writing AI platforms. There is no pressure behind this and no expectations are set within the organization. It could be an interesting pool to find and recruit talent.

For a one-time fee of €15 you can join as a student to get acquainted with AI and experiment here.

10. Start-up expert

Interview with Gert meeting notes

<u>What are high priority tasks when launching a start-up?</u>

Usually, start with MVP, offer to friends, second, try to offer something that works but when it works enough, jump into it. do not overengineer, so keep it simple and integrate when it WORKS and is functional. Then it is a minimal viable PRODUCT. functional but room for improvement. with the feedback you finalize it. do it in steps

<u>What are typical mistakes when switching from B2C to B2B?</u>

- start-up B2B is easier, less marketing bypass satisfy customer, but you must benefit beneficiary who will satisfy the customer. o you need to understand beneficiaries better than customers. Go for students most, teachers not like new tools. Have NO LEARNING CURVE. MS teams was already a headache. Use clear FACTS

<u>How does a start-up gain money from the Dutch government? are there criteria?</u>

- First, demonstrate ready to invest your time, highlight that since it shows belief.
- anything related to time and competence will not be budgeted. It is our financing. Work on that 6 months, 4 students, that much FD cost around 100K
- no salary in the first portions of the project. Only invest in key resource outside of our competence.

<u>Other conclusions:</u>

- if customers do not pay, it is not burning issue
- b2b on licencing
- increasing workflow students will result in better leaning and grades
- quantify problem current canvas
- Pilot the plan
- proxy indicators
- methodological point of view, A&A1
- needs to be translated into clear results
- clearly demonstrate added value to schools
- use students in pilot to validate to schools the added benefit
- go to principal next for investment when validated
- when more mature presenting, work well with competition like TU/e competition, Brabant start-up contest, Breda, present the idea there to potential partners for collaboration, give viability and participate for validation, co-creation, ask for help using public event.
- partner gives testbed
- preliminary calculations, 'we have been doing the calculation, proxy indicators with 20 students, works well, using hub network, can we try for a quartile.' feedback usability, interface, integrating feedback approach principal
- produce prototype for schools, free for 5 years, license for free or low price for early adapters.
- before going to student team intermediary steps using hub network.
- first get rid of rough problems with own hub.

- use teams and principals
- principal is more important than student teams.
- customise based on feedback
- adapt concept to new systems in an uncomplicated way, make it adaptable.
- once market is penetrated, you have safe customers
- first mover, sticky growth.
- define, refine, approach with pilot.
- after that 2.0, then sell to other school directors.
- B2B2C
- approach like children book, front is for kids, back is for parents.
- with non-experts, usability is essential.