Kickstart Research Brief

Group 9

California State University: Chico

By: Joey Strainer, Leah Fales, Kaylie Parr, Sean Dillon, & Pablo Vazquez

In the last 10 years we have seen the evolution of apps and have discovered how efficient they can make our lives. Lifestyle apps in particular can be used to help us obtain information that we can use on a daily basis to make our lives easier. However, lifestyle apps can also provide us with a handful of other types of information, that is why it is important that we breakdown the type of information that we receive so that we can become better educated on how to isolate what is being communicated to us. There are virtual assistants, such as Siri Google Assistant, Cortana, Amazon Alexa. These lifestyle apps are being used to assist us in our daily lives to make our day-to-day tasks more efficient. Next we have peer2peer communication apps, such as Whatsapp, Skype, and Tinder that allow us to create a dynamic environment between two or more people on an online setting. In fact, the rise of peer2peer communication apps have revolutionized the way businesses can interact with their customers.). Now that we have listed a couple of ways that we use apps to communicate, we should then talk about how apps are being used to communicate to the user. Apps do this by the use of push notifications. Push notifications are ways that apps push information to us that are relevant to the function of the apps. For example, Apple Maps and Google Maps use push notifications to inform its users of traffic jams and speed traps. “By nature, push notifications are brief and short-lived. As such, these messages are engaging and effective as a marketing strategy only if they’re personal, relevant and, most of all, provide value to your recipients. (Harris 2019) In fact mobile device manufactures use push notifications to be used to inform users of emergencies, such as possible flood warnings and earthquakes.

The switch from desktop computers to mobile phones and apps is still in progress, however as of September 2019, the amount of people relying on smartphones and tablets

compared to desktops is 57% (Lynkova, 2019). This is largely because our generation is always on the go and various apps allow us to gain information no matter where we are. Apps are used for many different purposes including gaming, business, and communication. “App usage statistics in App Annie’s The State of Mobile 2019 report show that, in terms of usage time, the most used apps in 2018 were social & communication apps, which accounted for 50% of time spent in apps globally. This was followed by video players & editors (15%) and games (10%).” (Iqbal, 2019).

No matter what the use of the app is, it allows consumers to access the information that it holds within its data no matter the consumers location. When it comes to app usage, Artificial Intelligence (AI) purpose is to recognize a pattern. “If your smartphone has ever popped up when you start your car and connect to bluetooth with a random message about how long it will take you to get to a place you go often, and what the traffic conditions are like, this is pattern recognition in action.” (Kazami, 2019) Another great example of this is Google “G Suite” when responding to an email it will give you automated responses such as “Thank you for your time” or “I look forward to hearing back from you” that are commonly used when writing a formal email. AI allows the consumer to reach their goal quicker by learning the users patterns.

One the biggest developments in mobile app technology over the past year has been the expansion of artificial intelligence. Although artificial intelligence has been integrated in app software development for a while, developers are only expanding the many ways AI technology can advance us in our daily lives. Industries are rapidly investing in AI technology, and it’s predicted that AI system spending will increase to $79.2 billion in 2022, more than double the

reported spending of $35.8 billion in 2019 (IDC, 2019). AI's ability to learn from and assist in the user experience has created a large market for AI application in mobile app development.

Another notable development is the use of virtual reality technology in mobile applications. Augmented reality gives users a simulated experience that augments their perception of the real world. Most of us have already experienced the implementation of this technology in face-changing functionalities in apps such as Snapchat and Instagram. The virtual reality mobile hardware market is only expected to grow alongside the growing advancement of smartphones. A trending example of brand new VR technology is Facebook Horizon, a new social VR world, coming to the Oculus Quest in 2020. "Horizon is the first step into an ever-expanding world of connection and exploration where everything becomes possible," (Oculus, 2019). Facebook Horizon is advancing the social networking world by giving worldwide users a virtual escape to connect with one another.

Mobile-connected smart objects have dramatically increased in popularity over the last year. Also known as 'Internet of Things', this technology involves a network of devices connected through sensors, software and electronic wiring which usually connects through mobile applications. One of the biggest companies that has implemented this technology over the past year is Amazon. Amazon has a wide range of internet-connected devices which can be utilized through your smartphone device, including Amazon Alexa, Amazon Echo, Amazon Fire TV, and more. The implementation of smart home technology at the touch of an app is only expected to grow, with consumers spending an estimated $123 billion on IoT devices by 2021 (Time, 2019).

Where there is new innovation in technology, there is always going to be people who are left behind in the wake of new technology. These folks often don't know how to use new apps unless they give tutorials, and even then it gets to a point where people get frustrated and just want to talk to someone about the issue they're having. For this, there's chatbots.

Chatbots are a recent technology that has helped enhance the ability to ask questions about a product or a service. These chatbots are a form of AI that are trained to respond to a series of questions that might be asked. They're usually meant to act like a human so that a consumer might believe that the help they're receiving is *from* a human. It's helpful to the company because, instead of having to pay a person to answer questions, which involves filing W-2s and workers comp and sick pay and unions and employee rights and healthcare, they can instead have a computer do the talking for a fraction of the price. (Rosenburg, 2019)

Price is a big factor when it comes to business; but what if you didn't need to pay anyone? What if a business decided, in true laissez-faire fashion, to let the free market decide what developments occur in the app? Open source coding is growing larger and larger. Github, an online open-source repository, allows projects to be worked on by multiple people around the globe. These projects can range from website development to app-building to video game production, from twitter bots to models of astrophysical models. Anyone can contribute to an open source project, leading for more products to be offered in a single application. Open source coding has huge ramifications in the coding community, and it will be exciting to see what happens next via github. (Raja, 2018)

The product that we are developing is an app that would tell the person who is using the app which parking spots are open and which are taken in parking structures. This app would help

drivers find parking a lot easier at colleges and malls that use parking structures and have the necessary technology to use the app. The app that our group is developing is something that will make use of different technologies like AI to help with the app's basic functions it needs to do to show the user what they need to see in the app. The app that we are going to develop is going to be connected to certain parking structures that have the technology necessary to gather the information needed. That app will need the users to have Wi-Fi or mobile data to connect to the app to get the information that is collected from other people using the app to inform the user. The app will also direct the user to the closest open parking spot. The app will also mark the open parking spots while filling in the parking spots that are taken and make it easy for the user to navigate the app. As a whole this app is to help the users experiences at places like colleges and other locations that use parking structures to help with their overall experience and make it easier to find parking.

In conclusion, because of the ever growing industry of apps and AI, and the widespread communication apps allow, we will use the pattern recognition features of AI to create an app that will aid drivers in finding a parking spot faster in parking structures such as at a mall or college, saving the consumer time. The AI will recognize patterns of when the parking lot is full and help the driver find an open parking spot, instead of circling aimlessly throughout the structure.

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