INFORMED CONSENT FORM

LEAD RESEARCHERS:

- Kieran Fraser

BACKGROUND OF RESEARCH:

You are invited to participate in this study on push-notifications which aims to test alternate methods for creating, displaying and delivering push-notifications with a goal of improving the engagement experience for push-notification subscribers.

In particular, this study wishes to examine how notification engagements differ over participants of different demographics, levels of mindfulness and levels of curiosity. Additionally, this study will assess the performance of a notification service which:

- autonomously generates notifications
- uses different templates to display notifications
- uses different methods for personalising delivery of notifications

This will be achieved through studying various aspects of notification features and their effect on notification engagements, such as: topics; keywords; sentiment; enticement; emojis.

Over the past decade, technology has become increasingly ubiquitous. Smartphones are an obvious example of this. We are rarely without our mobile devices. This has resulted in a massive influx of apps created for our smartphones, all of which fight for our attention. A key feature used by mobile apps to grab our attention are push-notifications. These are the alerts that cause our device to *ping* or vibrate, attempting to draw us back into engaging with the app that created the notification. Marketers use push-notifications as a tool in strategies that aim to: maximizing time spent on their platform; convert purchases; advertise deals; etc. With widespread adoption of mobile browsing, websites now also have the ability to push-notifications, giving every business with an online presence the ability to reach subscribers 24/7.

While push-notifications can be a great and useful tool for staying up to date with important information, they can also be a nuisance. For example too many notifications cause the receivers to become anxious due to an overload of information and notifications delivered at inopportune times reduces productivity. This study aims to explore how well different types of push-notifications are received by subscribers through testing different sources for creation, different formats for displaying and different methods for delivery.

PROCEDURES OF THIS STUDY:

We are asking participants to subscribe to our push-notification service for a period of 3 weeks and answer short questionnaires about the notifications we push them.

The action, open or dismiss, participants take upon notifications are recorded.

To start you are asked to navigate to the Pushd webpage, https://fraserkieran.com/pushd, using the Chrome browser on your mobile device. On this webpage, you will find a digital copy of the Participant Information Sheet and this Informed Consent Sheet.

On reading both sheets and giving your informed consent, you can click the *Lets Start* button which will open a dialog window where you are asked to:
• answer a small number of demographic questions
• complete the *Curiosity and Exploration Inventory* questionnaire
• complete the *Mindful Attention Awareness Scale* questionnaire
• indicate preferences for notifications e.g. website sources, topics

You can exit the questionnaire and stop participating at any point by selecting the cancel button. On completion of the questionnaire, and over the following three weeks after signing up, you will receive up to 20 notifications spread throughout the day. Your action taken on these notifications (opened/dismissed) will be tracked.

Important: do not delete cookies for the study website (https://fraserkieran.com/pushd) during the 3 weeks or you will be <u>automatically removed from the study</u>. This is due to the fact that the system depends on cookies for delivering the notifications and a participant cannot be reidentified once these cookies are destroyed.

At the end of each of each day you will receive a notification with the title *Pushd Study Alert – Nightly Survey*. You are asked to open this notification and answer the subsequent questions regarding your engagement with notifications over the day. You are asked to complete at least 5 of these per week.

You may choose to leave the study at any point by simply navigating back to the Pushd webpage and clicking the *Unsubscribe* button – all data recorded up to this point will be destroyed and you will no longer receive notifications.

At the end of the three weeks, a notification will be sent with the title *Pushd Study Alert - You have finished the study*. You are asked to open this notification, answer the short concluding questionnaire and confirm your submission. <u>After this point you will no longer be able to withdraw your data from the study as the unique identifier linking you and your data will be destroyed.</u>

PUBLICATION:
Individual results will be aggregated anonymously, and research reported on aggregate results. Your data will be treated with full confidentiality and will not be identified as yours. The data shall not be traceable to individual participants. All further analysis, publication and presentation of findings will therefore not reference any individual participants by any identifying feature.

We plan to publish the results of our research in academic journals and conference proceedings as well as the lead researcher's PhD thesis. We will do this in a way which does not identify you, or any other individual participant. One such targeted conference for publication of result of findings is *UbiComp 2020*.

SYNTHETIC DATASET:
As part of this study, notifications and subsequent actions (taken by participants) will be used to train algorithms (e.g. Generative Adversarial Networks) to simulate participant

actions so that a synthetic dataset can be generated and shared amongst the research community. No identifying data shall be present in the synthesized dataset.

DECLARATION:

- I am 18 years or older and am competent to provide consent.
- I have read, or had read to me, a document providing information about this research and this consent form. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction and understand the description of the research that is being provided to me.
- I agree that my data is used for scientific purposes and I have no objection that my data is published in scientific publications in a way that does not reveal my identity.
- I understand that if I make illicit activities known, these will be reported to appropriate authorities.
- I understand that I may withdraw at any time without penalty.
- I understand that three weeks after completing the sign up process, a notification will be sent with the title: *Pushd Study Alert - You have finished the study*. I understand that opening this notification will lead to answering a short concluding questionnaire and confirming my submission of data. I understand that after this point I will no longer be able to withdraw my data from the study as the unique identifier linking me with my data will be destroyed.
- I understand that if the results of the research have been published, or my data has been fully anonymised so that it can no longer be attributed to me (see previous bullet point), then it will no longer be possible to withdraw.
- I understand that my data may be used to create synthetic datasets (via generative modeling techniques e.g. Generative Adversarial Nets) which simulate actions (open/dismiss) I have taken on notifications during the study, and that these synthetic datasets (which will not contain any Personally Identifiable Information) may be made available to the research community.
- I freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights.
- I understand that if I or anyone in my family has a history of epilepsy then I am proceeding at my own risk.
- I have received a copy of this agreement.

pushd

By signing this document I consent to participate in this study, and consent to the data processing necessary to enable my participation and to achieve the research goals of this study.

PARTICIPANT'S NAME:
PARTICIPANT'S SIGNATURE:
Date:

Statement of investigator's responsibility: I have explained the nature and purpose of this research study, the procedures to be undertaken and any risks that may be involved. I have offered to answer any questions and fully answered such questions. I believe that the participant understands my explanation and has freely given informed consent.

RESEARCHERS CONTACT DETAILS:
Kieran Fraser, ADAPT Centre, 2nd Floor O'Reilly Building, Trinity College Dublin
kieran.fraser@adaptcentre.ie

RESEARCHER'S SIGNATURE:

Date: 10/04/2020