

Project and Professionalism

(6CS020)

A1: Report

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# Social Impact

With the advancement of technology, it has brought many social impacts. Like using the chatbot for the social good, it can be helpful in different platforms websites like e-commerce, college, office, hospital or any other institutions. Although the advancement of chatbots has hitherto been powered by high technology, we should be confident that chatbots will become a technology for social gain. This is to suggest that chatbots can be built to help society. We can see that there is already deployment of chatbot for the social goods like in the health sector there is Babylon, Woebot, Florence chatbot (Følstad, et al., 2018) and many others.

**For autonomy**, Chatbot suggests the need for self-determination by the users. By reducing digital divisions and access to enabling resources, chatbots represent a huge opportunity to improve the independence of individuals. Via the conversational, easily available, nature of chatbots and the large uptake of messaging channels, the possible decrease in digital divisions concerns the decreased threshold for inclusion. In chatbot services for public participation, health and wellbeing, education and e-commerce, the inspiring value of chatbots can be seen. But it could be hard for users to distinguish in terms of the consistency and veracity of their offering as chatbot are still in the evolving filed [2].

**For Competence,** it concerns the skills and know-how to behave in the best interest of one or another. The probability of chatbots promoting education and training is possibly important because it has a readily usable low-threshold user interface. To promote training in areas that need a little repetitive effort, for example, language learning. But it does have challenges like for Chatbots to promote education would be part of a broader education framework like most education technology applications are part of it. In order to have an influence on skills, chatbots should possibly be used in education and training schemes, instead of offered as stand-alone alternatives [2].

**For social relatedness,** it is about connection and interactions with essential people. In today's culture psychological detachment and disconnection is an important problem (Putnam, 2000). Although my chatbot does not have this feature to get people together, other chatbots recommend how chatbots help people get together. Chatbots, for example, put students together in panel discussions at the education site Vary. Other chatbots help strangers meet, speak or connect with each other. However, chatbots in larger networks may obstruct networking or misinterpret the essence of a group [2].

# Ethical Issue

Ethics are usually the set of laws that control our own and the actions of others, written and not written. Such ethical issue emerges where a small decision, situation or behavior causes a clash with the basic values or a moral of a society. These disputes are often lawfully risky since any of the responses to the problem can contradict a specific law. In other cases, the problem does not have legal implications, but third parties may respond adversely. Ethical problems are a concern and since no rules and precedents are established, they are impossible to contend with.

**Privacy,** when it comes to use of bots, privacy is one of the important areas to be concerned about. Important data are being generated and stored, so it is important to maintain the security of the bot’s input and output database in order to avoid the loss of sensitive or private users’ information. Without the concern of the users, it is illegal to use the data of a user collected from the chatbot. If user’s data are used then, the person have pay fine up to Nepalese rupees 30,000 or imprisonment of maximum of 3 years and the victim will be entitled to compensation according to the Privacy Act 2018 of Nepal (neupane, 2019).

**Chatbot Identity,** the gender and identity of chatbot owners and operators are two additional and significant issues. Therefore, the chatbot will be neutral or absolutely genderless to men, women or gender. Also, chatbot response should include some level of empathy and sensitivity when interacting with users and neither of them are allowed to abuse each other.

# Legal Implication

In short, legal implication are the consequences of ethical issue. If the data of the users are used without their concern, this will come under their privacy act and GDPR in other European countries may be penalized, or if someone use the other work without proper refrence or don’t give the credit of their work then they have to face the problem of copyright. To protect the user’s data in Nepal there is Privacy act 2018 in the “Article 28 of the Constitution of Nepal” as a fundamental right, previously it was protected under the Criminal Code [5].

## The Privacy Act and GDPR

Since 18 September 2018, the Privacy Act comes into law. The Privacy Act is designed to safeguard the privacy right of the body, home, belongings, materials, documents, correspondence and person's character, and to determine how personal information accessible to and held in a public institution and liability for violation may be used. However, the Data Privacy Act further doubles numerous clauses already set down in the Criminal Code. While it is not appropriate to combine rules, claimants may opt to lodge charges under one of two laws [5].

The GDPR is the toughest data storage and encryption law in the world. The study placed obligation upon organisations, anywhere they target, or gathered information relating to EU residents, as the European Union (EU) has drafted and implemented the text, the regulations were adopted on 25 May 2018. The (EU) GDPR will place substantial sanctions on those who break their private and security rules with penalties of up to EUR 10 million. Some of the GDPR's main rules are data security standards where it is regulated by lawfulness, fairness, openness, restriction of uses, data risk reduction, specific handling, integrity, confidentiality and accountability. Another point is transparency under which data controllers must prove consistent with GDPR and for data management we are required to process the data safely by 'suitable technological and organizational steps' (Wolford, 2020).

## Copyright Act

To protect the rights of a people on the literary, artistic works like novel and plays, films, musical works, artistic work like painting and drawings, photograph, sculpture and architectural design there is “Copyright act 2059 B.S” in Nepal or in short is the right given to you to protect your original expression of idea. To bring certain changes and to include the new things Draft Bill to amend the Copyright Act also known as Amendment to the Copyright Act was announced this year (Bhattarai, 2020). It was much needed changes because Nepal has become more technologically advanced as compared to earlier and to protect such new things it was much needed.

With this new amendment in the Section2(a) [5] the definition of “work” has been widened up, means that it now includes translation, adaptation of work, dance and choreography, music composition, sound waves, handicrafts, engravings, any work in 3D, computer programmes, database, apps, mobile apps and software among the other things that were already present. Also, with the widened amendment of section 4 now the Copyright office can reject those applications which has been patented or registered as industrial designs and kind of folk music and tale in the list of matters which are not copyrightable. In my website all the images are non-Copyright taken from credit free source like unsplash and pixel, for that data set I have made my own data set not for a specific college, but an imaginary college like xyz. Therefore, there is less chance of copyright acts in my project.

# Security Aspects

Today chatbots are often used for retail, bank, ecommerce, school, college finance, financial and travel sectors with essential details, such as credit/debit cards, SSN, bank accounts and other sensitive PIIs (Personally identifiable information)(Joseph, 2019). According to the survey it was found that by 2022 bank related 90% queries will be automated and 80% of them will have chatbot implemented (Sharma, 2019). Therefore, the aggregation of such data is crucial for the chatbot to perform thus it is required that chatbots are not vulnerable to be exploited by any hackers.

## Security concerns

### Threats

Threats are generally described as various strategies for negotiating or undermining a structure. Incidents such as spoofing, tampering, repudiation, disclosure of information, denial of services, rights raising, and many other risks can be included.

### Vulnerabilities

Vulnerabilities are classified as methods which compromise a system that cannot be properly and promptly detected and solved. When the system has bad coding, lax authentication or human mistakes, the system is open for attack. SDL (Security Development Lifecycle) practices will be more successful in addressing the problems of a potential weakness in the development and deployment processes.

To overcome those threats and vulnerabilities we can use encryption funcation to be safe from misused and tampering at the time of transmit. According to GDPR article 32(a) it’s been mandatory to takes measure to de-identify and encrypt personal data [4]. This will make chatbots to have access only to encrypted channels and communicate through those. We can use Authentication and authorization this will helps us to know the user is genuine but it is not possible in all cases so it’s better to implement self-destructive message. This self-destructive message will destroy the (Personally identifiable information) after certain amount of a time, it will help to keep user PII secure.

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