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LIST OF ABBREVIATIONS

- **Compound annual growth rate (CAGR)** is the rate of return that would be required for an investment to grow from its beginning balance to its ending balance, assuming the profits were reinvested at the end of each year of the investment's lifespan.
- A **call to action (CTA)** is a marketing term that refers to the next step a marketer wants its audience or reader to take.
- The **Web Content Accessibility Guidelines (WCAG)** are part of a series of web accessibility guidelines published by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C), the main international standards organization for the Internet.
- **Customer relationship management (CRM)** is a technology for managing all your company's relationships and interactions with customers and potential customers.
- **Unique Selling Proposition (USP)** is a marketing term that refers to any factor or aspect of an object or service that differentiates it from competition and highlights its unique benefits to consumers.
- **Natural language processing (NLP)** is a subfield of linguistics, computer science, information engineering, and artificial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to process and analyze large amounts of natural language data.
- **Bidirectional Encoder Representations from Transformers (BERT)** is a technique for NLP pre-training developed by Google.

INTRODUCTION

WebSpellChecker has a long story behind it. The first version of the software was introduced back in 2000 which provided a spelling check functionality with the support of 16 languages. The company offered two versions of the software: on-premises package and software as a service (SaaS). The on-premises version was offered with a perpetual license and annual fees for support and maintenance services. The SaaS version was offered as an annual subscription to the service which was limited to a number of sessions annually.

The company targeted the business customers who needed to integrate a spelling feature into their web-based systems.

It was a time when there was no spelling check feature integrated into browsers by default. As the time passed, the modern browsers introduced native browser spellchecker feature, Grammarly (2009) and Language Tool (2003) where just entering the market with advanced options like grammar-check. And for WebSpellChecker it was one of the early signs that it is time to change. After a list of attempts, the basic grammar checking functionality was added. For that time, it could detect a limited set of grammar problems in as-you-type mode. Later, in 2018, we added an extensive grammar support for default languages.

The company had ups and downs, the team size never grew above 10 people. The key activities were devoted to the bug fixing, technical support and development of custom features for customers. There was also a list of successful strategic partnerships that are revenue streams until today.

Nevertheless, after 16 years the company ended up with a huge technical debt, a lot of custom cases, complex deployment procedure, only spelling check and basic grammar check feature and around 500 paying customers in various domains. It coincided with a decision to sell the rights to the software to a newly formed Ukrainian-based company WebSpellChecker LLC. And this is when I stepped in as a Director. At that time I was working for less than a year as a product manager. It took

me almost a year to settle all the business and legal related aspects of doing business in Ukraine in order to resume normal operations.

The main challenge was to make the transition process smooth to the existing customers and start accepting the payments. The other crucial aspect was to get rid of the legacy code and prepare a landscape for the further improvements. From the technical point of view the main constraint for us was to maintain the backward compatibility for older configurations of the software that had been in use by existing customers. During the next two years we were able to achieve the set goals. However, all these attempts were not visible for our customers as the spelling and grammar check quality and the value provided remained almost the same level.

At some point we started observing that more and more the long-term customers stopped using the software and migrated to the browser spell checker as it offered the same functionality but at no cost. The rest customers shared the feedback that they were not happy with the quality of the spelling and grammar checking. It was clear that we had to do something with the core functionality and offer better spelling and grammar checking. And it is here when our attempts to build an AI-based engine for grammatical error correction started and continue until now.

However, even after the successful integration of the better engine, our problems remain the same:

- It takes from 2 to 6 months on average for customers of on-premises versions to make a decision before buying the licenses. Sometimes it can be even a year or more.
- The technical people responsible for the integration of the software are not skillful enough or totally illiterate. It results in hours of support provided by our technical team instead of being focused on research and development activities.
- Capacity of the technical and business team doesn't allow us to increase the number of news leads as we won't be able to handle their requests. This results in the flat revenue from year to year and no profit growth.

- Demotivated team as we are combating with the same problems and requests over and over again.

It is clear that it is the right time to start the business transformation and look for new business opportunities.

One of the opportunities we see is WebSpellChecker transformation from a company providing third-party spell-check solutions to integrate into a business system or infrastructure to a company delivering ready-made fully-fledged products.

Currently the sales cycle is quite lengthy since it consists of negotiation, purchase and integration stages, which requires a lot of time and resources spent on liaising with clients and customer support.

On the one hand, the transformation is to compress the sales cycle due to the elimination of the technical integration step and conserve team resources. On the other hand - it will help us attract new leads seeking a secure off-the-shelf solution to plug and play.

The research and analysis done within LvBS study will serve as a solid foundation for transformation strategy and a new business model aimed at solving customers' problems.

SECTION I. PROBLEM

To better understand the problems of end-users that can be solved with our digital writing assistant, we've divided them into two groups: companies and individual users within these companies.

We consider both as WebSpellChecker stakeholders who have several pain points which our writing enhancement software can solve.

1.1. Companies' pain points

1. Those organizations operating under strict governmental jurisdiction or handling sensible data are not satisfied with modern proofreading software as it doesn't meet their requirements for security. According to the competitor analysis we've done, the majority of providers process and store data on their own servers, and agents from healthcare, legal, education and other sectors may undergo considerable risks of data leakage.

2. Enterprises from specific domains such as healthcare and pharmaceutical industry lack such a feature as specialized dictionaries with professional lexicon and slang, which makes documentation and collaboration processes slower and less efficient.

3. Multinational companies operating globally and providing client support are in the quest of solutions with multilingual support to cover different target markets and groups. Today the support of only one language (e.g. English) isn't enough.

4. The main goal of all businesses without an exception is to increase productivity and reduce time and costs on daily communication with clients and within internal teams by delegating proofreading tasks to automated solutions.

1.2. Users' pain points

1. Bilingual users find it difficult to manually switch between several languages they use when messaging with clients or creating content.
2. For users with certain disabilities, there should be options such as keyboard navigation or other related features to meet the accessibility standards in particular WCAG 2.1[1], and also Section 508.
3. Users who have to write a lot need a second pair of eyes to instantly check tons of texts.

1.3. Market analysis

With the emergence of built-in browser spell-check solutions and third-party providers like Grammarly and LanguageTool, the market started developing in leaps and bounds.

Verified Market Research [2] predicts that the Global Writing enhancement software market will have doubled within the period **2019-2026** with **CAGR of 11.56%** and reached **$767.93** million.

Writing enhancement software market by application:
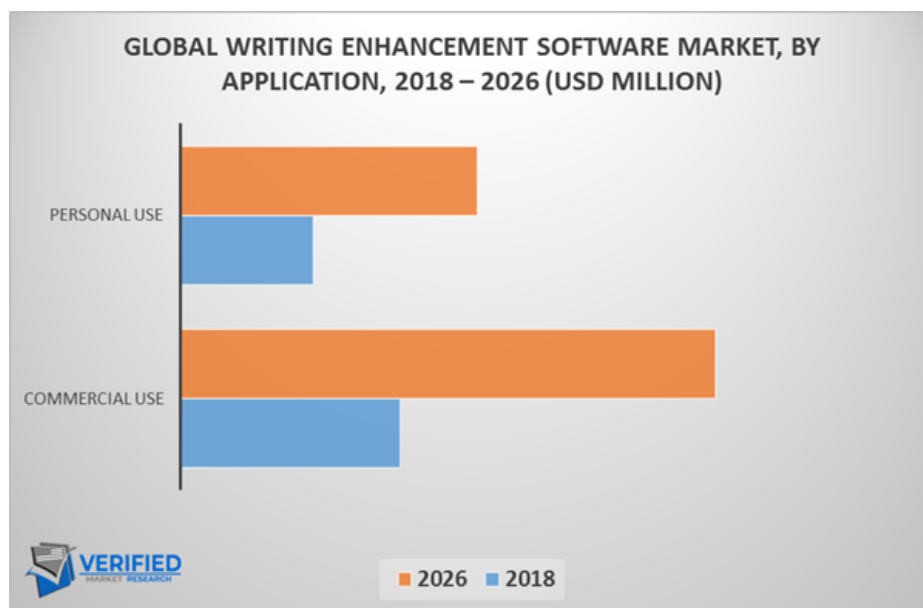
Figure 1.3.1. Writing enhancement software market by application

According to Verified Market Research, the market for commercial use accounted for the largest market share and is expected to grow at the highest CAGR over the forecast period. The use of writing enhancement software is significant for commercial purposes. The enterprises widely invest in such software to improve their business agility in the market.

Writing enhancement software market by regional analysis:
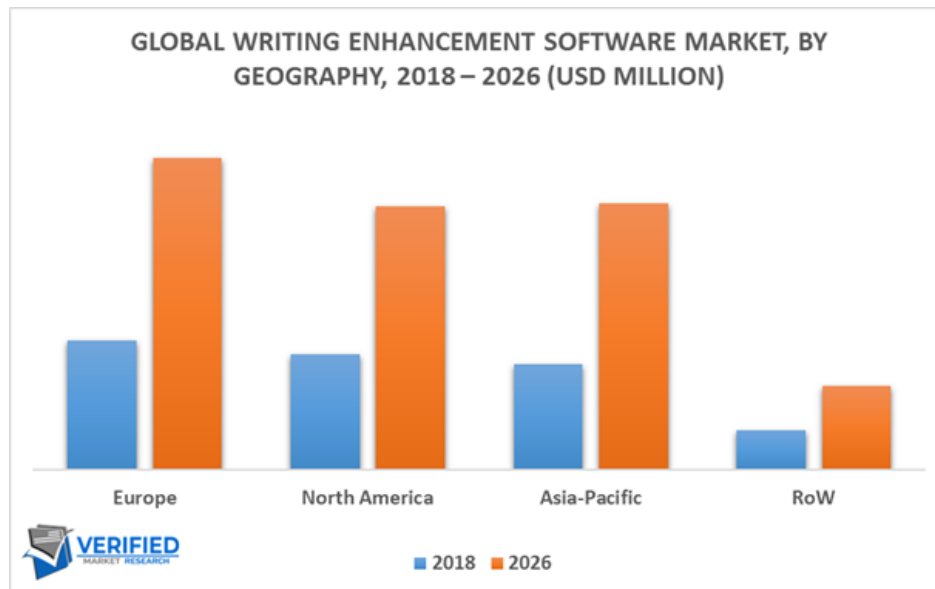
Figure 1.3.2. Global writing enhancement software market, by geography, 2018-2026

The global market is categorized into North America, Europe, Asia Pacific and Rest of the world. Europe attributed for the largest market share in 2018 and is forecasted to grow at a CAGR of 11.73% during the forecast period. Booming demands for accuracy and precision in the writing skills is one of the major factors boosting the growth in this region.

Our assumption that the above-mentioned clients' pain points contribute to the overall industry growth and facilitate the development of innovative technologies such as NLP. According to Reportlinker's report [3], the NLP market is expected to reach **$29.5** billion by **2025.** NLP-related tasks are based on several techniques - rule-based approach, statistical models and neural networks (deep learning and modern pretrained models like BERT).

Given the lack of data accessible, we've done our own market analysis based on the LinkedIn Sales Navigator, a tool for generating leads and boosting sales.

Input criteria for analysis:
- Small, medium and large businesses and organizations;
- Customer segments with high requirements to data security and privacy - banking, financial services, governments, computer software and companies from specific domains such as pharmaceuticals, healthcare, legal services;

- The North America (the USA, Canada) and Europe geographical areas.

   Here are key insights we got:

1. The largest market sections in both areas among small-sized companies (11-50 employees) are: IT and services, health, wellness and fitness and financial services. For the section with large enterprises (201-1000 employees), leading market groups are financial services, healthcare, IT and services and computer software. These market groups are potential leads for WProofreader.

2. Since companies are only contractors and real users are employees, we've identified departments and units we'd like to focus on: accounting, business development, legal, marketing, operations, product management, project and program management, sales, support.

3. The USA market size for selected market groups consist of over 160 thousands companies, over 136 thousands companies are present on the European market, while only 15 thousands companies are present on the Canadian market. The detailed numbers are shown on the figure below.
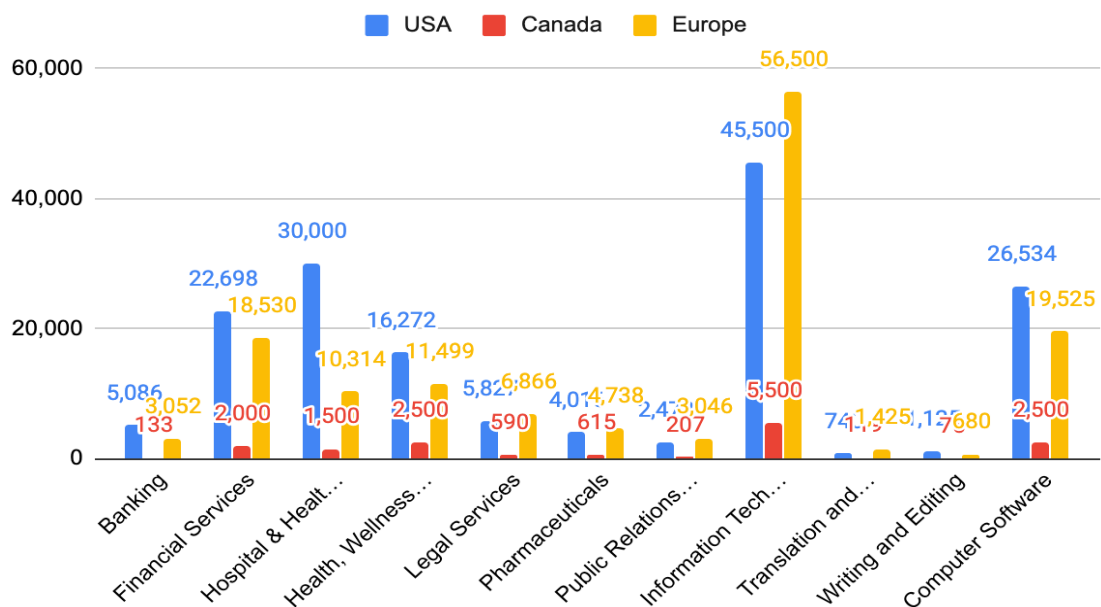
SECTION II. SOLUTION

2.1. Solution overview

We've run a competitor analysis to identify content marketing strategies and unique selling proposition (USP) of our main rivals - providers of spell-check add-ons/extensions for browsers.

According to the results we obtained, the common mission statements spell-check providers communicate to the audience are the following:

- "To improve communication";
- "To help people write better and faster";
- "To help professionals with editing/proofreading".

No company from our sample emphasizes the necessity of providing secure spell-check services, that's why we decided to focus on this pain point and reflect it in our mission statement.

Our mission statement: We developed WProofreader extension to let teams and companies communicate swiftly, securely and error-free. We believe data is the most valuable asset any business has, that's why we offer advanced options to collect and process your texts - a self-hosted version or our dedicated servers.

The overview of companies' vision statements showed that some competitors have a very broad interpretation of their concept.

Linguix's vision statement is "We are looking forward to delivering you the best writing enhancement tools in years to come".

While others like Grammarly or ProWritingAid are more precise and highlight innovations (AI and NLP) they implement to provide smarter solutions.

Given that, we've formulated our vision statement with our road map in mind without going deep into details as they will be presented in a detailed product road map.

Our vision statement: For us, only the sky is the limit. We're gradually advancing our solution to let you write and communicate everywhere on the web with the speed of your mind.

According to Henry A. Laskey, Ellen Day &Melvin R. Crask [4], a unique selling proposition must be a feature that highlights product benefits that are meaningful to consumers.

WebSpellChecker USP regarding a new solution - WProofreader - is based on its features and benefits for users and is part of its tagline and slogan.

Tagline: Your texts are always safe and sleek.

Slogan: Entrust your business to WProofreader - the most secure online spell checker.

The features WProofreader USP is based on:

- **Data security.** Unlike the majority of rivals who security measures are limited with data encryption methods, we offer a self-hosted solution to install on the client's server-side or on one of our dedicated servers;

- **Multilingual spell and grammar checker.** The competitor analysis showed that most of the proofreading extensions for browsers support only a few languages. WProofreader is a truly multilingual writing assistant covering 20 languages. The auto-detection feature allows users check mixed content written in 2+ languages;

- **Compatibility with online business software or solutions.** WProofreader works with CRM/CMS systems, project management apps, collaboration tools, email systems and social networks. Currently we're working on its integration to Google Docs;

- **Customization options.** To make WProofreader more flexible and user-oriented, we've added some new customization options. Users can tweak "ignoring words" settings, blacklist or whitelist domains, change a general theme (basic or custom), create new user dictionaries;

- **Default global and personal user dictionaries.** WProofreader comes with default global dictionaries and offers domain-specific wordlists as an extra

option for pharmaceutical, healthcare and legal companies. Users can build their own company-wide dictionaries and share them with teammates to detect slang, shoptalk or pro lexicon they use every day.

- **User management and statistics.** WProofreader comes with an admin dashboard where the admin can manage (invite or remove users) and monitor usage statistics (words reviewed, suggestions accepted, etc).

Supported integrations:

- Email service - Gmail
- Socials - Twitter, Facebook, LinkedIn
- CRM systems - Salesforce, HubSpot
- Project management systems and apps - Jira, Trello, Asana
- Publishing platforms - Medium, Reddit
- Document management systems - Confluence, Google Docs (soon)
- Content management systems - WordPress, Joomla, Drupal, Kentico CMS
- Service Desks systems - Zendesk, Jira Service Desk, FreshDesk

2.2. Competitor analysis

There are plenty of tools and products present on the market that are designed to improve the writing by eliminating various types of writing mistakes. We are not going to analyse all of them.

We will focus on the intelligent writing assistants that are offered for the businesses and teams rather than on individual users. The existing solutions vary by the language coverage, personalisation options, security level, integration capabilities and browsers support.

For the analysis, I selected the following competitor solutions: Grammarly for Business, ProwritingAid, LanguageTool Plus, Sapling AI for Enterprise, Ginger for Business.

In order to gather as much information as possible about the competitors, the following tactics and tools were used:

- Evaluate and try out the products of competitors. I've signed up for the trial versions of the products and tested their functionality. Defined strengths and weaknesses.
- Study the pricing model.
- Analyze the company positioning and branding from their websites, product documents, brochures and catalogues. Additionally I've configured Google Alerts to receive notifications about any new mentions of a competitor.
- Investigate the market reputation. For this particular case, I also conducted the analysis of user reviews on the browser market places. The detailed review will be provided later.
- Talk to the competitors. I've contacted some of the competitors to clarify their pricing modes and what are the plans for some features.
- Analyze SEO and website traffic. There are plenty of tools available that can be used to analyze competitor's websites or apps and get some insights about their monthly traffic, sources of traffic, website or app rank, geographical

location of users, and other helpful information. For that purpose I selected SimilarWeb tool.

2.2.1. Grammarly for Business

Proofreading options	Grammar, spelling and punctuation errors elimination, word choice, writing style and tone of voice improvement
Integrations	Browser extensions for Chrome, Firefox, Safari and Microsoft Edge, add-ins for MS Word and MS Outlook, support of Google Docs, native apps for Windows and MacOS, keyboards for iOS and Android
Users administration	Usage and performance statistics, simplified billing and account management
Language support	English and its dialects
Price, user/month	$12.50
Data security	Security measures, Cloud
Geography	United States, India, United Kingdom, Canada, Australia
Reference categories and industries	Education, science and education, video games consoles, graphics multimedia, social networks and online communication
SEO keywords	grammarly, grammerly, plagiarism checker, grammar check, grammarly for word
Monthly unique visitors	24.41M

2.2.2. ProWritingAid

Proofreading options	Contextual spelling, grammar and punctuation checking and terminology manager, style suggestions to improve writing, 25 summary reports on grammar, spelling and readability
Integrations	Chrome, Firefox extension and plug-in for Google Docs
Users administration	N/A
Language support	English and its dialects
Price, user/month	$10.00
Data security	Security measures, Cloud
Geography	United States, India, United Kingdom, Canada, Australia
Reference categories and industries	Computer electronics and technology, search engines, programming and development services, libraries and museums, online marketing
SEO keywords	prowritingaid, pro writing aid, best fantasy books, prowriting aid, which or that
Monthly unique visitors	489,302

2.2.3. LanguageTool Plus

Proofreading options	Grammar, style and spell checking
Integrations	Add-ons for browsers, Google Docs, MS Word and LibreOffice and other software
Users administration	N/A
Language support	More than 20 languages
Price, user/month	$4.92

Data security	Security measures, Cloud and on-premises
Geography	Germany, United States, United Kingdom, Brazil, France
Reference categories and industries	Programming and development services, business services, dictionaries and encyclopedias, education, computer electronics and technology
SEO keywords	language tool plus, languagetool free trial, punctuation checker, languagetool sign in, language tool
Monthly unique visitors	315,582

2.2.4. Sapling AI for Enterprise

Proofreading options	Basic suggestions, advanced premium suggestions, anippets, autocomplete everywhere
Integrations	Browser extensions for Chrome, Google Docs
Users administration	Team analytics, bulk user provisioning
Language support	English
Price, user/month	$10.00
Data security	Security measures, Cloud
Geography	United States, India, Canada, Turkey, United Kingdom
Reference categories and industries	Education, investing, universities and colleges, financial planning, computer electronics and technology
SEO keywords	sapling intelligence, sapling pro, sapling customer support, sapling vs grammarly, transla
Monthly unique visitors	10,242

2.2.5. Ginger for Business

Proofreading options	Grammar checker, translation, definitions, sentence rephraser, text reader, practice the mistakes, analysis of errors
Integrations	Browser extensions for Chrome, Safari, native apps for Windows and MacOS, keyboards for iOS and Android
Users administration	Admin panel, Centralized billing
Language support	English and its dialects
Price, user/month	$9.99
Data security	Security measures, Cloud
Geography	United States, India, Philippines, China, United Kingdom
Reference categories and industries	Programming and development services, computer electronics and technology, education, news and media, search engines
SEO keywords	grammar checker, grammar check, ginger grammar, ginger, irregular verbs list
Monthly unique visitors	2.155M

2.3. Analysis of users reviews

To conduct the additional analysis of the current solutions, I decided to go to the browsers stores and review all the feedback left by users for each of the solutions published on the stores.

The following browsers stores were analysed: Chrome web store, Firefox browser add-ons, MS Edge add-ons, Safari. The solutions analysed: Grammarly, LanguageTool, ComposAI, Linguix, ProWritingAid, Microsoft Editor, Sapling AI.

I've started from the review of the negative feedbacks that are starred with 1-3 starts to spot the weak points of the current solutions. Along with that I analyzed the positive feedbacks with 4-5 starts to understand where our competitors are good at.

The most valuable feedback is present on Chrome and Firefox stores as they have the majority of the users. There are not so many useful feedbacks on MS Edge add-ons and Safari, as they are less popular and not all of the analysed solutions are present there.

I'm not going to dig into the detailed overview of all solutions and their feedback. I will focus on the most useful ones that help me to build assumptions about the pain points of users and which can be addressed in our solution.

The market leader Grammarly with over 10 million users on Chrome and over 1 million users on Firefox rated 4.5 and 4 starts accordly. A lot of the feedback is very positive, the users find Grammarly very useful, it simplifies the daily communication and fixes almost every writing problem. On the other side there are a lot of negative reviews related to the issues performance, that it doest work at all in some cases and the most crucial as for me is the privacy concerns. Here are some examples of the negative reviews concerning the data privacy issues:

"Anything you write Grammarly takes license of. So if you write a novel or a short story they own the rights to it and can sell and use it WITHOUT your permission."

"This extension logs everything you type. This includes any on-line banking and shopping, meaning they have a record of all information you type. This includes credit card numbers, SSN's, answers to security questions and so on and so on."

"Activated for all websites by default. You can exclude website one by one. So, If you don't want Grammarly injected on every page/site and all your typing sent. There's no option to deactivate by default and activate for only a few websites. Probably no GRPD compliant."

LanguageTool is less popular than Grammarly but it offers the support for other languages other than English dialects. It has over 500 thousands of users on Chrome and over 83 thousands of users on Firefox. It is rated with 4.7 starts which is even higher than Grammarly. The major part of the positive feedback is about support for other languages such as German, French, Spanish, Polish, Russian and convenient switching between the languages using auto detect. The negative reviews are mainly about some minor incompatibility issues with some websites such as Overleaf, Reddit and WordPress.

On March 30, 2020 Microsoft introduced their version of the AI-powered intelligent writing assistant called Microsoft Editor. They announced support for over 20 languages. With the massive marketing campaign, everybody started comparing Microsoft Editor and Grammarly, saying it is a killer of Grammarly. So, it would be a huge mistake to exclude this solution from the comparison. The user reviews on the browser stores looks more like the backlog of the features to be implemented. Despite the loud words, the solution doesn't offer the common features that are considered to be "default" for the rest of the solutions. And there is a long way to go for Microsoft folks to address those issues.

Some of the takeaways of what is important for users and what not not offered in the current solutions:

- Data security and privacy
- Comprehensive proofreading options for other languages
- Not all websites and platforms are supported

2.4. Blue Ocean Strategy

As the competition analysis showed, the existing market of digital writing assistants is ultra competitive and battles around the price and features (so called "Red ocean"). To break away from the competition, I decided to explore the other

approach and search for opportunities in a new market where our typical competitors are non-existent or irrelevant.

To explore a new niche market and opportunities, it was decided to use the Blue Ocean Strategy developed by W. Chan Kim and Renée Mauborgne [5]. The Blue Ocean Strategy serves two main purposes:

- To capture the current state of play in the known market space by identifying what factors current players in the industry are competing on. The resulting "industry value curve" demonstrates what aspects competitors are focusing on and what kind of value customers are receiving.

- To visualize how to refocus from competitors to alternatives and from customers to noncustomers of the industry. This is achieved with the help of the Four Actions Framework by re-examining each of those factors: what factors are not so valuable for customers and can therefore be reduced or eliminated and what factors should be raised or created in order to lift customer value or create new demand.

The result is a new value curve "To-Be strategy". Using the Eliminate-Reduce-Raise-Create Grid it can be drawn within the Strategy Canvas that gets away from the industry value curve thereby creating a "Blue ocean".

Here are the steps that I've made to build the Blue Ocean Strategy Canvas.

Step 1. To get started, it is necessary to define the list of products for comparison. The following digital writing assistants that offer a plan for business were selected for comparison and further analysis:

- Grammarly for Business
- ProWritingAid Premium
- LanguageTool Plus
- Sapling AI Pro/Enterprise

Step 2. The next step is to list the product attributes and/or factors of competition that create value for a customer. Based on the previous research, the following factors were chosen:

- Languages coverage
- Customization and personalization options
- Data security and privacy
- Price
- Integration capabilities
- Language auto-detection
- Advanced spelling, grammar, style and punctuation checker
- Industry or domain specific dictionaries
- Accessible UI/UX
- Autocomplete suggestions

Step 3. Once all the attributes are listed, each product should be rated on a scale of 0-5, 5 is being the best, 1 is being the worst and 0 is being non-existent. There are two ways how the scoring data can be obtained:

- Your own perspective based on your knowledge of the market;
- Customer survey data.

In this particular case, I decided to rely on my knowledge that I got when conducting the analysis of the competitors and giving a try for each of the solutions. The results are listed in the table below.

Table 2.4.1

Products (or services) to compare → Attributes or competition factors ↓	Grammarly	ProwritingAid	LanguageTool	Sapling AI
	1–5 Ratings ↓	1–5 Ratings ↓	1–5 Ratings ↓	1–5 Ratings ↓

Languages coverage	0	0	5	0
Customization options	5	4	3	2
Data security and privacy	0	0	4	0
Price	2	3	4	1
Integrations	5	4	3	2
Language auto-detection	0	0	3	0
Advanced proofreading	5	4	2	3
Specialized dictionaries	0	0	0	0
Accessible UI/UX	0	0	0	0
Autocomplete suggestions	0	0	0	5

Now let's review in detail the given scores for each of the selected products on table 2.4.1.

1. Languages coverage. The highest score was given to LanguageTool as it provides the support for over 20 languages. The rest products are focused on offering advanced proofreading for the English dialects, thus, they were scored the lowest.

2. Customization and personalization options. As for me the best personalization options are offered by Grammarly. Only a few options for customization are available in Sapling AI.

3. Data security and privacy. Despite the fact that Grammarly, ProwritingAid and Sapling AI offer advanced security measures for data processing, all user content is sent to external servers managed by those companies. Only LanguageTool offers an option with the on-premises installation of the backend, thus, all content that users check is processed on a dedicated server

and not sent outside. This option is present but they are not using that as a competitive advantage and focused on their cloud-based option. Thus, I've scored them with "4".

4. Price. The most expensive solution is Grammarly, the cost for a single seat in the Business plan is $12.50/m billed annually, thus, their score is "1". The next in the line is Sapling AI scored with "2". For a single user license ProwritingAid changes $10/m. The least expensive is LanguageTool with $4.92/m, thus, they've got the highest score – "5".

5. Integration capabilities. Grammarly offers the widest range of the integrations that includes but not limited to browser extensions for Chrome, Firefox, Safari and Microsoft Edge, add-ins for MS Word and MS Outlook, support of Google Docs, native apps for Windows and MacOS, keyboards for iOS and Android. They've deserved the highest score "5". ProwritingAid also offers plenty of integration options but not so many as Grammarly. They have browser extensions for Chrome, Firefox, Safari and MS Edge, integration with Google Docs, add-on for MS Office and a desktop app. Their score is "4". LanguageTool developed add-ons for Chrome, Firefox, GoogleDocs, MS Office and LibreOffice. Thus, they get "3". Sapling AI has the smallest number of integrations in comparison with the rest players. Right now they provide support for Chrome, Firefox and MS Edge. So, the score is "2".

6. Language auto-detection. Only LanguageTool provides the language auto-detection option. It is dictated by the multi-language support that they offer. Nevertheless, the score is "3" as it works not as expected and still requires enhancements. The rest players do not offer such a capability, thus, they were scored with "0".

7. Advanced proofreading. No doubts that the industry leader is Grammarly – "5". ProwritingAid is also a great tool for comprehensive editing – "4". Sapling AI states that their AI-based engine can catch 60% more errors than the rest players on the market. Nevertheless, the absence of the rules and tips for corrections leave them behind Grammarly and ProwritingAid with the score

"3". LanguageTool uses the rule-based approach, despite the fact that there are hundreds thousands of lines of rules, it doesn't catch a lot of errors. Their score is "2".

8. Specialized dictionaries. Some industries such as healthcare operate a large number of industry specific terms which are not recognized by standard tools. None of the players offer the prebuilt wordlists. All products are scored with "0".

9. Accessible UI/UX. None of the products does meet the recommendations of WCAG which explain how to make web content more accessible to people with disabilities. All products are scored with "0".

10. Autocomplete suggestions. Sapling AI offers a great advancement to its feature set that generates autocomplete suggestions as user types. This eliminates mistakes and saves the time for writing. The score is "5". None of the other products has such a feature.
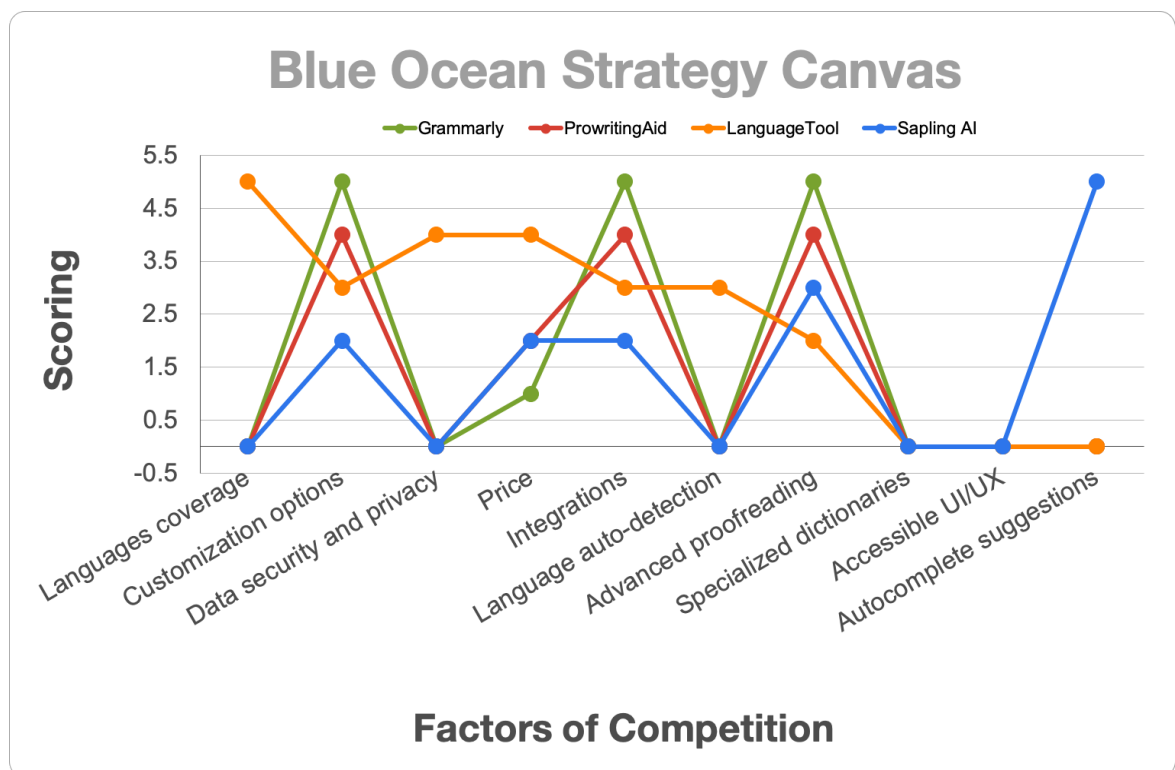

Figure 2.4.1. Blue Ocean Strategy Canvas - Industry Value Curve

Step 5. The last step but not the least is to manipulate the factors of competition by raising, reducing, eliminating, or creating new factors for the product to understand what the market could be.
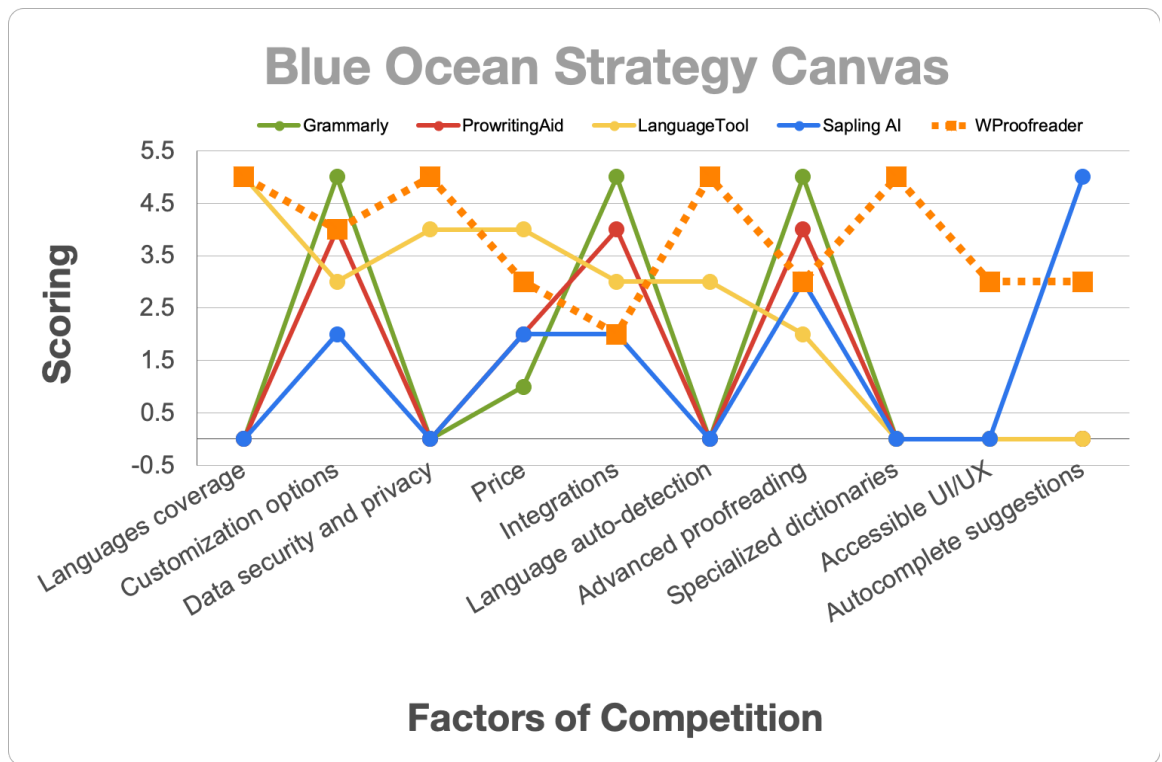

Figure 2.4.1. Blue Ocean Strategy Canvas - New Value Curve

SECTION III. BUSINESS MODEL

3.1. Business Model Canvas

Once the market research and competitors analysis were conducted, the next step is to define the right business model to achieve the product market fit.

The Business Model Canvas [6,7] was proposed by Alexander Osterwalder based on his earlier book: Business Model Ontology. It outlines nine segments which form the building blocks for the business model in a nice one-page canvas.

1. Value propositions. This segment provides an outline of the core value proposition our solution aims to produce to our customer segments and how it should stand out on the market.

2. Customer relationships. This segment provides an outline of the shape and inner content of the customer relationships we want to build.

3. Customer segments. This part provides an outline of the customer segments that were selected for our research and marketing activities.

4. Key activities. This section provides an outline of the key activities we are executing in order to produce the value for our customers.

5. Key partnerships. This segment provides an outline of the list of partnerships we aim to build in order to achieve our business objectives, both technical and marketing.

6. Key resources. This segment provides an outline of the main resources we will require in order to generate value for our customers and support our operations.

7. Channels. This section provides an outline of the leading marketing channels that we are going to exploit to penetrate the market and build relationships with our target customers.

8. Cost structure. This section provides an outline of the cost structure of our business operations.

9. Revenue Streams. This section provides an outline of the key revenue streams we are going to exploit in order to generate revenue and build a profitable and sustainable business model.

The visual representation of the business model canvas for WProofreader digital writing assistant for business is provided in Annex 1. And now let's take a deep dive into the details of each building block for the defined business model.

3.1.1. Value propositions

Our main focus is to provide an intelligent writing assistant which keeps user content safe and confidential and speaks many languages. The overall value propositions are as follows:

- Save time on manual text correction
- Improve day-to-day business communication: make it smooth, error-free and fast
- Enhance business reputation
- Prevent textual data from leakage, keep it safe and confidential
- Validate writing on many languages (English, Spanish, German, French, etc.)
- Personalized proofreading experience (personal user dictionaries, company-wide custom dictionaries, additional settings)
- Improve the writing skills of a team
- Convenient and accessible UI/UX

3.1.2. Customer relationships

The self-hosted version of WProofreader for Business requires the deployment of the backend component on the customer's server. The deployment procedure requires the involvement of the technical resources. Even though we are doing our best to make the process of the installation as smooth as possible, it doesn't eliminate the fact that our customers may face the deployment and configuration issues. We are going to offer the professional services for the guided installation and configuration during the onboarding process.

Similarly, technical support assistance may be required during the upgrades and maintenance procedure for the backend component of WProofreader when the new version becomes available. Due to the security reasons, we are not able to deliver the automatic updates. The updates and maintenance of the servers where the backend component is running is a responsibility of the customer.

All the installation, configuration, upgrade procedures as well as the requirements will be described in detail on the documentation portal.

3.1.3. Customer segments

As a target segment, we decided to approach small (11-100), medium (101-500) and large-sized (500-1000) businesses and organizations. Based on our previous experience and assumptions, the following industries are selected: healthcare, legal services, banking, financial services, governments, computer software. The geographic location is North America and Europe. As we grow, we also consider targeting companies in South America (e.g. Brazil) and Asia-Pacific regions.

Our assumption is that the following departments and roles within a company or organization will be the end users of the product: accounting, business development, legal, marketing, operations, production and project management, sales and support, human resources.

3.1.4. Key activities

The key activities that we will be executing in order to deliver value to our customers include: research and development of all components of the product, sales and marketing to promote the product and generate revenue, and support services to achieve customer success.

3.1.5. Key partnerships

One of the key partnerships will be CRM system providers. We already have talks with one of the popular CRM providers. Instead of integrating the spelling and grammar checking feature inside the platform, they prefer to have a list of reliable vendors/partners that they will be referencing. Since we are targeting the B2B segment, we believe this will be a beneficial partnership which generates additional sales.

The cooperation with resellers is a crucial aspect when working with the B2B segment, especially with certain industries such as banking, healthcare, governments. It simplifies and cuts the sale cycle. The resellers will be offered the discounted pricing, typically it is 5%.

3.1.6. Key resources

The key resource of any business is a team. Our current team consists of 12 FTEs and 3 part-time contractors. Less than half of the team is involved in the implementation of this new endeavour. The rest team is responsible for the provision and maintenance of the existing products. As soon as MVP is released and the first feedback is received, more and more people will be involved in the process.

The other key resource is the technology, an implementation of the AI-based engine architecture described in the Technology paragraph. The datasets are tightly

bound with the technology, as they are used for the neural network training and fine-tuning.

3.1.7. Channels

Direct sales. We will start the promotion of the product by approaching our existing customer base. There are about 2,000 companies of various sizes and industries. This is where we can get the first real feedback and plan the further improvements. Based on the defined customer segments, using Sales Navigator, we are going to approach leads via LinkedIn.

Landing page. The landing page will be the entry point for upcoming traffic from the other channels where our potential customers will be able to request trial and contact us for the pricing options.

Compare technology review platforms. There are plenty of the platforms where a company can publish the product overview and engage potential customers to leave reviews and encourage sales. We are going to place the product offering on the next platforms: G2.com, Capterra, GetApp, Software Advice, SoftwareSuggest, FinancesOnline.

Browser extension stores. Our product is offered as a browser extension. And the browsers stores are a common place where a certain product can be found and easily installed on the browser by a user. Moreover, it is a place where users can leave their reviews and rate products. In the initial stages we are going to be published on Chrome and Mozilla Firefox web extension stores as they are more popular. Later we will consider adding an extension for MS Edge browser. At the moment there is no plan to support Safari browser.

Media and content. As the product is released we plan to make announcements in our blog, social networks. As the next step, the set of various overview articles will be posted on such popular platforms as Medium and Reddit.

Separately, there will be a set of short videos on YouTube to present the product and its key features.

Advertizing. We plan to launch advertising companies using Google Ads and LinkedIn Sales Navigator. Prior to this, using SimilarWeb tool I've studied the keywords that bring traffic to our main competitors and what CPC for each of them. Below are two snapshots of the generated keywords for the tools and websites that offer text proofreading options.

Generated keywords for "spell checker" entry:

Results: 2,938 Keywords · Total Search Visits 5.101M

	Keywords (2,938)	Score ↓	Volume	Yearly Trend	CPC	Organic Vs. Paid		Leader
1	spell checker	●●●●●	352,500		$1.23	92%	8%	reverso.net
2	spell check	●●●●●	-	N/A	-	92%	8%	reverso.net
3	spell chcker	●●●●●	-	N/A	-	95%	5%	spellcheck.co.uk
4	speel checker	●●●●●	334,500		$1.26	82%	18%	jspell.com
5	spelling check	●●●●●	-	N/A	-	89%	11%	reverso.net
6	spell check online	●●●●●	27,780		$1.51	89%	11%	online-spellcheck.c
7	online spell check	●●●●●	-	N/A	-	92%	8%	reverso.net
8	spelling checker	●●●●●	-	N/A	-	91%	9%	reverso.net
9	english spell check	●●●●●	13,000		$1.03	90%	10%	reverso.net
10	check spelling	●●●●●	-	N/A	-	82%	18%	reverso.net
11	spell check english	●●●●●	-	N/A	-	89%	11%	reverso.net
12	english spelling check	●●●●●	-	N/A	-	85%	15%	reverso.net
13	spell checker online	●●●●●	-	N/A	-	86%	14%	reverso.net
14	check speller	●●●●●	-	N/A	-	100%	0%	reverso.net
15	online english spell check	●●●●●	1,250		$1.09	100%	0%	online-spellcheck.c
16	check spelling in text	●●●●●	-	N/A	-	100%	0%	reverso.net
17	spell chekcer	●●●●●	21,240		$2.62	100%	0%	reverso.net
18	corrector english	●●●●○	49,460		$0.94	93%	7%	reverso.net
19	spell check and grammar	●●●●○	32,830		$1.57	100%	0%	reverso.net
20	spellcheck	●●●●○	-	N/A	-	96%	4%	reverso.net

Figure 3.3.7.1. Generated keywords for "spell checker" entry

Generated keywords for "grammar checker" entry:

	Keywords (721)	↓ Volume	Yearly Trend	CPC	Organic Vs. Paid	Leader
☐ 1	grammar checker	1,788,330		$0.94	95% 5%	✅ grammarcheck.net
☐ 2	grammarchecker,com	1,726,670		$0.96	100% 0%	Ⓖ gingersoftware.com
☐ 3	checker grammar	1,692,500		$1.15	100% 0%	Ⓖ gingersoftware.com
☐ 4	online grammar checker	199,500		$0.96	93% 7%	✅ grammarcheck.net
☐ 5	grammar online checker	190,250		$0.88	91% 9%	Ⓖ gingersoftware.com
☐ 6	free grammar checker	85,620		$1.66	90% 10%	scribens.com
☐ 7	free grammar checker:	81,500		$1.85	100% 0%	✅ grammarcheck.net
☐ 8	english grammar checker	67,500		$0.69	91% 9%	reverso.net
☐ 9	ginger grammar checker	41,900		$1.96	96% 4%	Ⓖ gingersoftware.com
☐ 10	gingerly grammar checker	40,530		$2.05	100% 0%	Ⓖ gingersoftware.com
☐ 11	spelling and grammar che…	33,450		$1.5	98% 2%	reverso.net
☐ 12	grammar and spelling che…	32,830		$1.57	77% 23%	reverso.net
☐ 13	grammarly plagiarism che…	27,950		$1.37	84% 16%	Ⓖ grammarly.com
☐ 14	free online grammar check…	26,330		$1.82	90% 10%	✅ grammarcheck.net
☐ 15	reverso grammar checker	26,150		$3.87	98% 2%	reverso.net
☐ 16	grammarly plagiarism che…	26,080		$1.43	70% 30%	Ⓖ grammarly.com
☐ 17	online grammar checker fo…	24,190		$1.6	85% 15%	✅ grammarcheck.net
☐ 18	best grammar checker	21,990		$1.68	78% 22%	Ⓖ gingersoftware.com

Figure 3.3.7.2. Generated keywords for "spell checker" entry

Based on the keywords, its volume and CPC, we can project the advertising cost of the GoogleAds campaigns.

3.1.8. Cost structure

- Research and development
- Support and customer success
- Sales and marketing
- General and administration
- Payment processing fees (PayPal, Stripe, Wire transfers)

3.1.9. Revenue streams

The main revenue stream is the license fees that customers will pay us annually. The main licensing metric is a user seat. The minimal number of seats per organization is 10.

I've used the competition-oriented pricing strategy to define the base price for a license. The competitors prices are between $5 and $12.50/u/m billed annually.

Based on that, the cost of a single user license for WProofreader is **$9.00** per month or $108 per year. The per user price will be gradually decreased based on the number of seats required.

On the initial purchase, we will also offer and change the professional services fee to conduct guided installation of the backend components (WProofreader Server) inside the customer infrastructure. The initial guided installation fee is $600.

On top of the default package, we will be offering the extensions to the default language set and specialized dictionaries for medical and legal domains. The cost of each additional language or specialized dictionary added on top of the standard package is $100 per year.

The customers interested in the extended support conditions will be offered the premium support services. The cost of such services will be formed based on the requirements, case-by-case.

3.2. Value Proposition Canvas

In order to ensure that the product is positioned around what the customer values and needs, I decided to use the Value Proposition Canvas [8]. It consists of two main blocks: the customer profile and a company's value proposition. A fit is achieved when the products and services offered as part of the value proposition address the most significant pains and gains from the customer profile.

Based on the collected data from the conversations with potential customers, analysis of the competitors and studying the user feedback on the existing solutions, I've created two canvases. One presents the value proposition from the company perspective and the other from the actual users of the product.

The figure below outlines the value proposition for the companies who will be buying the product.

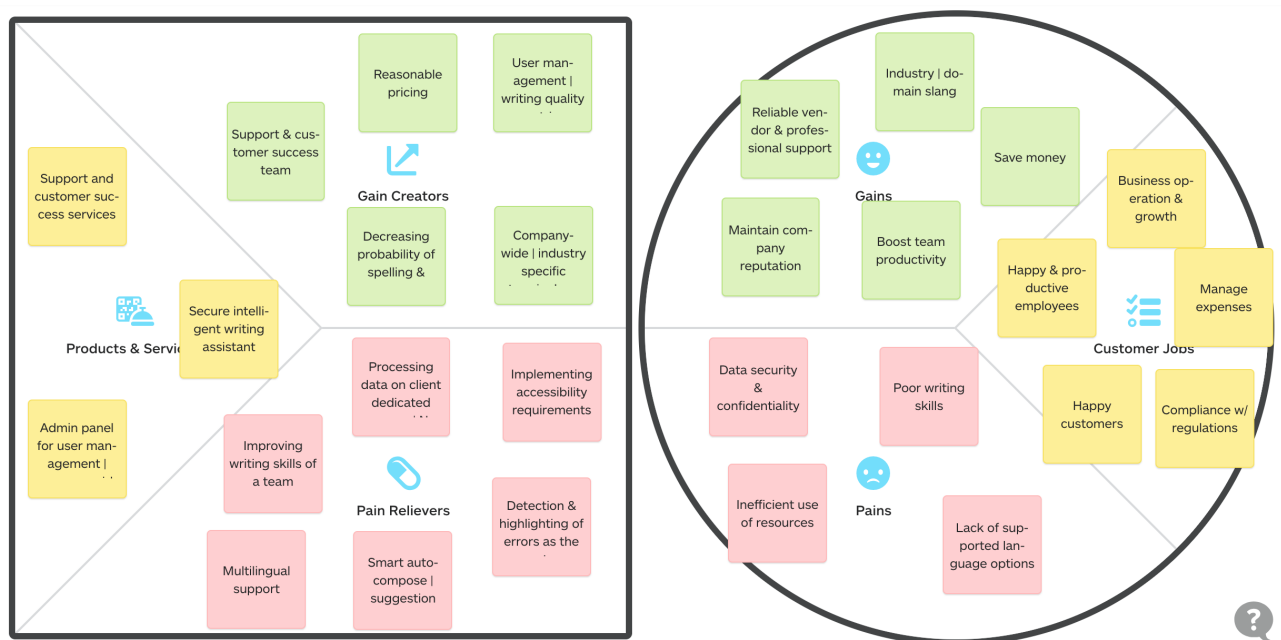Figure 3.2.1. Value proposition canvas for "Company" customer profile

Our assumption that the most significant pain for the company in the defined customer segment is fear that confidential or privacy data will be stolen or misused. This pain can be relieved by the use of the secure self-hosted version of WProofreader. In this case no data will be sent outside when the text is checked for any types of writing issues.

The value proposition for the actual users of the product is shown on the figure below.
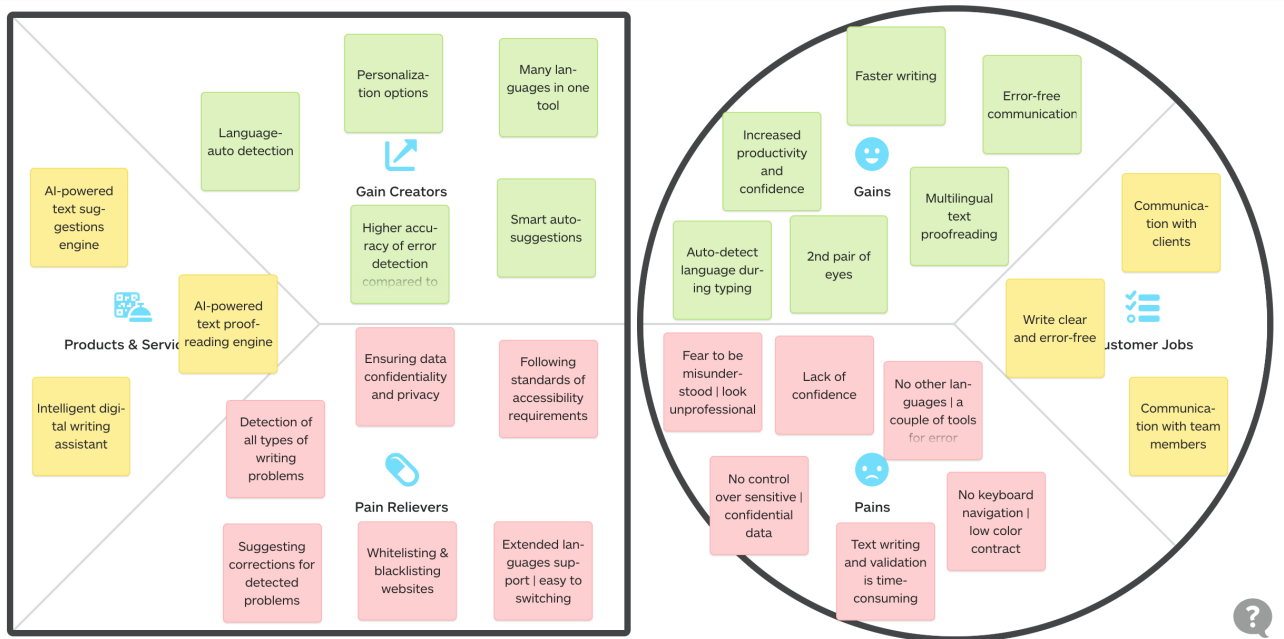

Figure 3.2.2. Value proposition canvas for "Company" customer profile

Our assumption that for users as well as for the company the most significant paid is concerning data safety and security. All the existing solutions are SaaS-based, it means that data is sent and processed on the provider's servers. Moreover, some providers reserve the right for the user content for the purpose of the service improvements. Again, this pain can be relieved by the use of the Business version of WProofreader extension that will be connected to a dedicated server hosted by a company.

The other significant pain is absence of the other languages support except English. As a workaround some users use a couple of different solutions and switching between them as needed. This is annoying and frustrating. This pain can be easily eliminated by the use of WProofreader product that provides support for many languages equipped with auto-language detection features on top of that.

SECTION III. THE PRODUCT

3.1. Minimum viable product

Bringing a new product to market is always a big risk. But to reduce the risk, the decision was made to first develop a minimum viable product (MVP). Our MVP consists of the following main components:

1. WProofreader product branding
2. Landing page
3. Chrome and Mozilla Firefox extensions
4. Management panel for organization to manage users and administration of company-wide settings
5. AI-based engine for grammatical error correction for the main language

The MVP will help to achieve the next goals:

1. Validate assumptions about the product and its value for customers.
2. Demonstrate the capabilities of the product to prospective customers and gather the initial feedback.
3. Validate the technology performance and the result and its readiness for production use.

3.2. Branding

To stand out a new brand style and a product logo was created:

Figure 3.2.1. WProofreader product logo

The meaning behind the name "WProofreader" is simple, it is a construct of two words: name of the company and proofreader. The name of the company is WebSpellChecker which stands for the first letter "W". Also, W could be perceived

as "Web" or "Wise", both work best for our brand positioning. "Proofreader" is a person whose job is to check the text for correctness before it is printed or put online.

To come up with the right branding and name is also crucial for the positioning of the product on the market from the early stages. Making changes later will bring additional costs for the marketing budget.

3.3. Landing page

Prior to the finalizing and official publication of the alfa version of extension, we've decided to start with a launch of the landing page hosted under www.wproofreader.com domain name.

The landing page is a crucial element and its effectiveness can translate to increased conversions, profits and sales. Thus, we've decided to approach its design and structure wisely.

To define the best structure of the landing page, the AIDA model [6] was selected. The AIDA model is an acronym and it stands for attention, interest, desire and action. It was developed by the American businessman, E. St. Elmo Lewis, in 1898 to describe the steps a customer goes through in the process of deciding on a product or service.

According to the AIDA formula, the following landing page structure was defined:
- Main block with tagline, slogan and CTA
- About WProofreader
- Features
- Integrations
- Testimonials
- Pricing
- CTA
- Contact us

The mockups of the landing page for WProofreader are available in **Annex 2**.

3.4. Web browser extension

The core component of the product that we are going to offer is a browser extension. The extension will be provided for Chrome and Firefox browsers during the initial stage. The extensions will be available in Chrome Web Store and Mozzilla Firefox Add-ons.

To start using the product the user should install the extension for one of the supported browsers. Once the WProofreader extension is installed, a user will begin to see writing suggestions as they type on different websites. WProofreader will automatically check the text and underline all the detected spelling and grammar problems with red and green underlines accordingly. To view and accept the suggestion, the user needs to hover on the problem to see a suggested correction. From the technical point of view, a common extension's architecture includes multiple components:

- Manifest is a file that contains basic metadata such as extension name, version and the permissions it requires.
- Background scripts load the logic.
- UI elements include a toolbar icon and its popup.
- Content scripts are loaded into web pages and run in the context of that particular page.
- Options page is a page that's shown when the user accesses your add-on's preferences in the browser's native add-ons manager.

Here is a visual representation of an extension anatomy offered by Mozilla MDN [11].
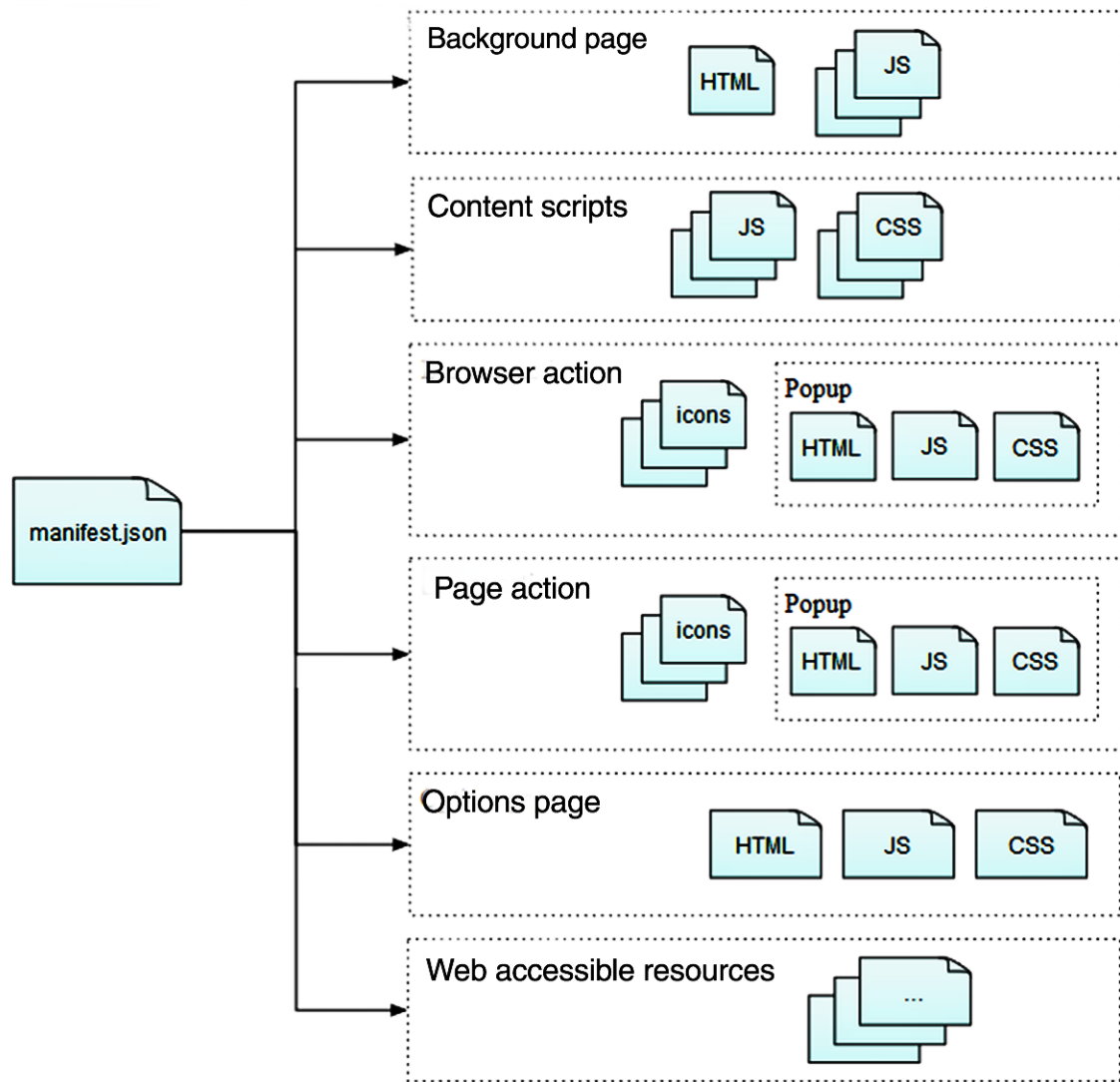
Figure 3.4.1. Anatomy of an extension

While designing the user interface and experience of the extension, the next steps were made:

1. Conducted analysis of all popular solutions on the market. Each of the solutions were installed and tested. The pros of cons of each were listed.

2. Analysed the user reviews on the browsers web stores related to the user interface and user experience. The pain points and the delighters were identified.

3. Studied the best practises provided by Firefox [12] on how to build great experience for extension.

4. Studied the WCAG 2.1 [1] on how to make the use of the extension accessible to a wider range of people with disabilities.

Here is how the WProofreader extension works and looks in Gmail:
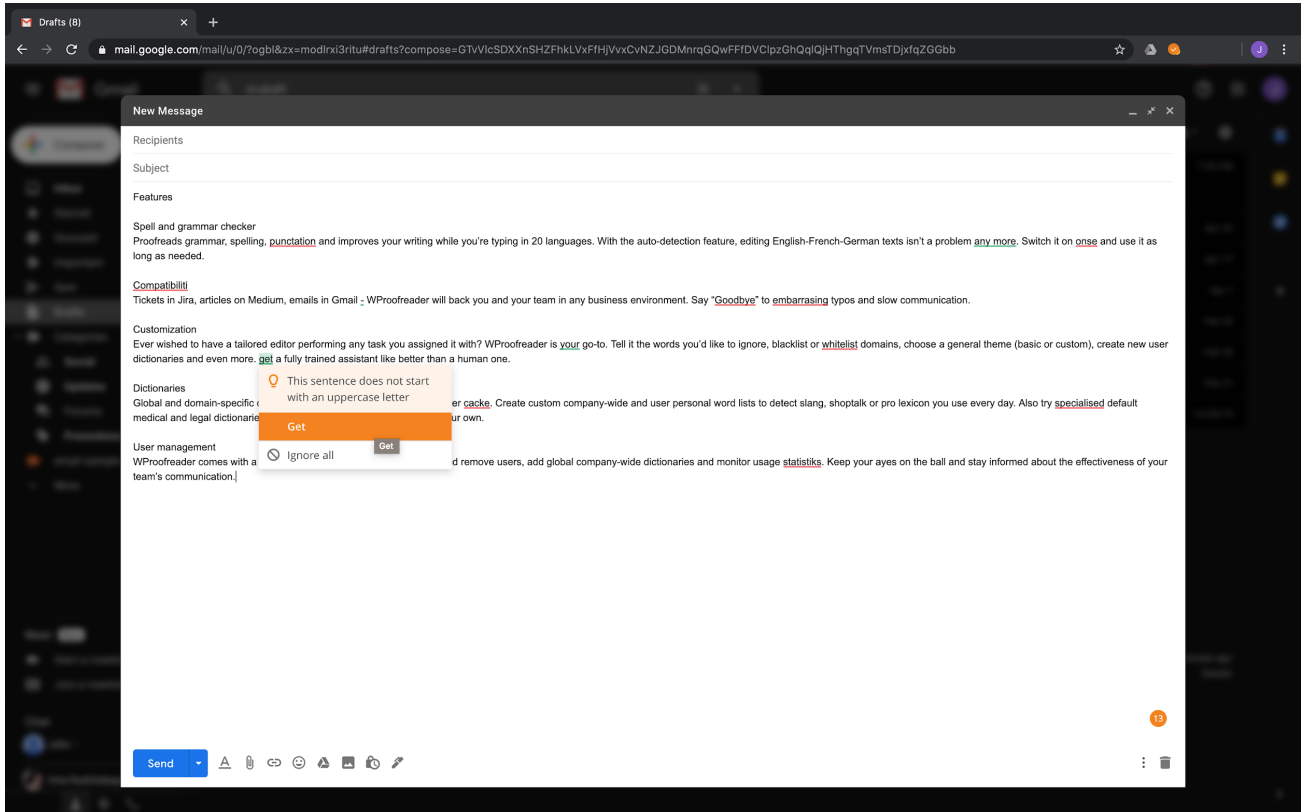
Figure 3.4.2. WProofreader in Gmail

On click to the WProofreareader icon on the browser toolbar a pop-up with general options will be shown.
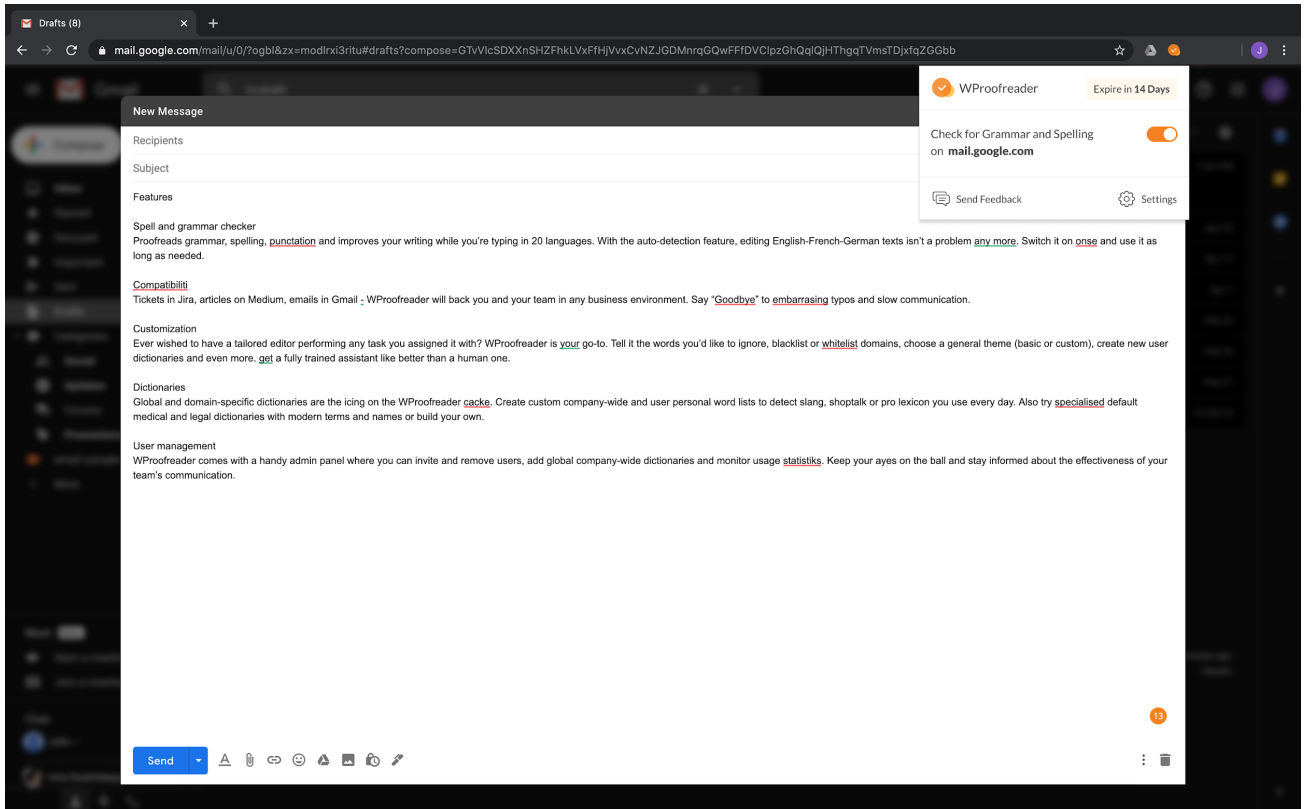
Figure 3.4.3. WProofreader popup view

Settings and the personal dictionary are available on the options page. It can be accessed by clicking the **Settings** icon on the popup.
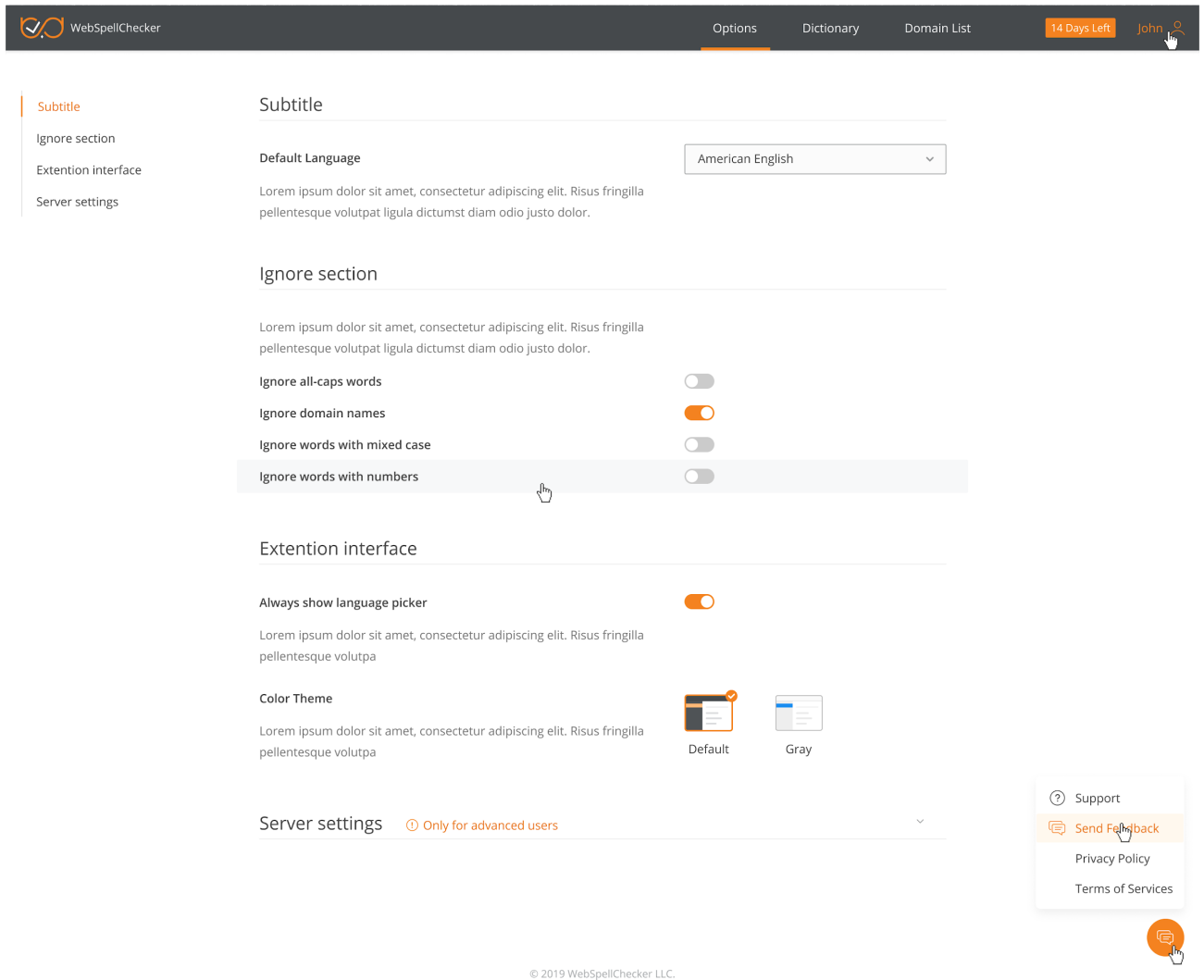
Figure 3.4.4. WProofreader option page view

Besides the main components of the extension, there are additional pages that are an integral part of the overall experience of the product:

- User account, login and reset password pages.
- Onboarding page which guides the user through the configuration steps and the key aspects of the product after the extension is installed;
- The offboarding page, a "help us improve" message, with a survey about why the user is removing the extension. The survey will offer a list of the most likely reasons and an optional textarea to provide more details.

A separate dashboard, an admin panel, is provided to an organisation for users management and management of global product settings.

From the Users page the admin can manage the user licenses, invite new users or remove users.

Figure 3.4.5. User management from the admin panel

From the Dictionaries page, the admin can create as many company-wide dictionaries.

Figure 3.4.5. Company-wide dictionaries management from the admin panel

3.5. Technology

In order to create a comprehensive engine for spelling, grammar, style checking, it was decided to develop an AI-based engine using the modern approaches for solving NLP-related tasks. At the time of the decision, there was a competition "Building Educational Applications 2019 Shared Task: Grammatical Error Correction" [13] announced by University of Cambridge. We decided to participate in it as it could have improved our expertise in the domain and open the access to the community. As a result, we created our architecture for solving grammatical error correction tasks, wrote a paper that described our approach and presented it at a workshop in Florence, Italy.

The proposed architecture failed to achieve the meaningful results but helped us to revisit our approach and create a brand new architecture that addresses the issues of the previous model. It is briefly described in my article "Multi-headed model based on BERT to solve Grammatical Error Correction tasks more efficiently" [14] on Medium where I provided an overview of our participation in the competition and what are the key takeaways.

Right now the model is trained to check the text for spelling, grammar, punctuation problems for English. However, we plan to reuse the same architecture when scaling on the other languages.

The following technology stack is used in the creation and support of the above-mentioned architecture:

- Base library: TensorFlow
- Models library: HuggingFace's transformers
- Network architecture: seq2seq Encoder-Decoder architecture improved for grammatical error suggestion task
- Pretrained Encoder: RoBERTa: A Robustly Optimized BERT Pretraining Approach [15]
- Decoder implementation: Hand-crafted decoder based on the classical Transformer Decoder implementation

3.6. Product roadmap

Stage 1 - MVP	Q2 2020	- Chrome and Firefox extension - Spelling and grammar checking using existing engines (up to 20 languages)
Stage 2	Q3 2020	- Admin panel for organization (user management) - Users authentication - Support of Google Docs - Advanced grammatical error correction on English (AI-based)
Stage 3	Q4 2020	- Suggestions autocomplete for English (AI-based) - Admin panel for organization (statistics per user, global dictionaries management)
Stage 4	Q1-Q4 2021	- Performance optimizations - Advanced grammatical error correction for other languages (AI-based): Spanish, German, French, Portugese - Categorization of issues, descriptions - Statistics and monitoring for users performance - Mobile apps

3.7. Exit strategy

One of the important aspects in the company lifecycle is to plan the exit strategy. Here is a list of possible options for exit strategy:

1. To be acquired by another company, a competitor, e.g. Grammarly, the market leader, as an extension of the initial offering for other languages support.

2. To make it a cash cow and continue growth as a separate industry player in a niche market.

3. Initial Public Offering (IPO).

4. Liquidation and close.

Managerial conclusion: Right now our strategy is to grow the business and deliver the value for our customers as a separate industry player. Being acquired by another company is not the option as we need to adjust the business model to be a fit for the acquiring company. The IPO is for mature startups and requires enormous investment of time and money.

SECTION IV. RISKS ANALYSIS

Risk	Likelihood	Severity	Response
Company revenue from the existing products will drop down to the point where we won't be able to cover our costs and reinvest into dev/promo of extension.	Medium	High	Communicate with the project owners to invest in the further development of the product by providing the explicit steps when the breakeven point and profit is expected.
The neural networks that we rely on as a core technology and one of the main drivers to achieve high quality won't be ready for production use.	Medium	Medium	As a back-up continue using the classic engines with algorithms that are already in place, plus statistical data while continuing efforts to achieve the required outcome with the neural network.
The technical requirements to run	Medium	High	Keep optimizing the software requirements to make it work on

the software on premises will be high so not all customers can afford such servers.			the 'common' servers. Alternatively, we can offer dedicated secure servers hosted by us.
Any of the existing competitors decide to target our customer segment and offer a server deployment.	Medium	Medium	Offer the extended range of supported languages, additional features as auto-completion (text prediction), cut the price.
Global economic crisis will seriously affect the demand, it will take longer to reach the breakeven point / belly up.	High	High	We will be retargeting on the companies that are in the industries that are growing despite the crises (healthcare, etc).

SECTION V. FINANCIAL ANALYSIS

5.1. Market size

TAM, SAM, SOM concepts will be used to estimate the market size for WProofreader for Business.

- TAM or Total Available Market is the total market demand for a product or service.
- SAM or Serviceable Available Market is the segment of the TAM targeted by your products and services which is within your geographical reach.
- SOM or Serviceable Obtainable Market is the portion of SAM that you can capture.

5.1.1. Total available market

For estimating and analysis of the market size, I decided to use LinkedIn Sales Navigator platform. It gives great capabilities in advanced targeted lead and company search.

For estimation of TAM, I selected companies that are located in certain regions and doing business in a certain industry. Separately, I had to make the projections about the approximate number of users within the company who fit our customer profile.

As a result I ended up with the following categories for the estimating TAM.

- Geographic location: North America, Europe, APAC;
- Industries: Banking, Financial Services, Hospital & Health Care, Health, Wellness and Fitness, Legal Services, Pharmaceuticals, Public Relations and Communication, Information Technology and Services, Translation and Localization, Writing and Editing, Computer Software;
- Functions: Accounting, Business Development, Legal, Marketing, Operations, Product Management, Project and Program Management, Sales, Support.

The estimated TAM is over 2B US dollars.

Description	Value
Estimated number of companies within defined industry segments in North America, Europe and APAC	1,000,000
Projected number of users with certain functions within the defined companies segment	20,000,000
Annual cost per user	$108
Estimated TAM	**$2,160,000,000**

5.1.2. Serviceable available market

For projection of SAM, I decided to narrow the geographic location to the USA, Canada and Europe.

The estimated TAM is over 1.4B US dollars.

Description	Value
Estimated number of companies within defined industry segments in USA, Canada, Europe	960,000
Projected number of users with certain functions within the defined companies segment	13,000,000
Annual cost per user	$108
Estimated SAM	**$1,404,000,000**

5.1.3. Serviceable obtainable market

Now let's try to be more realistic in the projections and calculate SOM, the market segment that we can capture.

It also became clear that we have to exclude targeting very small companies with a size of 1-10 people and very large companies with a headcount over 1,000. There is no sense for us to deploy such a solution for a tiny team. The minimal license count for our solution is 10. The same story with the very large companies: long sales cycles, vendor validation processes, separate legal contracts and enterprise support.

Based on the estimated number of companies and the total number of headcount within the same categories, I calculated the average number of users per company. On average each company in the selected segment has 78 employees/contractors. Also, it is clear that not all of them need a writing digital assistant. Thus, I had to come up with a percent of employees who will be our target audience. Based on the functions and roles in the company, I defined that around 40% of the total headcount is our target.

The number of users is crucial, as the projected revenue depends on the number of user licenses that will be purchased by an organization.

Our assumption is that the target penetration for the first year could be 0.08% (pessimistic), it will give us contracts signed with 256 companies for around 8K user licenses.

Description	Value
Estimated number of companies within defined industry segments in USA, Canada, Europe	320,000
Number of users within the defined companies segment	10,000,000
Projected number of users with certain functions within the defined companies segment	4,000,000
Average number of users per company multiplied by 40%	31

Annual cost per user	$108
Target penetration	0.08%
Estimated SOM	$864,000

5.2. Financial forecast

From the financial standpoint, the company life cycle can be divided into three major stages:

1) The first stage is to release MVP and sign contracts with around 50 companies (around 1550 user licenses) who will be early adopters. Collect the feedback and based on that refine the product proposition. The duration of this phase is around 3-6 months, end of 2020.

2) The second stage is to move beyond the early adoption and target the wider market. Our expectation that during this phase we will reach the breakeven point and start to grow. During this stage we will capture the rest part of the SOM estimate. Duration of the phase is from 6 to 12 months.

3) The 3rd stage is long-term growth.

The other important assumptions that take effect on the financial forecast:

- Customer acquisition cost ranges from $380 to $500 depending on the stage of company life cycle;
- Churn rate during the first year is 0% as the customers make prepayment for a year. Our assumption is that in the second year, it will jump to 5%. In the year 3-5, our goal is to maintain the churn rate at 4%.
- Customer life-time value (CLV) is estimated around $17,300, average lifespan is 5 years, plus initial professional services.
- The target penetration on the market during the first year is 0.08%. The target penetration for the following years will increase gradually for 0.01% and at the end of the fifth year will reach 1.2%.

- The initial operational expenses will be funded by the sales of the other company products.
- Cost of revenue equals 70% and it includes the cost of development and support team.
- The sales and marketing costs include the advertising budget, salaries for sales with the 5% commission from generated revenue starting the 2nd year.
- In the second year we expect to expand the geographic coverage to other regions (e.g. APAC, Brazil), thus, the number of targeted companies will be increased by 25%, for the further years we provision the overall industry growth at a rate of 11% annually.

The financial forecast for 5 years is laid out in Appendix 3. Its main indicators are the following:
- Gross margin per company is $1,004. The breakeven point will be reached after 6-8 months as soon as 155 signed contracts (25-19 contracts per month). The target number of contacts for the first year is 256.
- By year four we will reach 20% profit margin.
- Net profit as of the end of the 5th year before taxes – $1,118,540.
- Market share as of the end of the 5th year is around 0.5%.

The main conclusion from the financial analysis is that the key success factor for a company is the ability to upscale and bring long-term profit instead of targeting the short-term results and value. As for me the provisioned financial model is stable and scalable.

CONCLUSIONS

It's time to sum up what has been achieved in scope of this final project. Despite the fact the real work on the product idea valuation, market research, competitor analysis and initiation of MVP has started back in 2019, the actual work the thesis started 4 days ago. To my big surprise, for these 4 days I've learnt more than for the past 6 months of gradual process.

Working in a small product company as a CEO turns into a lot of mundane operational work, daily team discussions, grooming backlogs or planning releases, chatting with prospective customers or existing customers, switching from one task to another as the situation requires, and so on. It has been 5 years since I'm at WebSpellChecker. I'm always busy with very important activities but there is no meaningful result. Most of the time I feel like I'm juggling frogs and there is no room for real product management.

As a result of the comprehensive research of the market for this thesis, we've determined:

- main competitors and their strategies (content, product, pricing, etc);
- core target market consisting of companies of different size and niches operating in North America and Europe;
- potential users (departments and units within companies-leads).

Based on the competitor analysis, we've built and formulated a USP for WebSpellChecker new solution - WProofreader extension for browsers. It's reflected in the product's main features: security, multilingual support, grammar, punctuation, spelling and style improvements, customization, user management, dictionaries. We consider data security and privacy as the key differentiator for our business settings as apart from the competition.

The basic toolkit will come in a bundle with an MVP version and we're going to extend the WProofreader functionality in new releases described in the roadmap.

The research and analysis conducted help us come up with ideas for a marketing strategy to promote our new product and establish strong brand awareness in the online realm.

All the above is embodied into a new business model illustrating WebSpellChecker value propositions, customer segments, cost structure and revenue streams.

Key takeaways from the study

General	- Say "No" procrastination - Entrepreneurship is hard - Validate a business idea before its implementation
Business Trip to Israel	- Nothing is possible. - Fail fast. - Don't be afraid to fail.
Technological Entrepreneurship by Denis Dovgopoliy	- Iterate quickly, with minimum resourcing. - If you are not embarrassed by your first product, you launched too late.
Adrian Slywotzky	Asymmetrical competition. The very small teams create enormous added value and win the great opponents in various industries.
Sales Management by Mykhaylo Wynnytsky	The best business idea is the one that you sold even before you had something to show.

Strategic Marketing Challenges by Joe Pons	● Know your market.
Financial Decision Making by Yuri Zayarny	● Cash is king. ● Financial forecasting is fun and helps to see the bigger picture.
Product Management by Scott	● Empowered teams vs feature teams

LITERATURE AND REFERENCE LIST

1. Web Content Accessibility Guidelines (WCAG) 2.1 [Електронний ресурс]. – 2018. – Режим доступу до ресурсу: https://www.w3.org/TR/WCAG21/.

2. Global Writing Enhancement Software Market By Type, By Application, By Geographic Scope And Forecast [Електронний ресурс]. – 2018. – Режим доступу до ресурсу: https://www.verifiedmarketresearch.com/product/writing-enhancement-softwar e-market/.

3. The Global Natural Language Processing Market size is expected to reach $29.5 billion by 2025, rising at a market growth of 20.5% CAGR during the forecast period [Електронний ресурс] // Yahoo Finance. – 2020. – Режим доступу до ресурсу: xhttps://finance.yahoo.com/news/global-natural-language-processing-market-0 92604858.html.

4. Laskey H. Typology of Main Message Strategies for Television Commercials / H. Laskey, E. Day // Journal of Advertising / H. Laskey, E. Day., 1988.

5. Kim W. Blue Ocean Strategy / W. Chan Kim. – Boston, MA: Harvard Business School Press, 2005. – 240 с.

6. Osterwalder A. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers / A. Osterwalder, Y. Pigneur. – Hoboken, NJ: 2010. – 256 с.

7. The Business Model Canvas [Електронний ресурс] – Режим доступу до ресурсу: https://www.strategyzer.com/canvas/business-model-canvas.

8. Osterwalder A. Value Proposition Design: How to Create Products and Services Customers Want / A. Osterwalder, Y. Pigneur, A. Smith., 2014. – 345 с

9. Ries E. The Lean Startup: How Constant Innovation Creates Radically Successful Businesses. / Eric Ries., 2011. – 350 c.

10. AIDA model [Електронний ресурс]. – 2019. – Режим доступу до ресурсу: https://en.ryte.com/wiki/AIDA.

11. Anatomy of an extension [Електронний ресурс]. – 2019. – Режим доступу до ресурсу: https://developer.mozilla.org/en-US/docs/Mozilla/Add-ons/WebExtensions/Anatomy_of_a_WebExtension.

12. User experience best practices [Електронний ресурс]. – 2019. – Режим доступу до ресурсу: https://extensionworkshop.com/documentation/develop/user-experience-best-practices/.

13. Building Educational Applications 2019 Shared Task: Grammatical Error Correction [Електронний ресурс] // University of Cambridge. – 2019. – Режим доступу до ресурсу: https://www.cl.cam.ac.uk/research/nl/bea2019st/.

14. Shaptala J. Multi-headed model based on BERT to solve Grammatical Error Correction tasks more efficiently [Електронний ресурс] / Julia Shaptala // Medium. – 2019. – Режим доступу до ресурсу: https://medium.com/beyond-webspellchecker/multi-headed-model-based-on-bert-to-solve-grammatical-error-correction-tasks-more-efficiently-94615e3f53e6.

15. RoBERTa: A Robustly Optimized BERT Pretraining Approach [Електронний ресурс] / [Y. Liu, M. Ott, N. Goyal та ін.] // Cornell University Press. – 2019. – Режим доступу до ресурсу: https://arxiv.org/abs/1907.11692.

16.

ANNEXES

Annex 1. Business Model Canvas

Key Partners

Resellers

CRM systems provides

Key Activities

Research & Development
Web extensions for Chrome and Firefox, AI-based engines, platform for user licenses management

Sales & Marketing

Support & Customer Success

Key Resources

Team

Technology
Neural networks for grammatical error correction & autocomplete suggestions

Data
Datasets for neural networks training

Value Propositions

Save time on manual text correction

Improve daily business communication: make it smooth, error-free and fast

Enhance business reputation

Prevent textual data from leakage, keep it safe and confidential

Validate writing on many languages
English, Spanish, German, French, etc.

Personalized proofreading experience
Personal user dictionaries, company-wide custom dictionaries, additional settings

Improve the writing skills of a team

Convenient and accessible UI/UX

Customer Relationships

Installation and configuration

Support and maintainance services

Admin panel for user management and administration

Channels

Direct Sales

Landing Page

Advertising
GoogleAds, LinkedIn (Sales Navigator)

Compare Technology Review Platforms
G2.com, Capterra, GetApp, Software Advise, SoftwareSuggest, FinancesOnline

Browser Extension Stores
Chrome, Mozilla FireFox

Media & Content
Blog post, social networks, articles on Meduim, Reddit, etc.

Customer Segments

Small, Medium and Large Businesses, Organizations in the USA, Europe
Healthcare, Legal Services, Banking, Financial Services, Governments, Computer Software

Employees & Contractors
Accounting, Business Development Legal, Marketing, Operations, Product Management, Project and Program Management, Sales, Support

Cost Structure

Research & Development

Support & Customer Success

Payment Processing Fees
PayPal, Stripe, Wire transfers

Sales & Marketing

General & Administration

Revenue Streams

Subscription
Per user licensing, annual renewals

Installation Services & Premium Support

Additional Languages & Specialized Dictionaries
Extension of the standard package

Annex 2. Landing Page

WProofreader Extention

Get Trial   Try Extention on Chrome →

WProofreader - the reviewer and safeguard of your texts.

Spell check securely in your fav business system or online software.

Get Trial   Try Extention on Chrome →

We developed WProofreader extension to let teams and companies communicate swiftly, securely and error-free. We believe data is the most valuable asset any business has, that's why we offer advanced options to collect and process your texts - a self-hosted version or our dedicated servers.

For us, only the sky is the limit. We're gradually advancing our solution to let you write and communicate everywhere on the web with the speed of your mind.

About WProofreader

WProofreader is one-of-a-kind grammar and spell checker for teams and companies speaking 20 languages. Being installed on your server-side, the extension checks and corrects your messages, docs, and emails. Available for Chrome, Firefox and Microsoft Edge.

Data security is our top priority. Period.

We go beyond old and good data encryption and offer a fully secure self-hosted writing assistant to install and run on your local server. Every letter of yours is absolutely safe and sound. No alternative.

Features, maybe use longer title?

Spell and grammar checker

Proofreads grammar, spelling, punctuation and improves your writing while you're typing in 20 languages. With the auto-detection feature, editing English-French-German texts isn't a problem any more. Switch it on once and use it as long as needed.

Customization

Ever wished to have a tailored editor performing any task you assigned it with? WProofreader is your go-to. Tell it the words you'd like to ignore, blacklist or whitelist domains, choose a general theme (basic or custom), create new user dictionaries and even more. Get a fully trained assistant like better than a human one.
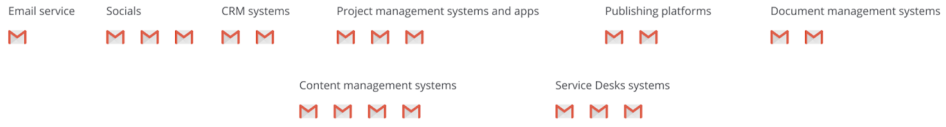
Compatibility

Tickets in Jira, articles on Medium, emails in Gmail - WProofreader will back you and your team in any business environment. Say "Goodbye" to embarrassing typos and slow communication.

Dictionaries

Global and domain-specific dictionaries are the icing on the WProofreader cake. Create custom company-wide and user personal word lists to detect slang, shoptalk or pro lexicon you use every day. Also try specialized default medical and legal dictionaries with modern terms and names or build your own.

Integrations

Email service

Socials

CRM systems

Project management systems and apps

Publishing platforms

Document management systems

Content management systems

Service Desks systems

"I love using Dunked because I can quickly find a clean template to present my work to clients. I don't want to spend my time coding when I could be designing"

Daniella Hernandez
Technical Writer, Company LTD.

Pricing

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Id at nibh suspendisse sit at id auctor aenean. Tellus, condimentum quam bibendum nibh a phasellus a, ac.

Try Extention on Chrome

Server-based

standalone/self-hosted
*billing per user

Contact Us

- ✓ spell and grammar check for 20 languages
- ✓ compatibility with online business software
- ✓ default and specialized dictionaries
- ✓ basic and custom theme
- ✓ user management and analytics

Cloud-based

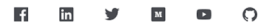dedicated and shared servers

Contact Us

COMING SOON

- ✓ spell and grammar check for 20 languages
- ✓ compatibility with online business software
- ✓ default and specialized dictionaries
- ✓ basic and custom theme
- ✓ user management and analytics

Want to test the waters before buying?

Try WProofreader free for 30 days. Have a question about features, trial, pricing or need anything else?

Email Us or Schedule a Call

WebSpellChecker

support@webspellchecker.net

Privacy Policy

Terms of Service

Data Privacy & GDPR

Annex 3. Financial forecast

5-year Financial Model	Base		years				
		0	1	2	3	4	5
# of new companies contracted	annual		256	360	444	542	656
churn rate (contracts lost)	% annual		0%	5%	4%	4%	4%
total # of companies	#		256	585	988	1,469	2,040
total # of users	#		7,936	18,135	30,628	45,539	63,240
Revenue	$ k		857,088	1,958,580	3,307,824	4,918,212	6,829,920
revenue per user	$/user/year		108.00	108.00	108.00	108.00	108.00
	versus prior period			129%	69%	49%	39%
Cost of revenue	$ k	0	(599,962)	(1,371,006)	(2,315,477)	(3,442,748)	(4,780,944)
Cost of revenue, %	% of revenue		-70%	-70%	-70%	-70%	-70%
Gross margin	$ k		257,126	587,574	992,347	1,475,464	2,048,976
	per contract		1,004	1,004	1,004	1,004	1,004
	% of revenue		30%	30%	30%	30%	30%
Sales & Marketing costs	$ k		(84,000)	(202,929)	(271,713)	(359,799)	(465,074)
	% of revenue		-10%	-10%	-8%	-7%	-7%
General & Admin expenses	$ k		(72,000)	(90,000)	(99,900)	(134,889)	(185,727)
	% of revenue		-8%	-5%	-3%	-3%	-3%
Operating profit margin	$ k	0	101,126	294,645	620,734	980,776	1,398,175
Profit margin, %	% of revenue		12%	15%	19%	20%	20%
Income tax	20% $ k	0	(20,225)	(58,929)	(124,147)	(196,155)	(279,635)
Net profit margin	$ k	0	80,901	235,716	496,587	784,621	1,118,540