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Group 27

**SCS 3115 Professional Practice**

**Report on Group Project**

# **Project Introduction**

The project is mainly focused on people who has difficulties to remember lot of day today activities that they have to do. Proposed solution is providing timely notifications to the user in order to reduce the daily mishaps and to increase the users’ productivity though out the day. We have created a mobile application to keep track of information about user to-do activities an provide notifications according to timely manner. The user can add, delete or change the events he wishes to be reminded of and have an option to change the language in the application and also user can share his reminder list via any communication method (as a SMS, an email, a Facebook post, etc.).

# **Application of the ACM code of conduct in the project**

## **General Ethical Principles**

## **Contribute to society and to human well-being, acknowledging that all people are stakeholders in computing.**

* + As undergraduates, it is our duty to recognize the impact the products we develop have on the stakeholders as well as the public and always try to work for the better good of the society.
  + In our application, we are aimed to help the users in their day to day lives. And also, our application is free and open source and everyone over the world can use this application through his/her smart phone. When using this application there is no any barrier due to the economical classes and the social classes

### **Avoid harm**

* + According to the ACM Code of Ethics and Professional Conduct, “harm” was described as negative consequences with unjustified physical or mental injury, with unjustified destruction or disclosure of information listed as examples among others.
  + In our application, we had to store personal details in a database. At the beginning we have decided to use **firebase firestore** as an efficient online data storage. But considering this “**Avoid Harm principle**”, we decided to migrate our database to local storage.
  + But before that we were think about data encryption methods and secure transport protocols, etc. But all of these methods had ethical issues when we are requiring an informed consent. Therefore, we decided to migrate our data base to a mobile phone local storage **as an embedded database**.
  + But in this case, user has to take his own risk about his sensual data. Because we cannot control the user activities. If the user put a sensual data, **he should careful about his personal phone’s privacy**. In this case user can ensure that there is no any third party who is seeing his personal information without a consent.
  + Our application has a reminder sharing option to any external media like email, SMS, Facebook, WhatsUp, etc. When doing this user has to take his own responsibility and we cannot ensure the privacy of the data in outside of the application context. But we allowed this functionality only for authenticated user (Smart phone owner).

### **Be honest and trustworthy.**

* + When we are at the developing stage, we discussed about our teams’ talents and assigned work load according to that.
  + **Used Zen hub** as project management tool and git for version controlling. By using these platforms and technologies we could ensure the completion of each sub part and does it meet the assigned time period.

### **Be fair and take action not to discriminate.**

* + When we developing our application. We’ve considered about the usability and the consistency of the whole application. We achieved this principle by using localization methods (Language change functionality), Icons, User friendly colours, and voice recognition as an alternative data input method.
  + Our application developed in Android platform and we used **average Android version** **(Marshmallows)** because most of the people around the world doesn’t have latest smart phones with latest firmware. From this we **avoid discrimination** users due to economic and technological barriers. And also, we’ve planned to deploy our application on other operating systems like IOS (Not Yet Developed).
  + In our application context, if the user doesn’t have his/her mobile phone with him/her for a movement. There is a functionality to add reminders from external sources like email, SMS, etc. (Not completely implemented yet). To implement this functionality application has to request access for the local storage. Then user can accept or reject that request. If he allowed the request application have an informed consent to access his private massages.
  + Deployed application as a free and opensource software, then the everyone can use and contribute to the software.

### **Respect privacy.**

* + As explained in “Avoid Harm” section above, we don’t collect any information of user through the application. Therefore, user has no need to warry about the privacy of his data when using our application. But he should protect his mobile phone from others access because all the data stored in his mobile phone storage. In our application scope we cannot prevent and take responsibility for that kind of misbehaviours.
  + When using the reminder sharing there may have accidental disclosure. To avoid that kind of issues we have implemented confirmations with proper notifications.
  + When user add reminders from external sources, he has to create reminders with special key word and special format. Otherwise application doesn’t take it as a valid data source. From this method we could ensure the authenticity of the user.

## **Professional Responsibilities**

### **Strive to achieve high quality in both the processes and products of professional work.**

* + As undergraduates, we strived to build the application to the best of our ability and always made sure to discuss and come to a solution when each of us were faced with a difficulty to ensure a higher standard of work.
  + At the beginning we have developed our application with react native and firebase. But to ensure standards and quality we had to migrate it to pure Android platform.
  + We carried out unit tests to ensure that the product is of high quality as the reputation of the University falls upon the standard of work we present as a team.
  + We have tested the application on different devices that have different architectures. From this we could ensure that there is no any problem when the user install the application on his device.

### **Maintain high standards of professional competence, conduct, and ethical practice.**

* + To ensure this principle we decided to divide the work according to the area of expertise/competence each of us possessed. We also had weekly meetings where we discussed issues each of us had regarding our components to be developed.
  + Used Slack, hangouts as a professional communication medium and used zenhub to manage development process according to agile principles and git for version controlling.

### **Know and respect existing rules pertaining to professional work**

* + We researched on other existing reminder applications and identified criteria that are deemed necessary to be collected as data. Hence, we were able to identify data that cannot be collected under local and international laws and gave us a broad idea about the policies and ethics regarding the rules.
  + Avoid using illegal icons images and keywords while developing and the deployment. Created the application contents to match with any age group and any reginal and cultural environment.

### **Accept and provide appropriate professional review.**

* + In order to achieve this, whenever appropriate, timely meetings we held with our lecturer. During these meetings we discussed about the progress of our project and about the ethical issues that we encountered while structuring and developing the project. Our lecturer was also able to provide us with constructive and critical reviews during these sessions.
  + Maintained a slack channel with our supervisor(lecturer) and discussed about the ongoing work.
  + When we using the version controlling platform (github), There was a policy that should be at least one review per a pull request before merge it with master branch. From this we ensure the quality of the product and best practices.

### **Perform work only in areas of competence.**

* + In order to abide by this rule, when dividing the work among the team, we made sure the work assigned to a particular person is within that member’s areas of competence. But since we are still undergraduates, we also tried to learn through the project by pushing our own boundaries. We constantly managed to solve technical problems by discussing among ourselves and to managed to share and improve our knowledge.

### **Design and implement systems that are robustly and useably secure.**

* + At the beginning we have developed login functionality. But after considering some usability facts and ethical issues (As mentioned above) we decided to eliminate that part and build the system as a standalone one.
  + As always, we attempted to develop a robust, secure system to the best of our ability. Since robust security should be a primary consideration when designing and implementing systems,
  + Avoid central database architecture and save data in user’s device storage.

## **Professional Leadership Principles**

### **Ensure that the public good is the central concern during all professional computing work.**

* + Since people, including users, customers, colleagues, and others affected directly or indirectly should always be the central concern in computing, we decided to build an application that will help the society and avoids harm in any way possible.
  + We have tested the application with set of users as a part of evolutionary prototyping. When we doing this, we thought about their privacy and we ensure the trustworthiness.

### **Articulate, apply, and support policies and processes that reflect the principles of the Code.**

* + We each carried out the relevant social responsibilities and discourage tendencies to do otherwise.

### **Manage personnel and resources to enhance the quality of working life.**

* + Even though we didn’t have a leader in the team, each of us ensured that the others enhanced and not degraded, the quality of working life and looked to each other’s physical safety and psychological well-being.
  + We ensured this by making sure that the work was distributed properly and didn’t add an unnecessary amount of stress to the members.
  + When a team member found a useful knowledge resource which is related to this project, shared it among all the team members.
  + When some one faced with a difficulty with the assigned task, all the other members work together with him/her.