Dublin City University
School of Computing
ETHICS COMMITTEE (SEC)

NOTIFICATION FORM FOR LOW-RISK PROJECTS AT UNDERGRADUATE OR TAUGHT MASTERS LEVELS

Please read the following information carefully before completing your application. Failure to adhere to these guidelines will make your submission ineligible for review.

1. **Download this form, complete the appropriate fields, attach additional pages (e.g. plain language statement) as appropriate and save as a PDF file**
2. **Completed applications must be uploaded to your School of Computing GitLab repo and must be located in "`docs/ethics.pdf`".**
3. **Your SUPERVISOR will then be notified automatically and must approve your approach initially.**
4. **Your application should consist of one electronic file (PDF) only.** The completed application must include this form and also must incorporate all supplementary documentation, especially that being given to the proposed participants e.g. consent forms, plain English language statement. It must be proofread and spell-checked before submission**.**
5. **All sections of the application form must be answered as instructed and within the word limits given.**
6. **Your ethics approval submission will be circulated to the School's Research Ethics Committee and you will be notified if/when it is approved**
7. **All projects must have either a derogation from an ethics approval requirement (as determined by your supervisor) OR must have an approved ethics submission (this form), before work with human subjects commences.**

Applications which do not adhere to these requirements will not be accepted for review and will require resubmission

Applications must be completed on this form; answers in the form of attachments will not be accepted, except where indicated. No hard copy applications will be accepted. **The project must not commence work with human subjects until written approval has been received from the School of Computing Ethics Committee (SEC).**

PROJECT TITLE	CA400: Clever Carpooling Mobile Application
PROJECT SUPERVISOR(S)	Ray Walshe
START AND END DATE	21st September 2019 – 11th May 2020

Please ensure that <u>all</u> supplementary information is included in your application (in one electronic copy). If questionnaire or interview questions are submitted in draft form, please indicate this by putting (draft) after YES. A copy of the final documentation must be submitted for final approval when available.

	My application has been collated as one electronic file which includes the following documentation:	INCLUDED (mark as YES)	NOT APPLICABLE (mark as N/A)
	Bibliography		**N/A**
	Recruitment advertisement (How are you getting volunteers?)		**N/A**
	Plain language statement/Information statement	**YES**	
	Informed consent form	**YES**	
	Personal Data Security Schedule https://www.dcu.ie/sites/default/files/info/3._blank_data_security_schedule.xls		**N/A**
	Evidence of external approvals related to the research		**N/A**
	Questionnaire/Survey		**N/A**
	Interview/Focus Group Questions		**N/A**
	Debriefing material		**N/A**
	Other (e.g. local government approval)		**N/A**

Please note:

1. Any amendments to the original approved proposal must receive prior SCEC approval.
2. As a condition of approval investigators are required to document and report immediately to SCEC any adverse events, any issues which might negatively impact on the conduct of the research and/or any complaint from a participant relating to their participation in the study

1. ADMINISTRATIVE DETAILS

Project Type (select one): Undergraduate Project – Final Year	**X**
Undergraduate Project – non-final Year	
Taught Masters (Practicum)	

(projects at other levels, e.g. PhD or research Masters, should be approved by the University's REC if necessary)

1.1 INVESTIGATOR CONTACT DETAILS

SUPERVISOR(S):

NAME	*SCHOOL/UNIT*	*EMAIL*
Ray Walshe	DCU School of Computing	raywalshe@dcu.ie

STUDENT(S):

NAME	*SCHOOL/UNIT*	*EMAIL*
Nigel Guven	DCU School of Computing	nigel.guven2@mail.dcu.ie
Shaun Carey	DCU School of Computing	shaun.carey26@mail.dcu.ie

DECLARATION BY SUPERVISOR(S)

The information contained herein is, to the best of my knowledge and belief, accurate. I have read the University's current research ethics guidelines, and accept responsibility for the conduct of the procedures set out in the attached application in accordance with the form guidelines, the SCEC guidelines (https://www.dcu.ie/researchsupport/researchethics.shtml), the University's policy on Conflict of Interest, Code of Good Research Practice and any other condition laid down by the Dublin City University Research Ethics Committee. I have attempted to identify all risks related to the research that may arise in conducting this research and acknowledge my obligations and the rights of the participants.

If there exists any affiliation or financial interest for researcher(s) in this research or its outcomes or any other circumstances which might represent a perceived, potential or actual conflict of interest this should be declared in accordance with Dublin City University policy on Conflicts of Interest.

I and my co-investigators or supporting staff have the appropriate qualifications, experience and facilities to conduct the research set out in the attached application and to deal with any emergencies and contingencies related to the research that may arise.

Electronic Signature(s):

Supervisor(s): _____

*Print Name(s) here:*_____

Date: _____

2. PROJECT OUTLINE

2.1 SIMPLE DESCRIPTION

Clever Carpooling is an application that allows drivers to carpool passengers from a pick-up point to their destination given that the driver is going in a similar direction. The main aim of the application is for it to be used by students and commuters to fill up available space in cars, thereby reducing traffic and contributing to a greener community.

Users over the age of 18 will be required to set up an account with their name, email, age, profile photo and if they wish to be a driver on the application then a relevant full license for a vehicle in the Republic of Ireland only must be provided.

A prediction system will be implemented which can tell users if their route-of-commute is busy and how many drivers might be available on that certain day for instance. This will help the application to stand out in market where the likes of Uber and FreeNow taxi dominate the market with their taxi companies.

2.2 AIMS OF AND JUSTIFICATION FOR THE RESEARCH *(Max. 400 words)*

As stated above, the aim of the project is to simplify commuting to work, college, or an alternate destination. It is common for many vehicles, that commuting to work or college, are filled with one passenger at most. This application aims to solve the problem of reducing the number of vehicles on the road while getting passengers to their destination using all the space available.

2.3 DESCRIBE THE METHODOLOGY BEING USED TO ACHIEVE YOUR STATED AIMS

A sample base of selected users will be asked to provide their information via a PLS. These users will be friends and family of the project team. This reduces risk analysis as people who know each other will participate in sharing rides. They may decline if they wish so but those who accept to have their data used will be fully aware of what data might be collected. The PLS will state exactly and succinctly the data that this application collects.

The user will be given the application to install on their phone. They must first register on the application. Data collected is:

For all users: { Name, Gender, Date of Birth, Home Address, Mobile number, Profile photo of face.}

For drivers only: { picture of driver's FULL license 'ROI', car registration }

Note that users do not have to provide the following as optional: {gender, home address}. These will be explicit in the application, listed as bold text for users as a choice. If a prospective user does provide their date of birth, they still must be required to be over the age of 18.
If the quota of users is not met, then the developers will fill to the quota of 50 accounts by making template testing accounts.

Once a user has completed a journey, their route will be stored in Firebase. Then our analytics engine can be used to provide feedback to users about route history and predict which routes are the most popular on certain days. Of course, we will not tell all users which specific user has travelled to a certain destination, only the number of passengers.

2.4 PARTICIPANT PROFILE

Our aims are to provide a broad of range of users across all age groups over the age of 18. We also need some to be fully licensed drivers so that we can test two different groups. The goal sample size will be 50 as this will be a sufficient testbed to retrieve feedback and statistics for our prediction system.

2.4(a) PARTICIPANT VULNERABILITY

Participants may be vulnerable in the circumstance that they are entering another person's car. However, we plan to collect as much data from a user during registration so that in the extreme possibility that a crime occurs, then we can release this information about a certain criminal to the relevant authorities. Participants may also be vulnerable from the perspective that their home address and destination i.e. work, or place of education will become known to another user sharing in their carpool. The users will be known to each other as related to the project team in some aspect.

2.4(b) CHILD PARTICIPANTS (anyone under 18 years old)

Please indicate your compliance with the following guidelines:	**Mark here**
We confirm that we have read and agree to act in accordance with the DCU Child Protection policy and procedures	**N/A**
We confirm that we have put in place safeguards for the children participating in the research	**N/A**
We confirm that we have supports in place for children who may disclose current or historical abuse (whether or not this is the focus of the research)	**N/A**

2.5 EXPLAIN HOW PARTICIPANTS ARE TO BE RECRUITED

We will be approaching prospective users from our list of friends and family. We will of course seek permission from the security authorities, school of computing ethics team and other relevant bodies before proceeding with any recruitment. If a participant accepts then we will provide them with the explicit plain language statement and upon accepting, then give them the download link to our prototype application. They can of course opt out at any stage and we will fully remove and destroy their data if this is the case.

2.6 PLEASE EXPLAIN WHEN, HOW, WHERE, AND TO WHOM RESULTS WILL BE DISSEMINATED, INCLUDING WHETHER PARTICIPANTS WILL BE PROVIDED WITH ANY INFORMATION AS TO THE FINDINGS OR OUTCOMES OF THE PROJECT*?*

There will be no explicit results provided to users who have participated in the project. Instead, once testing has been fully completed and the prototype is robust, we will officially thank our users by email and send an acknowledgement letting them know that we will then destroy their data upon completion and they may uninstall the application or continue using it if they so wish to do so by registration again.

2.7 ARE OTHER APPROVALS REQUIRED TO GAIN ACCESS TO ANOTHER LOCATION, ORGANISATION ETC.? (e.g. a School or company)

YES or NO
NO

N/A

3. RISK AND RISK MANAGEMENT

3.1 JUSTIFICATION OF STATED LEVEL OF RISK TO RESEARCH PARTICIPANTS

Moderate Risk Assessment

We believe it to be categorized as above although the DCU School of Computing ethics team may judge it to be higher or lower than this assessment. We have given it this rating since there are no users under the age of 18 and all data is stored on Firebase which is very secure and only accessible by the two developers and real user data will be destroyed upon completion of the CA400 module.

3.2 DOES THE RESEARCH INVOLVE:

	YES or NO
● use of a questionnaire? (attach copy)?	**NO**
● interviews (attach interview questions)?	**NO**
● observation of participants without their knowledge?	**NO**
● participant observation (provide details in section 2)?	**YES**
● audio- or video-taping interviewees or events?	**NO**
● access to personal and/or confidential data (including student, patient or client data) without the participant's specific consent?	**NO**
● administration of any stimuli, tasks, investigations or procedures which may be experienced by participants as physically or mentally painful, stressful or unpleasant during or after the research process?	**NO**
● performance of any acts which might diminish the self-esteem of participants or cause them to experience embarrassment, regret or depression?	**NO**
● investigation of participants involved in illegal activities?	**NO**
● procedures that involve deception of participants?	**NO**
● administration of any substance or agent?	**NO**
● use of non-treatment of placebo control conditions?	**NO**
● collection of body tissues or fluid samples?	**NO**
● collection and/or testing of DNA samples?	**NO**
● participation in a clinical trial?	**NO**
● administration of ionizing radiation to participants?	**NO**

3.3 POTENTIAL RISKS TO PARTICIPANTS AND RISK MANAGEMENT PROCEDURES

Participant routes will be observed so that we can analyze the success of our route analytics system. Participants will be informed of this in the plain language statement and consent form. The routes will be analyzed according to Coarse location in Android so that we as the developers will not know the exact location of a user from their pick-up or drop-off point.

3.4 ARE THERE LIKELY TO BE ANY BENEFITS (DIRECT OR INDIRECT) TO PARTICIPANTS FROM THIS RESEARCH?

YES or NO
YES

The application is intended to revolutionize the community transport market, by allowing users themselves to pick up other passengers and vice versa all and it is free to use, and any cash incentive is on the driver themselves.

3.5 ARE THERE ANY SPECIFIC RISKS TO RESEARCHERS?

YES or NO
YES

The developers will have their email accounts written on the PLS and consent forms for those users with any queries. These email accounts are secure within DCU domain.

3.6 DEALING WITH ADVERSE/UNEXPECTED OUTCOMES

In the event of adverse effects, user data will be destroyed, and all users will be informed of an adverse effect. The developers may seek guidance from those with a deep knowledge of GDPR in the rare case of an unexpected scenario.

3.7 HOW WILL THE CONDUCT OF THE PROJECT BE MONITORED?

Through Gitlab, supervisor may see code and database. The supervisor will be given detailed information at meetings by the students involved in the project and will be informed if any ethical issues arise.

3.8 SUPPORT FOR PARTICIPANTS

There is no additional external support necessary. Project team will deal with any support issues provided through their email.

3.9 DO YOU PROPOSE TO OFFER PAYMENTS OR INCENTIVES TO PARTICIPANTS?

YES or NO
NO

N/A

3.10 DO ANY OF THE RESEARCHERS ON THIS PROJECT HAVE A PERSONAL, PHILOSOPHICAL, FINANCIAL OR COMMERCIAL INTEREST IN ITS OUTCOME THAT MIGHT INFLUENCE THE INTEGRITY OF THE RESEARCH, OR BIAS THE CONDUCT OR REPORTING OF THE RESEARCH, OR UNDULY DELAY OR OTHERWISE AFFECT THEIR PUBLICATION?

YES or NO
NO

N/A

4. CONFIDENTIALITY/ANONYMITY

4.1 WILL THE IDENTITY OF THE PARTICIPANTS BE PROTECTED?

YES or NO
YES

The identities of participants will be protected and will be remain entirely anonymous over the duration of which their data is being used. Once the experiment is complete, then all data is destroyed, and participants will need not worry about their data being used illicitly

IF YOU ANSWERED YES TO 4.1, PLEASE ANSWER THE FOLLOWING QUESTIONS:

4.2 HOW WILL THE ANONYMITY OF THE PARTICIPANTS BE RESPECTED?

Participants may reach out to the developers if they wish to opt out of the project testing. At that moment, the developers will remove every piece of data that they might have contributed to this project. We will provide constant communications with our sample population of participants to reaffirm the security of their personal data and how it is being used during the timeline of the project.

4.3 LEGAL LIMITATIONS TO DATA CONFIDENTIALITY

Via a plain language statement and signing of terms and conditions, users may be informed of their rights and the rights of the application in storing their personal information on a selected, protected database. Their data may be removed and destroyed at any time and will not be given out to third parties.

5. PERSONAL DATA - COMPLIANCE WITH THE GENERAL DATA PROTECTION REGULATION

5.1 IS PERSONAL DATA BEING PROCESSED AS PART OF THIS PROJECT?

YES or NO
YES

	Mark here
We confirm that we have read and agree to act in accordance with DCU Data Protection Unit guidance and procedures regarding personal data	X
We confirm that we have put in place a Personal Data Security Schedule (PDSS) for the project and have attached it to this application	X

IF YOU ANSWERED YES TO 5.1, PLEASE ANSWER THE FOLLOWING QUESTIONS:

5.2 WHAT KIND OF PERSONAL DATA IS BEING PROCESSED?

Names, Date of Birth, Home Address, Mobile Number, Gender, Profile Photo, Driver car information.

5.3 WILL ANONYMISATION/PSEUDONYMISATION OF THE PERSONAL DATA BE UNDERTAKEN?

YES or NO
YES

N/A

6. DATA/SAMPLE STORAGE, SECURITY AND DISPOSAL

6.1 HOW AND WHERE WILL THE DATA/SAMPLES BE STORED?

Data Storage

Data is stored on Firebase which is highly secure, and it is easy to delete data on the platform. Firebase provides data security with encryption of data. In transit data is moved using HTTPS. Although HTTPS is not perfect, no one can eavesdrop on its data packets in transit. Cloud Firestore, Cloud Messaging and the Realtime Database hold the user's data at rest and Firebase encrypts this data when not in use at a given moment.

Firebase is hosted on Secure Sockets Layer or SSL which is a security technology to provide an encrypted link between the user on a mobile phone and the Host server.

Firestore, RTDB and Cloud Messaging have all passed ISO/IEC standards for data security which may be viewed at the following link: https://firebase.google.com/support/privacy.

Local data is only readable by the active user who wishes to send a document to another user over a private messaging interface. There is no external storage on local storage i.e. phone storage, SD cards etc. Data is retrieved dynamically through database calls to Firebase.

Permissions

User location are fully protected and there is no way for another user to see the current users location on the map. The Android Manifest requires that the user accepts permission for the following:

- Access fine location, Access coarse location
- Access Network State, Internet
- Read External Storage, Write External Storage

Telephony Networking is provided by Google Cloud Messaging and encrypted by our application especially with regards to the Messaging system which allows for sending of text and PDF files and the transmission of passive notifications from the Firebase server to the user device.

Handling User Data

User data is retrieved by keys rather than explicit calls to the database. Logging of user data is handled securely through the encryption function. The email hash provides the key rather than requiring the specific email address.

Encryption

The application utilizes SHA-256 cryptography hash functions as its primary key for transferring data across the interfaces and calls to and from databases. Messages, documents and credentials are applied a hash key when being uploaded and downloaded. Email hashes are generated once a user has entered their email address. A salt is used to create this random key based on the user's email and password information.

6.2 WHO WILL HAVE ACCESS TO DATA/SAMPLES?

Developers of the application will have access to data. Supervisors may view the data also.

Ray Walshe – Project Supervisor
Shaun Carey – Developer – Database Engineer
Nigel Guven – Developer

6.3 HOW LONG IS THE DATA TO BE HELD/RETAINED FOR?

Data will be held for as long as is necessary to test all modules of the system. Once a robust integration test of all modules is validated and the prediction system is operational, all data will be wiped from firebase. Then template accounts will fill the quota of real-user accounts.

6.4 IF DATA/SAMPLES ARE TO BE DISPOSED OF, PLEASE EXPLAIN HOW, WHEN AND BY WHOM THIS WILL BE DONE?

Data will be disposed by deletion and upon request of users who wish to remove their personal data from the application. The project team may dispose of user data but will inform a user in advance of this deletion and also just at the point of deletion and will also send an acknowledge to the user of what has been deleted. Data is deleted manually from the database. Shaun Carey is responsible for maintaining the database and will be the point-of-contact for any issues relating to GDPR and personal data.

7. PLAIN LANGUAGE STATEMENT *(Attach to this document. Approx. 400 words)*

PLEASE CONFIRM WHETHER THE FOLLOWING ISSUES HAVE BEEN ADDRESSED IN YOUR PLAIN LANGUAGE STATEMENT/ INFORMATION SHEET FOR PARTICIPANTS:

	YES or NO
Introductory Statement (Supervisor and student names, school, title of the research)	**YES**
What is this research about?	**YES**
Why is this research being conducted?	**YES**
What will happen if the person decides to participate in the research study?	**YES**
How will their privacy be protected?	**YES**
How will the data be used and subsequently disposed of?	**YES**
What are the legal limitations to data confidentiality?	**YES**
What are the benefits of taking part in the research study (if any)?	**YES**
What are the risks of taking part in the research study?	**YES**
Confirmation that participants can change their mind at any stage and withdraw from the study	**YES**
How will participants find out what happens with the project?	**YES**
Contact details for further information (including SCEC contact details)	**YES**
Details relating to GDPR Compliance if Personal Data is being sought	**YES**

N/A

8. INFORMED CONSENT FORM *(Attach to this document. Approx. 300 words)*

N/A

PERSONAL DATA SECURITY SCHEDULE

A version exists in excel format at the following link:

https://gitlab.computing.dcu.ie/guvenn2/2020-ca400-nguven-scarey/blob/master/res/Appendices/Clever_Carpooling_Personal_Data_Security_Schedule.xls

Personal Data - Security Schedule

Unit: School of Computing
Prepared Nigel Guven Shaun Carey

Purpose: To list all the types of personal data held or processed by this unit and the security measures to be applied over the data.
This schedule is to be distributed to all unit staff with access to the personal data listed.

Guidance: Please refer to the DCU Data Protection Webpage at the URL below for further guidance in relation to personal data.
https://www4.dcu.ie/ocododata-protection.shtml#series-content=oodcommittee-structures.shtml

Ref	Personal Data - Type, category or description	Data's format - Electronic / Paper / Both	Reason / purpose for holding onto the data	Responsibility for security of the data is assigned to	Who may access the data	Who may amend the data	To whom may the data be provided or disclosed	Security controls in place over the data	How long is the data to be held?	Responsible for deleting the data	Method of disposal of the data	Any other comments
1	Name - User	Electronic	Other users can see the name of current user	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data	Reference by email hash	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
2	Age - User	Electronic	Clarifying that users over the age of 18 may use the application	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data	Reference by email hash	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
3	Address - User	Electronic	For security, to promote as much personal information as possible to reduce threat of criminal activity	Shaun Carey	Developers Current User	Developers at request of user	Owner of Data	Reference by email hash	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
4	Email - User	Electronic	Logging on and off of application	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data	SHA-256 encryption with password combination as salt number.	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
5	Gender - User	Electronic	Other users may acknowledge that current user is a certain gender and cross reference with profiles of the current user	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data	Referenced by email hash	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
6	Mobile No - User	Electronic	Provide a way of logging on to the application	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data	Referenced by email hash	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
7	Profile Image - User	Electronic	Provide a way of cross referencing users so they are secure within the application	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data	Referenced by email hash	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
8	Vehicle - User	Electronic	For drivers, they must provide vehicle registration and other users may see the make of the vehicle	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data	Referenced by email hash	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
9	Driver Licence - User	Electronic	For acknowledgement that driver is eligible to legally drive a vehicle in Ireland and	Shaun Carey	Developers	Developers at request of user	Owner of Data	Picture taken and scanned by ML Kit to examine if driver licence is valid. Disposed of once finished with and not	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA
10	PDF - Files	Electronic	Provide users with the ability to cross reference with others before picking someone up	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data Other Users	Encrypted and decrypted using public key shared between two users	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data Local disposal of PDFs carried out	NA
11	Text Message - Files	Electronic	Providing a means of communication within the application	Shaun Carey	Developers Current User Other Users	Developers at request of user	Owner of Data Other Users	Encrypted and decrypted using public key shared between two users	Until project demonstration has been complete	Nigel Guven	Deletion of Firebase data	NA

DUBLIN CITY UNIVERSITY
CA400 Clever Carpooling – Plain Language Statement

To: Participants,

Date: 17th February 2020

Supervisor: Ray Walshe **Research Team:** Nigel Guven, Shaun Carey

Contact Email: Ray.Walshe@dcu.ie, nigel.guven2@mail.dcu.ie, shaun.carey26@mail.dcu.ie

Location: School of Computing, Dublin City University, Glasnevin, Dublin 9

Project Title: Clever Carpooling

Project Synopsis: Clever Carpooling is an Android application currently in development which aims to revolutionise the way we commute to work, education etc. We aim to fill up available space in cars and help reduce traffic on our congested roads which will also have the added benefit of contributing to a greener environment.

1. GDPR Compliance Information

In full compliance with GDPR, we will fully adhere to the regulations set under the General Data Protection Regulation 2016/679. Any issues with GDPR may be addressed to the following persons associated to GDPR:

DCU Data Protection Officer – Mr. Martin Ward (data.protection@dcu.ie Ph: 7005118 / 7008257)

- The purpose of data collection in the application is to improve the overall user experience. With aid of real-world data, the development team can improve the reliability of underlying systems.
- Data that is collected includes personal information: {name, age, mobile number, home address, gender, visual image of participant}
- Data is not given to third parties. Categories of data include personal information and routes which may reveal to a third party where a participant works or attends an education.
- Data is retained for the duration of the project. Participants will be informed when the project has completed and then their data will be destroyed safely. Participant will also be able to opt out at any stage of the program. In doing so, they must contact the development team at the provided emails above.
- Participants have a right to have their data secure, protected and fully privatized. Participants may request, from the development team email, what exact personal data is stored and may request a full document of personal information. Participants do not have the right to ask for the data of other participants.

2. Participant Activities

The application is to be used professionally and like one would when using any other public transport application like Uber or FreeNow taxi. Some participants will be drivers and other participants will be passengers and both may offer, request and accept rideshare services between a source and destination location.

3. Risk Management

There is a risk of participant involvement in such activities. This may be out of the research team control. In the rarest cases, there may be a crash involving participants while involved in a carpool. Theft, murder, etc. are also highly improbable. In the case where a circumstance arises, we request that participant should seek legal advice.

In the unlikely event that an act of gross misconduct occurs during application usage, the research team may be issued a subpoena. In this case, data will have to made public, given the relevant persons involved.

If participants have concerns about this study and wish to contact an independent person, please contact:

The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail ***rec@dcu.ie***

DUBLIN CITY UNIVERSITY
Clever Carpooling – Informed Consent Form

An Informed Consent Form should generally contain the information detailed below. It should be written in the first person, e.g. "I will be asked to attend…I may withdraw from the research study at any point…..I am aware that the data…etc." The headings are there for guidance and do not need to be included in your form.

Date: 17th February 2020

Supervisor: Ray Walshe **Research Team:** Nigel Guven, Shaun Carey

Contact Email: Ray.Walshe@dcu.ie, nigel.guven2@mail.dcu.ie, shaun.carey26@mail.dcu.ie

Location: School of Computing, Dublin City University, Glasnevin, Dublin 9

Project Title: Clever Carpooling

Clarification of the purpose of the research

I am being asked to participate in the development of an application which is designed for Android mobile phones and I am being asked to use it as I would with any other transport application over the duration of the project timeline. I understand that my personal information is being collected in the usage of this application. My data is being used to improve the performance of the application. Any queries that I have, I can contact the research team.

Confirmation of particular requirements as highlighted in the Plain Language Statement

Participant – please complete the following (Circle Yes or No for each question)	
I have read the Plain Language Statement (or had it read to me)	*Yes/No*
I understand the information provided	*Yes/No*
I understand that I must use the application professionally	*Yes/No*
I have received satisfactory answers to all my questions	*Yes/No*
I am aware that my travel information is being recorded	*Yes/No*
I have had an opportunity to ask questions and discuss this study	*Yes/No*
I have received satisfactory answers to all my questions	*Yes/No*
I understand that if I wish to leave the program at any stage, I am free to do so	*Yes/No*
I understand that I can opt out at any stage of the project	*Yes/No*
I am aware of my rights to receive my personal data in the application	*Yes/No*

Signature:

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____