From Inspiration to Impact:

Transforming STEM with STEMbassy

STEMbassy

New Venture Proposal

Summary

STEMbassy

The regenerative business idea our team came up with is to create an online platform and app dedicated to helping women navigate and succeed in STEM (Science, Technology, Engineering, Mathematics) careers. This business falls under the category of Social Impact Initiatives which strive to implement social responsibility programs that address community needs, promote diversity, inclusion, and contribute to societal well-being.

Through our platform, called STEMbassy, we aim to help bridge the gender gap by providing an inclusive environment and tailored resources that encourage young women to explore, train, and advance in STEM fields. Our approach stands out for its commitment to awareness, education and networking, as well as its focus on empowering women through mentoring and professional development. At STEMbassy, we believe that empowering women in STEM will lead to innovative solutions and a more diverse and dynamic workforce.

The problem

Disparity in Science, Technology, Engineering and Mathematics (STEM)

Despite advancements in gender equality within the workforce, the truth of the matter is that women continue to be underrepresented in STEM disciplines, both within the more research-focused academic field and the industry. This underrepresentation and disparity manifests at various, if not all, levels from enrollment in STEM educational programs to leadership positions of STEM-related professions. One contributing factor to the gender disparity in STEM fields is the existence of societal stereotypes and biases. From a young age, girls may be subtly discouraged from pursuing interests and careers in STEM due to prevailing stereotypes about gender roles and abilities. These stereotypes can persist into adulthood, influencing educational and career choices. Understanding the factors contributing to this disparity is crucial for fostering a more inclusive and diverse STEM community, which would ultimately unlock the full potential of women in these fields.

According to a survey carried out by Opinion Matters on behalf of the Institution of Engineering and Technology (IET) in 2024:

- The primary factors contributing to the notable gap in STEM fields are two: the first one being a lack of encouragement for women to consider STEM career paths during their schooling years, and the second one being the fact that a significant amount of women are discouraged by the perception of male dominance within the industry (2024, IET, para. 2).
- A third of people working in STEM believe that not enough progress has been made in reducing gender-based discrimination in the workplace, while less than half remain optimistic about the feasibility of attaining gender diversity in these professions (2024, IET, para. 3).
- Merely 16.5% of individuals employed in engineering roles are women (2024, IET, para. 5).

Additionally, implicit biases in hiring and promotion processes within STEM industries can further perpetuate the underrepresentation of women. Addressing these stereotypes and biases requires concerted efforts from educators, employers, policymakers, and society as a whole to create environments that are inclusive and welcoming to all genders, thereby empowering women to fully participate and excel in STEM fields.

Other important and illustrative statistics gathered by the WomenTech Network that should be considered when talking about this specific problematic are the following:

- Over the past decade, most nations have witnessed a rise in female workforce participation, particularly with emerging economies taking the lead. Nonetheless, the pace of progress has been more sluggish in advanced economies, which is attributed to a blend of diverse economic policies and diminished incentives for women to re-enter the workforce (2024, WomenTech Network, para. 2).

- According to a report by The World Bank, women make up less than a third of the world's workforce in technology-related fields. In fact, in major tech companies, women are in the minority (2024, WomenTech Network, para. 3).

- Despite equal opportunities, there has been a decline in women's enrollment in STEM courses, with only 18% of new computer science degrees being awarded to women (2024, WomenTech Network, para. 9).

- Within Europe, around 1.7 million women are employed in technology-related roles, constituting approximately 19.1% of the ICT labor force (2024, WomenTech Network, para. 35).

Sources

(2024). The Institution of Engineering and Technology. *Over one million women now in STEM occupations but still account for 29% of STEM workforce.* The Institution of Engineering and Technology. Consulted on April 29th, 2024. Available at: https://www.theiet.org/media/press-releases/press-releases-2024/press-releases-2024-january-march/8-march-2024-over-one-million-women-now-in-stem-occupations-but-still-account-for-29-of-stem-workforce

(2024). WomenTech Network. *Women in Tech Stats 2024 Uncovering Trends and Unseen Data.* WomenTech Network. Consulted on April 29th, 2024. Available at:https://www.womentech.net/en-fr/women-in-tech-stats

Solution description and reasoning

Debunking Gender Stereotypes

Challenging gender stereotypes in STEM fields should commence with interventions starting at early childhood education targeting both boys and girls. To effectively address wider disparities in workforce participation, pay, and leadership, it is imperative to establish robust pathways for women's advancement in STEM education and professions.

Diminished expectations of their STEM capabilities and restricted career prospects undermine girls' attitudes toward STEM education and their aspirations for STEM careers. Moreover, in emerging economies, girls encounter the added obstacle of unequal access to digital resources and skills. By dismantling barriers and fostering supportive ecosystems, we can empower women and girls to fully realize their potential in the ever-evolving landscape of science, technology, engineering, and mathematics.

Passion and Inspiration are Key

To foster gender diversity in STEM, igniting a strong enthusiasm for these fields must commence early on. This undertaking necessitates collaboration between corporations and

educational institutions to ensure a steady influx of female STEM graduates into the industry. Inspiration serves as the cornerstone for nurturing authentic interest in STEM disciplines.

One effective approach for companies to engage with educational entities is through mentorship programs. Establishing mentorship initiatives that link female students with STEM professionals offers invaluable guidance and insights. By showcasing role models who have overcome obstacles, young girls can be motivated to pursue their passion for STEM. Through enhancing educational accessibility, offering clear pathways to credentials, and cultivating a supportive ecosystem, we can unlock career prospects and foster greater gender balance in STEM fields.

What is Special About *STEMbassy*?

STEMbassy stands out as a unique platform tailored specifically for promoting and encouraging women to go into STEM fields, offering a dedicated space for them to connect with professionals and alumni who understand and have overcome similar challenges. What sets STEMbassy apart is its personalized matching system, utilizing either an algorithm or manual process to pair students with the most suitable mentors based on their individual goals, interests, and backgrounds.

Moreover, STEMbassy would also offer access to a comprehensive resource library that would include articles, videos, webinars, and other materials designed to address the challenges faced by women pursuing careers in STEM. This curated collection would equip users with the knowledge and tools they need to navigate their educational and beginning of professional journeys with confidence.

Another aspect that is special about STEMbassy is that success stories would be highlighted, showcasing real-life connections and career advancements made possible through the platform. These success stories would serve as inspiring examples for users.

Furthermore, STEMbassy would seek to establish strategic partnerships with universities, industry associations, and companies within STEM fields. These collaborations would enable STEMbassy to offer exclusive opportunities and resources to its users, further enriching their experiences and expanding their future professional networks. Through these multifaceted features and partnerships, STEMbassy would empower women looking into getting into STEM to thrive and succeed in their chosen fields.

Value Proposition

STEMbassy comes out as an innovator in a world where gender gaps persist in the fields of science, technology, engineering, and mathematics. Our business idea is driven by a regenerative purpose to eliminate barriers, challenge stereotypes, and nurture a thriving ecosystem in which women can flourish and lead in STEM fields. Furthermore, STEMbassy is founded on the belief that by empowering women to participate and achieve in STEM fully, we can unleash the regenerative potential of different viewpoints, developments, and solutions to the world's challenging issues.

Let us look at the value propositions that STEMbassy puts at the movement's forefront:

1. **Tailored support and mentorship:** STEMbassy's unique matching approach is more than simply about individual development. Mentees become future mentors, creating a chain of support that strengthens future generations of women in STEM. This results in a self-sustaining network of support and inspiration.

2. **Comprehensive resource hub:** STEMbassy provides access to a comprehensive resource library that includes videos, webinars, and other materials tailored to address the problems that women experience in STEM. Its resource hub is not a passive one; individual contributions, success stories, and evolving industry information continue to improve the platform, assuring a constantly increasing store of knowledge that helps not only present women but future generations as well.

3. **Inspiration and role modeling:** On STEMbassy's platform, real-life successes are showcased, resulting in a cycle of inspiration. Seeing successful women in STEM inspires others to pursue their interests, broadening the industry and creating even more success stories. Importantly, STEMbassy inspires passion, curiosity, and an awareness that every woman has the potential to make a significant contribution to STEM.

STEMbassy promotes a cycle of mentorship, information sharing, and inspiration, resulting in a diversified and dynamic STEM landscape that benefits not only individuals but society as a whole. This regenerative strategy ensures that STEMbassy's effect continues to expand and expand, setting the path for a future in which women are not only present in STEM but also serve as leaders shaping the path ahead.

Summary of Benefits

STEMbassy addresses the gender gap in STEM through a regenerative strategy, resulting in a self-sustaining cycle of success for women in these professions. Here's how STEMbassy delivers benefits and values:

- Personalized mentorships.
- Carefully curated resources.
- Inspiring stories of women to motivate other women.
- Expansion of opportunities.
- Empowering women, which ultimately empowers the future.
- Shaping the future of STEM.
- Unlocking women’s potential.
- Eliminating gender gap.

Market

Empowering Women in STEM

One of the core beliefs of the team behind STEMbassy is that transforming individuals and educators can shape tomorrow's innovators and generate a positive impact. In the following section of this business proposal we go into deeper detail on the envisioned markets for the platform we seek to develop.

InitialMmarkets

For our initial market focus, we aim to empower individuals, particularly women and girls, who are interested in pursuing careers in STEM fields. This includes young students, ranging from high school to university level, as well as professionals seeking to transition or advance within STEM careers.

Recognizing the persistent underrepresentation of women in STEM, our platform serves as a comprehensive resource hub, offering tailored support to address the unique challenges and barriers faced by women in these fields. Through curated content,

mentorship programs, networking opportunities, and skill-building resources, we seek to equip women with the tools, knowledge, and confidence they need to thrive in STEM careers.

By fostering a supportive community and providing access to inspiring role models, we aim to encourage more women to pursue their passion for STEM and contribute to a more diverse and inclusive workforce.

Subsequent Markets

As we expand our reach, we recognize the critical role of educational institutions in shaping the future of STEM participation. Subsequently, we target secondary and higher education institutions.

By collaborating with educators and administrators, we aim to integrate our platform seamlessly into school and career programs, enriching the educational experience of girls, with early exposure to exciting opportunities in STEM fields.

Through partnerships with schools, we seek to inspire the next generation of innovators by showcasing the real-world applications of STEM, facilitating practical learning experiences and connecting students with industry professionals. By promoting greater gender diversity in STEM education, we aim to move towards a more inclusive and equitable world of work.

Business Model

Path to Market

- **Research:** Our initial research was conducted on the internet. This is how we validated the concept of STEMbassy: by analyzing existing data, reports and articles related to gender disparities in STEM fields. However, it should be mentioned that we drew inspiration from personal experiences and situations that we have faced as a team composed exclusively by women.

- **Prototype development:** Develop a prototype of the STEMbassy platform to demonstrate its features and functionalities. The prototype should showcase key elements and a neat design in order to capture the attention of possible investors.

- **Testing:** To check the working quality of a product we plan on conducting usability tests by utilizing different testing methods to ensure that the use of our platform is intuitive. Furthermore, we also want to make sure that STEMbassy is easy to navigate and meets the needs of its intended target audience. All of this testing will help us identify areas for improvement which we plan on revisiting as the development process will be iterative and enhancements will be eventually implemented to optimize the platform's usability.

- **Partnership building:** After the development of the initial version of the platform, we plan on establishing strategic partnerships with universities, colleges, technical schools, industry associations, and corporations within different STEM fields. These partnerships would provide us access to exclusive opportunities and resources for users, further enriching their experiences and expanding their future professional networks.

- **Marketing and outreach:** We plan on developing a marketing strategy to raise awareness of STEMbassy and attract users to the platform. Utilizing digital marketing channels such as social media, email campaigns, and content marketing to reach target audiences would be our main way of outreaching. Furthermore, there are also

plans to eventually host webinars, workshops, and networking events to engage with the community and showcase the value of STEMbassy.

- **Launch and scale:** Launching the STEMbassy platform to the public and continue to iterate on the platform based on user feedback and market demand is one of our main goals. However, there can always be improvements and that is why we will continue to monitor key metrics such as user engagement, retention, and satisfaction to measure the platform's success and identify opportunities for growth and expansion.

Income Sources

- **Subscription model:** Subscription offers plans for users who want access to premium features or additional services beyond the basic limited offerings. This could include personalized mentorship matching, exclusive webinars or workshops, and enhanced access to the resource library. Subscription revenue would provide a reliable source of income while catering to the needs of users seeking more comprehensive support.

- **Advertising and sponsorship:** Allow STEM-related companies, educational institutions, and other organizations to advertise on the STEMbassy platform or sponsor specific content, events, or resources. This could provide a steady stream of revenue while also offering valuable exposure to the target audience.

- **Corporate partnerships:** Partnering with corporations in the STEM sector to offer sponsored mentorship programs, recruitment services, or employee training initiatives. We would charge corporations for access to a pool of talented mentees, advertising job openings directly to users, or providing customized training programs. Corporate partnerships leverage the demand for skilled STEM professionals and can be highly lucrative for STEMbassy.

- **Consulting services:** Consulting services to educational institutions, companies, or government agencies looking to improve diversity and inclusion in STEM fields. Providing workshops, training sessions, or strategic planning tailored to the needs of clients. Consulting services capitalize on STEMbassy's expertise and insights, generating revenue while making a positive impact on the industry.

Financial Projection

Our financial projections for STEMbassy reflect a strategic plan for sustainable growth over the next four years. In Year 1, initial investments will focus on platform development, marketing, and building strategic partnerships. We anticipate a gradual increase in revenue streams from subscriptions, advertising, and corporate partnerships.

By Year 2, as user acquisition ramps up and more partnerships are established, revenue is expected to significantly increase, covering operational costs and yielding a profit. Years 3 and 4 will see accelerated growth, with substantial increases in both user base and revenue from diversified sources, ensuring a solid financial footing and enabling further expansion and enhancement of the platform’s offerings.

Below we have included a detailed financial projection report and graphs in order to illustrate the figures we have carefully calculated.

STEMBASSY
SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

Financial Projection

				Y1	Y2	Y3	Y4
Fixed Cost							
	Domain			€ 10.00	€ 10.00	€ 10.00	€ 10.00
	Cloud Storage			€ 1,500.00	€ 1,800.00	€ 2,100.00	€ 2,400.00
	Office			€ -	€ 2,500.00	€ 3,000.00	€ 3,500.00
	Legal and Permit Fee			€ 1,000.00	€ 200.00	€ 200.00	€ 200.00
	Accountig (Outsource)			€ 2,000.00	€ 2,200.00	€ 2,400.00	€ 2,600.00
	App store and Google Store Fee			€ 125.00	€ 100.00	€ 100.00	€ 100.00
	Other Fixed Costs			€ 500.00	€ 500.00	€ 500.00	€ 500.00
Total Fixed Costs				**€ 5,135.00**	**€ 7,310.00**	**€ 8,310.00**	**€ 9,310.00**
Variable Costs							
	Advertising and Promotion			€ 10,000.00	€ 11,500.00	€ 13,000.00	€ 25,000.00
	Outsource Services			€ 15,000.00	€ 11,000.00	€ 10,000.00	€ 10,000.00
Total Variable Costs				**€ 25,000.00**	**€ 22,500.00**	**€ 23,000.00**	**€ 35,000.00**
Total Required Funds				**€ 30,135.00**	**€ 29,810.00**	**€ 31,310.00**	**€ 44,310.00**
Revenue							
# of Users				**3000**	**5000**	**9000**	**12000**
Subscription Sales	€	7.50	3%	€ 6,750.00	€ 7,500.00	€ 13,500.00	€ 18,000.00
Advertising Fee	€	5.00	98%	€ 14,700.00	€ 24,500.00	€ 44,100.00	€ 58,800.00
Total Revenue				**€ 21,450.00**	**€ 32,000.00**	**€ 57,600.00**	**€ 76,800.00**
Profits/Loss				**€ (8,685.00)**	**€ 2,190.00**	**€ 26,290.00**	
Sources of Funding							
Equity				€ -			
Investment				€ 35,000.00			
Total sources Of Funding				€ 35,000.00			

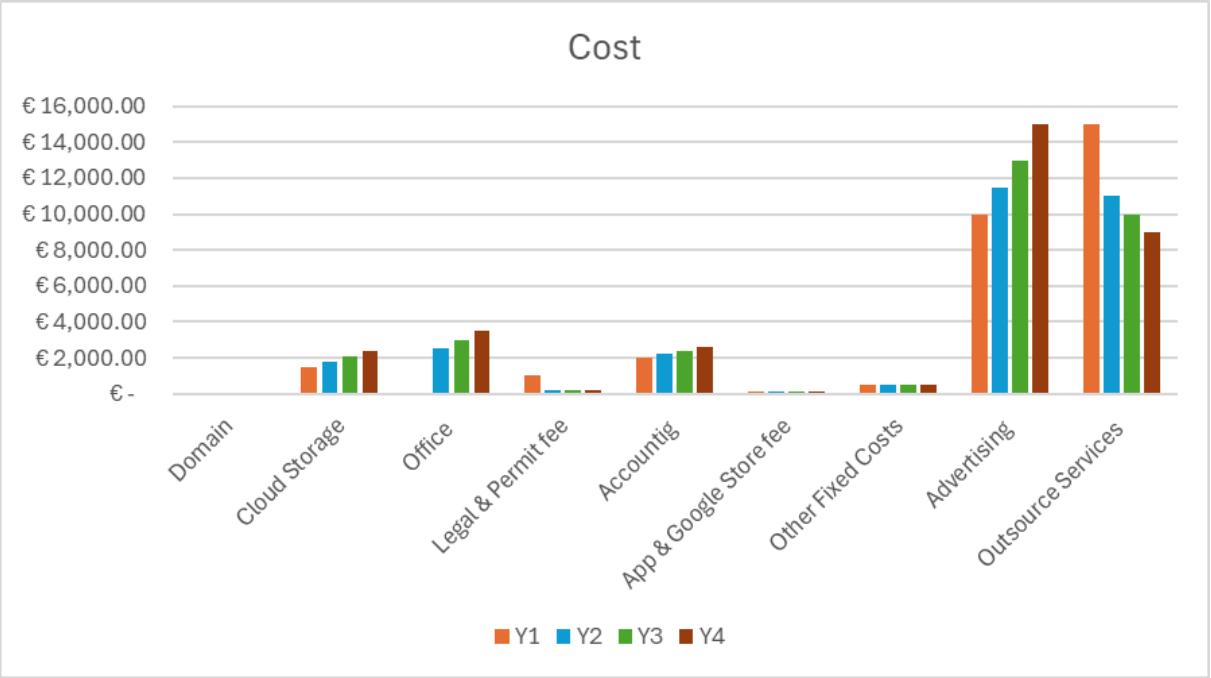

Figure 1: Projected costs per aspect and year.

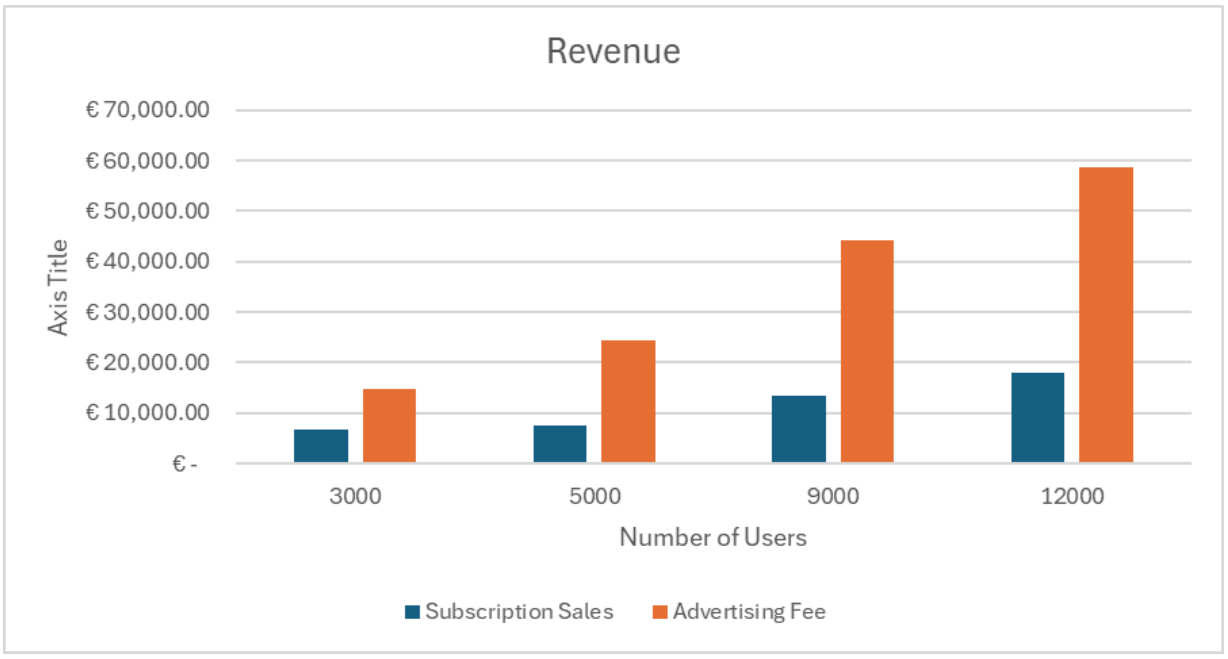

Figure 2: Expected revenue from subscriptions and advertising.

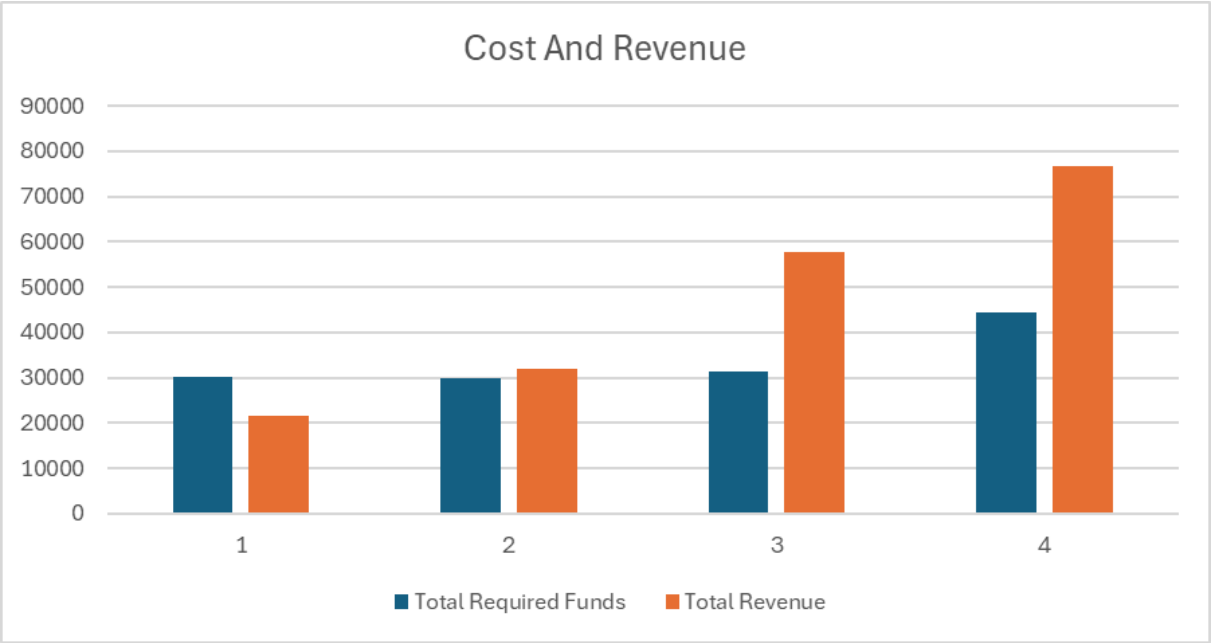

Figure 3: Costs vs Revenue

Team

Our team is made up of women from different backgrounds and cultures, which is why each member brings unique skills and perspectives to the table. Hailing from various corners of the globe and boasting expertise across different fields, our international team is the perfect fit for the development of the platform STEMbassy. With individuals versed in STEM disciplines, business management, technology, and beyond, our team embodies a rich tapestry of knowledge and experience. This diversity not only fosters a dynamic working environment but also ensures that our project benefits from a multifaceted approach, drawing upon a wealth of insights and ideas to tackle challenges and seize opportunities from every angle.

- **Ilse Córdova:** a computer engineer originary from Mexico who is currently pursuing her graduate studies in data and information systems management.Her academic journey has taken her to different parts of the world including Spain, Israel, and France, where she has gained invaluable insights and experiences.With a background in both cybersecurity and cloud development, Ilse's technical expertise and cross-cultural perspective make her an important asset that can bring international perspective to the development of a platform that will empower women in STEM fields worldwide.

- **Vesethmollyka Var:** originally from Cambodia, she brings a compelling blend of educational background, international experience, and social purpose to STEMbassy. With a track record of driving projects in both corporate and startup environments, she aims to use technology for social good and create an inclusive environment for ambitious female STEM individuals.

- **Yasmine Boumerkas:** coming from France, she has a strong background in digital marketing, with a focus on marketing and design. She is passionate about improving women's inclusion and equity in STEM fields, and is determined to create a project to achieve this goal. With her skills in marketing and design, she believes she can make a meaningful contribution to the development and promotion of STEMbassy as a platform. Furthermore, with the cooperation of the rest of the team, Yasmine is confident on the positive impact in the lives of women STEMbassy will make.

- **Kayinat Naveed:** hailing from Pakistan, she combines IT expertise with digital economy management at STEMbassy. Her focus on technology for social good and advocacy for gender diversity in STEM reflects a career marked by impactful initiatives in corporate and startup environments. She's dedicated to nurturing an inclusive space for aspiring female professionals in STEM fields.

Development Status and Rrequirements

The objective of developing this platform is to create a space that will make resources available to women in order to contribute to the breaking of gender stereotypes in order to encourage them to join the STEM field. This content will not be limited to different pieces of media, we strive to create a personalized matching system that will pair users with a suitable mentor that would be willing to offer guidance and counseling.

Regarding the architecture of the platform, we consider the best option for its development to be a microservices architecture. The user interface layer would consist of the different screens such as: log in, creation of an account, menu displaying the different navigation sections, the matching with mentor service, etc. Furthermore, the different client requests for the library sources such as videos could be processed by a play request that would be processed by a backend executed in Amazon Web Services (AWS). Filters would be applied to the client requests and sent to the Application API where different service components would be found.

The functional requirements that we consider fundamental to include in order to bring STEMbassy to life:

- REQ-1: Display a list of the different sources available in the library.
- REQ-2:Show the media related to the user’s search after applying different filters .
- REQ-3: Upload profiles of different role models that could serve as source of inspiration for users.
- REQ-4: Display the most recent updated profiles of the role models and mentors on the mainpage.
- REQ-5: Modify the profile and information hosted on the website of the different mentors.
- REQ-6: Host the matching quiz / personalized service that will match users with a mentor.

Furthermore, our team also has plans of expanding from the initial format of the website to that of an app as well. This app would be available in both iOS and Android format in order to reach as much audience as possible.

Risks and Difficulties

STEMbassy provides an exciting opportunity for women in STEM, but there are some risks and problems to consider. Here are two important risk factors as well as mitigation strategies that we have carefully considered and planned out:

- **Limited engagement:** Despite efforts to build a supporting platform, there may be challenges such as time limits, a lack of understanding, or doubt regarding mentorship programs' effectiveness. Lower user engagement could limit the platform's capacity to build a strong community and reduce its overall impact.

- ***Mitigation strategy:*** *STEMbassy could begin customized campaigns to increase awareness of the platform and its benefits. Collaboration with educational institutions, professional organizations, and industrial partners might help reach a larger number of women in STEM. Additionally, providing incentives such as scholarships, and networking opportunities, can inspire long-term commitment and develop a sense of community.*

- **Quality and availability of mentors:** The mentorship program's effectiveness depends on ensuring that mentees are connected with competent and supportive mentors who can provide useful assistance and insights.

- ***Mitigation strategy:*** *STEMbassy can put together thorough screening and training procedures for mentors so that they have the skills and qualifications to effectively assist mentees. Furthermore, expanding the pool of mentors to include professionals from various STEM fields, career stages, and backgrounds can increase the likelihood of spotting good matches for mentees. Consistent feedback processes and monitoring of mentor-mentee interactions are also helpful in detecting and solving any problems that can arise.*

Contact Details

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