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CURED
Note of intention

Introduction:

Social media are defined as web-based technologies that facilitate the creation and sharing of information and ideas via virtual communities and networks (Kietzmann and Hermkens, 2011). Since 2004, the use of social media has been strongly increasing, and particularly among young people. An average of 2 hours and 22 minutes are spent per day per person on social networks (Globalwebindex, 2018). However, the heavy use of social media brings out many kinds of problems, especially around mental health. Today, 16-24 years old spend 91% of their time on internet on social media. This addiction has expressed a 70% increase in mental health issues such as anxiety and depression during the past 20 years. Our project aims to design a filter software for Instagram called CURED for 16-24 French Instagram users, in order to deal with mental health problems caused by an overuse or misuse of social media.

1. **Social Media and Mental Health Issues**

Self Esteem

Instagram is a platform that is based on physical appearance and popularity. The number of "likes" and "followers" is associated with the popularity of the photo, which directly refers to the popularity of the person who shared the photo. The self-esteem of active but also inactive users, who are influenced by simply viewing photos without sharing them, is altered by Instagram. Anxiety can be triggered if users wish to match the standards of beauty and skills (sports, cultural, nutritional, ...) exhibited by the popular photos of Instagram. Indeed, users can become unconsciously anxious if they develop their aspirations based on edited and sponsored photos. Using Instagram on the long term can generate loneliness and depression. Indeed, a study found that a 10% rise of negative experience on social media generated a 20% higher risk of depression.

Body Image

Users on Instagram thoroughly use filters and effects to edit their pictures and make them more attractive. The most followed users and advertising companies manipulate their pictures with filters by growing or reducing some parts of their body, depending on what society considers attractive. Young people therefore compare their own body with edited bodies without knowing these are not natural. As a result, Instagram can have a negative effect on young people's body image, and therefore on their mental health. Studies have found that young people's desire to use cosmetic surgical procedures to be more attractive in pictures has increased by 70% during the past years.

Lack of Sleep

Using social media before sleeping has proven to negatively affect the quality of sleep. The LED of the phone, tablet or computer hinders the development of melatonin, the sleep hormone. A study found that 20% of young people consult their messages on social media during the night, which multiplies by three their chance of being tired during the day.

Cyberbullying

Many young people are victims of bullying on Instagram. The comments, instant messages and shareable stories generate mockery. Considering the popularity of the social media and its instantaneousness,

information can circulate to a high number of people in a second. Loneliness, depression, anxiety, self-harm and changes in sleep and eating habits can occur when being cyberbullied.

FOMO (Fear Of Missing Out)

By comparing their social lives with friends and others on Instagram, young people develop FOMO, a new term used to describe the fear of loneliness generated by seeing pictures of events they did not attend. This FOMO can create anxiety and depression on certain young people.

2. CURED: A Social Media Filter aiming to fight Mental Health Issues

Young people spend a lot of time of social media each day, and it would be unrealistic to simply tell them to disconnect whenever they feel that it impacts them negatively. To tackle the above mentioned issues, we decided to create a filter software called CURED designed for Instagram, aiming at improving users' experience on the app. Instagram is indeed one of the most used social medias for the 16-24, and it is considered as having the most negative impact on young people's health well-being among the five major social medias (Royal Society for Public Health, 2017). If Instagram favors self-expression, identity, or community building, it also comes with an important negative impact on body image, sleep, depression, loneliness, anxiety, bullying and fear of missing out. In order to make the time spent on Instagram more about self-expression and community building than self-comparison and loneliness, we created a filter software including the following features.

In order to fit everyone's needs, we offer a completely personalized social media experience using CURED for Instagram. Each user will create a private set of preferences regarding the type of content that they want to see more or less. Different categories may feature travels, models, cat pictures, opulence, culture, news, art, body positivism… In the same way, trigger warnings will be added to the software : if the user enters for example "violence", "blood", "diet" or even "fast food", an image susceptible to present one of those elements will be blurred and show a trigger warning before the user clicks on it to reveal the content. The huge progress on image recognition technologies will allow our algorithm to recognize these elements quite precisely. However, we will also rely on other elements to fill our database: words used in the description can leave hints on the type of content and will be crossed with the image recognition tool to offer a more accurate analysis. Our greatest innovation will however rely on our community itself: users of CURED will be able to leave an invisible feedback on the content that they see to grow our database and the accuracy of the content displayed or hidden. Users will be able to rate the posts that they want, choosing an adjective according to how this content made them feel, such as "happy", "ugly", "envious", "fat", "envious", "laugh", "curious", "lucky", "heartwarming" … This feedback will be particularly useful on popular Instagram accounts such as models or celebrities, who tend to impact our body image, feeling of loneliness and depression the most. As they have a big audience, the amount of feedback left will be sufficient to fuel our recommendation algorithm.

Once the filter is activated, it will display different disclaimers to the user on the middle of the screen, so that the user is effectively exposed to the message. When they upload pictures on Instagram, users have the possibility to check the boxes "facetuned" / "photoshopped" or "sponsored". This way, their followers will compare themselves less to unrealistic standards, knowing that the image does not reflect reality. As everyone won't use this feature, other disclaimers will pop up to remind users that they should not compare their lives with what they see on the app, such as ""social media is not real life", "remember that people only show the good sides" or "don't compare yourself to others". One of those disclaimers will pop up when the user launches Instagram, and others will appear after 5 minutes spent on the app, which is quite a long time for Instagram, and therefore will not annoy the user.

Furthermore, data shows that young people tend to spend a lot of time on Instagram without realizing it, which increases the effects of the harmful side of the app. We want to offer our users the possibility to set a maximum amount of time that they want to spend on Instagram a day, for example 20 minutes. Once this limit reached, a pop up appears informing the user that they already spent this amount of time on the app. The user

can choose to keep scrolling or to close the app, but at least they will be more conscious of the time they spend on it.

When we began working on the project, we stressed the importance of the Instagram "likes". These likes have been proven having a negative effect on young people's self-esteem (Whitley, Huffpost, 2016). We therefore wanted to let users the choice of displaying or hiding the number of likes on the app, but Instagram has pre-empted us and is currently testing an invisible like meter under the posts. People can still like pictures and see who likes what, but they cannot see anymore the exact number of likes that a post generated. This measure is good news for us because it shows the platform's willingness to improve their users' mental health.

Finally, as we mentioned, social media are a place conducive of bullying and hate, especially among the youngest users. We decided to confront the spread of hate on Instagram in two ways. The first one will use word recognition to censor comments featuring words such as "ugly", "fat", insults or discriminatory words. As this type of detection is never perfect, we will let the possibility to users to signal other offensive comments that fell between the cracks, and appeal the detection of their comment as offensive if it was not. Instagram already puts some effort of this side of the problem, but it is not sufficient. Anonymity is one of the greatest factors of bullying, as people are not held accountable for it. That is why we also would like to build a community around profile checks : users will have to submit their full names to our software in order to be certified. Other users will not see this information and it will not leave our database. But whenever a problem arises, we can hold people accountable for their words or actions. Certified profiles start with a green dot, but this dot can change to orange or even red if their comments or profiles get signaled by other users. This way, people will know better who to trust or not, and will be disincentivized to spread hate speech on the platform.

3.   Regularities of the Software

Before presenting CURED to Instagram, we have looked into possible difficulties and the feasibility of this project.

Market trends and Competition

We have found, that at the time being, there are no similar softwares on the market. The only potential influencing factor on our software's success is that social media platforms are slowly fighting against mental health issues as well. For instance, Instagram announced recently that it was going to hide the number of "likes" from its platform. Furthermore, we have already noticed that several features of Instagram that could lead to mental health issues were already deleted (ex: Instagram used to have a page where you retrace your followers' likes. Everyone could potentially see who liked what and when). Apart from these slow changes in the social media field, there has not been concrete actions to attack the "dark side" of social media yet. Our software in that sense would be revolutionary to the social media world.

Proof of Concept and Testing

Of course, nobody can predict the future. As we truly aim to change things in the social media field, we must obviously test the efficiency and validity of our product before putting it on the market. Prototype tests are truly necessary for two main reasons: on one hand, as a start-up, we must of course be able to predict, a least to a certain extent, the future development of our software. Second of all, and as mentioned before, we truly wish to change things in the social media world. We must test our product in order to prevent potential errors and improving our software accordingly. Thus, we plan do a concrete field study with an expert research company.

As per the method of our PoC, we wish to do an experimental design which allows to determine the impact of our software on young users' mental health. The hired company will use a non-random sample of 2000 French Instagram users between 16 and 24 and observe their evolution during 6 months. Half of them will use Instagram without CURED, and the other half will use Instagram with it. Variables such as self-esteem, depression, bullying, body image, FOMO and sleep will be measured before, during, and after the experiment.

After the research period, we will then take 3 additional months to work on the results and do some adjustments accordingly, taking into account feedback from the 1000 persons who tested CURED and the research institute.

Finances

We are aiming to create a software, test our product forehand introducing it and finally make it as accessible to every Instagram user. This means that we will have costs to cover that come along the whole creation process. Last week, we had a meeting with Instagram's CEO in France. Thanks to her we will be able to go to Los Angeles in a few weeks to pitch our project in front of Instagram CEO's Kevin Systrom and Mike Krieger. Charlotte Latour, France's CEO told us already, that Instagram would be very interested in sponsoring and co-producing our software. In the case of Instagrams promise, the software will be integrated directly into the Instagram app.

In order to maintain a prudent approach to our finances, we have calculated our yearly cash flow based on an estimation of Instagram's investment. As we are creating this software for Instagram, we are confident on the amount resources that they will allocate to us in order to improve their platform. We computed high expenses by using average yearly salaries paid at large corporations and by including research costs and rent. The employees needed and their respective salaries for the development of our software are:

-CEO: 80,000 €   -CPO: 70,000 €
-Finance manager: 62,0000€   -Analyst: 50,000 €
-Marketing manager: 47,000€   -Yalantis (developers): 61,000 €

To calculate the Net Present Value of our investment in the software, we have used the interest rate of the Euro zone of 1.89% and have assumed a perpetuity calculation was more adequate to our long-term approach.

| Yearly cashflow						
		Instagram active users in France	17 000 000			
		40% of them are 16-24	6 800 000			
				i		0,0189
	Inflows	Estimated investment from Instagram	€ 500 000,00	NPV	€	94 219,26
	Outflows					
		Field Study	€ 10 000,00			
		Salaries (including developers)	€ 370 000,00			
		Open Space	€ 24 000,00			
		Total	€ 404 000,00			
		Yearly cashflow	€ 96 000,00			

Considering the yearly cash flows are positive and the NPV of the project is highly positive, we can conclude our investment is a profitable business opportunity. If CURED for Instagram is a success, we will turn to other social media platforms for the future to ensure the sustainability of our revenue.

Deployment Strategy and Sustainability of the software

Our first major milestone will be the meeting with Instagram's CEO's. From there we can estimate the financial path we will be allowed to take. After knowing the into more details the nature and degree of investment from Instagram, we will proceed with setting up the agencies we will hire for the experiment and the software-development. Since we want to test our software in an experimental study forehand putting it on the

market, we plan the release date of the software in December 2020. We estimate a broad 9 month for the experiment (including the experimental phase, data collection and adjustments). In addition, before the experiment we calculate one month for the software-developers of Yalantis to set up the software. In the meantime, we will check the regularities with our partners and sponsors (at the time being, Facebook, more precisely their daughter-enterprise Instagram). In order to be in time in case of any failures or unplanned events, three months will cover the margin of unexpected-events.

Deployment strategy
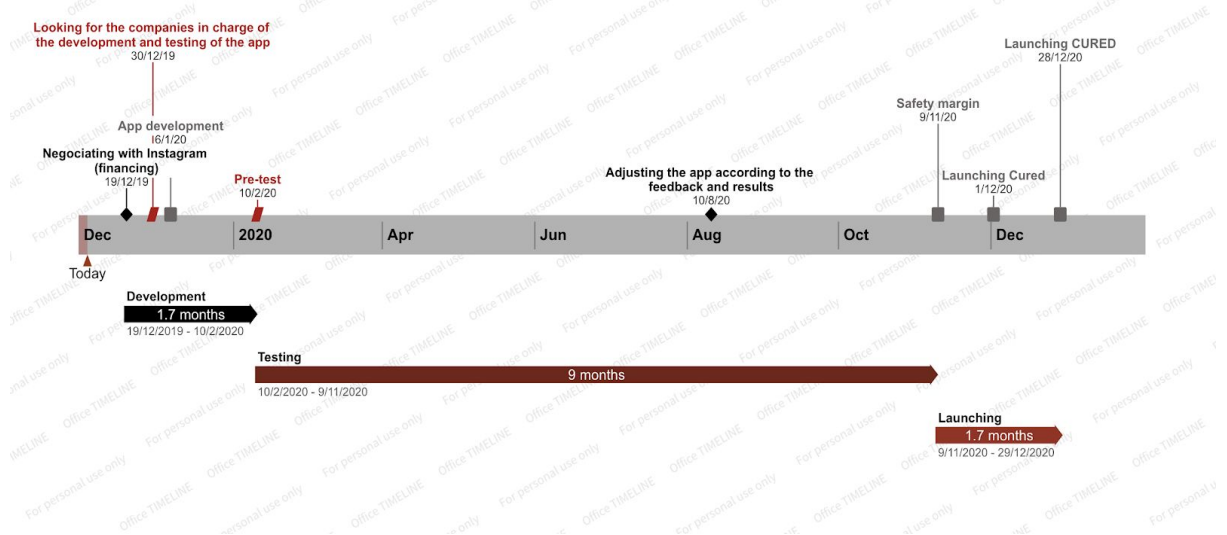
Sustainability

      Instagram is very popular among young people and as long as they keep using it, they will have to deal with the negative sides linked to the inherent design of instagram. Therefore, as long as young people use instagram, CURED will be helpful for them. As we partnered with Instagram, we will be in charge of ensuring that the users have the best experience possible for their mental health, and if Instagram ever decides to internalise this aspect within their own company, they will have to buy our company to use our database and innovating methods legally as we filed a patent for those.

Conclusion

    To conclude, as social media plays a more and more significant role in young people's daily lives and is declared by numerous researches that it has led to several mental health problems, our group intends to design a social media filter named CURED to tackle this problem. This filter will focus on improving users' experience on Instagram by feeding them more diverse and niche content and better distinguishing photoshopped or sponsored content, among other features, so as to reduce their negative effects on young people. We also recognize the limits of "CURED". As a startup, we need to have our product well-tested before releasing it to such a big market as Instagram. However, with mental health issues of young people at stake, we consider that CURED could contribute to the well-being of our society by bringing benefits to millions people in the long run. Once our software is developed for Instagram, we will try to partner with other social media in the future to further address these platforms' negative effects on mental health.

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