

School of Computing RESEARCH ETHICS COMMITTEE

APPLICATION FORM FOR ETHICAL REVIEW OF A RESEARCH PROJECT INVOLVING HUMAN PARTICIPANTS WHICH IS IN THE CATEGORY OF NOTIFICATION ONLY

There are 3 generally accepted levels of ethical review for projects carried out in a University or similar setting. These are notification only, expediated and full committee.

This notification only level of review is to approve relatively low-risk research involving human participants, primarily using social science methodologies in which any personal information collected is not of a sensitive nature. The School of Computing Research Ethics Committee has been delegated responsibility by the University to approve ethics submissions from undergraduate and taught Masters projects only, which are in the category of notification only.

Examples of projects in this category include:

- Anonymous surveys in which the topic itself is not likely to elicit significant difficulties for the participants, such as: anonymous internet surveys (e.g. Survey Monkey), street questioning.
- Observation (without audio or visual recording) of public settings where privacy would not normally be expected, such as observing people on streets or at sports events.
- Research carrying no risks beyond those of everyday life (as experienced by the intended participant population), such as asking people's opinions about products or services; asking students about educational experiences; monitoring the impact of daily activities.
- Interviews with public figures, professionals or others in their professional capacity regarding their professional activities.
- Analysis of data (e.g. health records) which have had all identifying information removed by the data holder and been provided to the researcher in accordance with data protection legislation.
- Collection of biological samples which are anonymised and do not require invasive techniques (e.g. hair, nails).

If your project is using data from a public repository like Kaggle or is not generating or using any form of personal data then you do not need research ethics approval, you do not need to complete and to submit this form and your project supervisor should indicate this on the project dashboard.

If your project involves collecting or processing <u>personal data which is of a personal nature</u>, you must first complete the DCU online Data Protection training course and review the <u>"Data Protection – Key Points for DCU Researchers"</u> guidance from the Data Protection Unit to assist you in meeting your legal obligations under GDPR and associated Irish law.

Once you have completed this form (if you need to) you should save it as a PDF file, not WORD, and upload it to the your project dashboard before you start gathering data. It will then be read and assessed by two members of the committee and once two members of the committee approve your submission you will be automatically notified by email and your project can start data gathering.

There are strict deadlines for submitting this form for each class group, undergraduate and taught Masters by which your submission must be made and you will be informed of these deadlines by your course board chair or project co-ordinator. If you do not submit by these deadlines then the research ethics committee is not obliged to approve your submission and when that happens and your project is assessed and graded at the end of the year, you will be awarded 0 for that component of your project.

SECTION 1 – GENERAL DET	TAILS		
1.1 Project Title			
Smart Turn			
1.2 Applicant Details			
Name	Student or Sup		E-mail
David Sinclair		upervisor	david.sinclair@dcu.ie
Josh Casey		Student	josh.casey24@mail.dcu.ie
Jakub Czerniejewski		Student	jakub.czerniejewski2@mail. dcu.ie
Other Investigators: Including	any external to L	DCU	
Name	School/Unit/Ex	ternal Institution	E-mail
	1		
1.3 Key Project Dates			
Proposed start date for data collection	Proposed end collection	date for data	Proposed project completion date
14/04/2025	30/04/2025		02/05/2025
1.4 Please indicate which ac	ademic award		
Undergraduate ⊠		Taught Masters	
in Section 3 of your application Resources and Guidelines sec	abroad, you will on - consult the (need to address the Conducting Research	e ethical challenges raised by this h Abroad document in the Ethics
DCU Glasnevin Campus			
written approval will be obtaine	ssion is required ed	(e.g. a school Board	to access participants. Tof Management), and when their
There are no additional per	missions requi	red.	

SECTION 2 – PROJECT DESIGN AND METHODOLOGY

Research Overview - Please respect the indicated word counts in the following sections and explain all acronyms in full text the first time they appear.

2.1 Provide a brief description of the research (max 250 words):

Please use lay language, include the scientific/theoretical background of study and a justification as to why this research project should proceed in that context

Smart Turn is an Internet of Things product that uses microcontrollers and Bluetooth. It focuses on improving the road experience for cyclers and electric scooter users by providing touch-activated turn signals mounted on a jacket and a screen to display navigation information which is obtained by inputting the desired location into a phone app, this is then sent to an Arduino UNO using Bluetooth which has the screen attached to it, on top of that there is a touch sensor wired to it. Once the correct side of the touch sensor is activated (left or right), the corresponding data is sent over Bluetooth to an Adafruit FLORA to light up the correct turn signal. The user can turn off the signal by pressing the middle of the sensor. The navigation information is updated on the screen on a turn-by-turn basis.

2.2 Please state the aims and objectives of the project (max 200 words)

The objectives of Smart Turn are to make the road experience for cyclists and electric scooter users better. This is achieved by allowing the user to clearly state their intended turn to other road users with the use of the jacket-mounted LED signals. On top of that, the screen only provides necessary information, which reduces the distractions compared to using a phone for navigation. The user's phone is also kept safely away, which reduces the risk of it falling from a mount or being stolen, as phone theft is sadly on the rise in major cities.

2.3 Please confirm your methods of data collection:

Tick all relevant check boxes and provide details for each one, including any devices used to collect data, and whether the data will be anonymous, potentially identifiable or identifiable at point of collection

Method	Describe briefly
☐ Interviews or focus groups	
⊠ Surveys/questionnaires	The data will be anonymous. Once we have done our public observation, we will ask the participants to fill out a survey to determine their satisfaction with using our project and to rate their experience, with the option to leave additional feedback.
☐ Audio/video recordings	
□ Public observations	For our user testing, we will ask DCU students from our course to ride a bicycle while using Smart Turn for navigation and turn signals. The data will be anonymous. We will evaluate whether the users engage with our project or not.
☐ Persons in public office	

	,
☐ Using existing data (incl.	
secondary data)	
☐ Using human derived	
material (biological samples)	
☐ Standard tests	
(educational/personality etc.)	
☐ Standard educational practices	
☐ Other (please specify)	
Unler (please specify)	
2.4 Please confirm who the parti	cipants on this study will be, including group size and
composition:	sipants on this study will be, including group size and
•	haracteristics, and state how your proposed sample size was
determined (e.g. power analysis)	
Fellow DCLL Students from COMS	SCI and COMBUS who can cycle, the size we will use is 10 as it
will give us a broad enough overv	
	ent process, including where you are sourcing participants
from and your criteria for inclusi	
where gatekeepers are involved, c	outline the procedures relating to their involvement
	now how to cycle to use and test our project. We will observe n, and we will ask them to fill out a feedback survey.
	erability – if your participants fall into any of the following evant tick box/boxes and state below what special otect them:
If your participants are not in any o	
⊠ N/A	
☐ Children under 18 years of age	
	os with the researcher (e.g. lecturer-student, therapist-client,
employer-employee)	
	agnosed intellectual, physical or mental impairment
	(e.g. prisoners, residents in 24 hr nursing facilities)
	raumatic or adverse emotional events
☐ People with diminished cognitive	
☐ Marginalised sections of societ	•
☐ Other (please specify)	<i>J</i>
Chief (please speelig)	

Special arrangements:
2.7 Involvement of children under 18 years of age – if your participants are in this category, please confirm compliance with the following: If your participants are not in this category, tick N/A
⊠ N/A
☐ We confirm that we have read and agree to act in accordance with the DCU Child Protection policy and procedures (as per the DCU Child Protection Unit webpage)
☐ We confirm that we have put in place safeguards for the children participating in the research
☐ 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)
☐ We confirm that all requirements will be met prior to commencing the research (e.g. TUSLA Children First Training completed, Garda Vetting in place)
2.8 Please confirm how the results of the research will be disseminated: Include a statement on whether the participants will be provided with any information as to the findings or outcomes of the project
The participants will not be provided with any information as to the findings or outcomes of the project.

SECTION 3 – ETHICAL ISSUES AND RISK MANAGEMENT

3.1 Please identify all issues including ethical issues which may arise in the course of	this
research. What are the potential risks to participants, and how will those risks be addres	ssed
or minimised?	

Potential risks can be physical, psychological, social, legal, etc. Please include details of any additional support being provided for participants during/after the study

Potential risks can be physical, as the participants can fall off a bike during the observation phase. To minimize this, we will select participants who have experience cycling and we will choose a relatively empty location on campus. On top of this, we will look out for any oncoming people and notify our participants to pause the test.

3.2 Please identify the potential benef	ts (direct and/o	or indirect) to those	participating in this
research:			

Potential benefits should outweigh the potential risks to participants

Potential benefits include participation in a project that focuses on improving safety for non-car road users, such as cyclists and electric scooter riders. On top of that, their feedback will be incorporated directly into future work for this project.

3.3 Please describe what measures/protocols you have put in place in the event that there are any unexpected outcomes or adverse effects to participants arising from involvement in the research:

If our project stops working, we will ask the participant to stop the test, and we will discard any information about the test, similarly, if the test gets distributed by on-coming people on campus, we will stop the test and ask the participant to re-do it.

3.4 Do you intend to p	provide payment o	or incentives	s to participants	?	
Yes □	No ⊠				
If Yes, please consult t	he REC Guidelines	s on the Use	of Compensation	and Incentives (in the Ethics
Resources and Guideli details below	nes section of the <u>l</u>	DCU Researd	<u>ch Ethics webpag</u>	<u>e)</u> before providii	ng additiona

3.5 Does this research raise any potential risks for the researchers themselves?

Please	consider	the	location/	environment	where	the	research	İS	being	conducted,	exposure	to
distress	sing data d	conte	ent etc.									

men e con ig tional e contente con				
Yes □	No ⊠			

If Yes, please describe further and explain what risk management procedures will be put in place to minimise these risks to researchers:

DCU Research Support
3.6 Does this research raise any potential conflict of interest? Please consider any potential real <u>or</u> perceived conflicts of interest that might influence the integrity of the research, or give rise to bias in conducting and reporting the research, or affecting publication (consult the <u>DCU Conflict of Interest Policy</u> for assistance)
Yes □ No ⊠
If Yes, please identify and explain the steps being taken to address that conflict:

3.7 Please describe how the conduct of the research will be monitored:

Regular oversight by the PI is required to ensure the project conforms to the procedures set out in this application (especially where several people are involved in carrying out the research procedures)

Both of us will be present during the tests to ensure the participants follow our test procedures and to ensure they will out the survey afterwards.

SECTION 4 – CONFIDENTIALITY AND DATA MANAGEMENT

4.1 Considering your previous response in section 2.3 of the form on data collection, please confirm whether you are collecting or processing personal data in this research project: Personal data is any information about a living person, where that person is either identified, or could be identified from the data itself, or when it is combined with other data. This includes paper based, electronic and biological samples data. If your data is fully and completely anonymous, it is not personal data.
Yes □ No ⊠
If Very the second seco
If Yes, please confirm your compliance with the following by ticking the checkboxes: ☐ We confirm that we have completed the DCU Data Protection training module on Loop.
 □ We confirm that we have read the "Data Protection - Key Points for DCU Researchers"
guidance on the DCU Data Protection Unit (DPU) website and agree to protect and manage our
data in accordance with same.
☐ We have assessed the degree of risk inherent in the personal data being used in the research
project, and confirm that all DPU GDPR requirements have been met prior to submitting this
application (e.g. completion of Data Protection questionnaire, confirmation that any survey tool
being used is GDPR compliant, that required Data Processing or Sharing Agreements will be in
place, etc.)
 4.2 Data access – please confirm whether access to participant data is confined to the investigators named on this application: Yes No □ If No, please name who the other individuals are and why they need access. Any proposed transfer of data (including outside of the EU) should be detailed here.
4.3 Data storage – please confirm compliance with the following:
□ Data collected on mobile devices will be protected with a strong password/passphrase at a
minimum, and/or encrypted if the device supports it
□ Data will be removed from mobile devices as soon as is practicable and stored in a secured
location in DCU (on server or institutional Google Drive)
□ Paper-based data will be held securely in locked cabinets in DCU, with access restricted to the
named researchers
Specific arrangements in relation to biological samples should be stated here:
Any exemptions to the above compliance statements should be justified here:

research: Name the relevant DCU investig	gator/s	.go or data generated by the
Josh Casey Jakub Czerniejewski		
•	he data will be held for: on 15: Retention of Personal Data in t uidance on the DCU Data Protection U	
	ys from the 14 th of April 2025 to the 2 ⁿ	
	appen to the data collected at the e	
Archived □	Destroyed ⊠	Other 🗆
Please provide the following der Name the DCU staff member responsible for archival and future use of data Confirm whether the data will be made available to other researchers, and if so, how? Confirm how the data will be prepared for archive (e.g. will datasets be anonymised) Confirm where the data will be archived and who will be allowed to access it	ails:	
	details – Note: for student projection if there is no guarantee the student. The data is only useful for our project.	t will have access to the data a
Name the DCU researcher responsible for destruction of data	our 4 th year project, therefore, there Josh Casey	is no need to archive it.
Confirm when the data will be destroyed (specify date)	2 nd of May 2025	
Confirm compliance with the following destruction	☑ Electronic data will be overwritter☑ Paper based data will be confident	•

methods (tick relevant boxes)

	☐ Medical samples will be disposed in accordance with the relevant DCU approved SOP
4.6.2 Other - Please explain w	hat will happen to the data if not being archived or destroyed:

SECTION 5 - PARTICIPANT INFORMATION AND INFORMED CONSENT PROCEDURES

In addition to completing this form you are required to attach, within the single PDF that you submit, a copy of (1) the Participation Information Sheet which you share with your participants and (2) a copy of the Informed Consent Form which your participants sign.

5.1 Please confirm that the following items have been addressed in your Participant Information Sheet which should be shared with all participants whether it involves online or in-person data gathering:

The items below should be used as headings in yourinformation sheet. Note the language used under each item must reflect the participant age group and corresponding comprehension level—if your participants have different comprehension levels (e.g. both adult and child participants) then separate sheets must be prepared for each set. Templates are available via the <u>REC Forms</u> - Applications. Templates and Amendments section of the Research Ethics website.

Checklist – tick the relevant check box for each item	Yes	No
Introductory Statement (Researcher names and titles, school, title of the research study)	\boxtimes	
What is this research about?	\boxtimes	
Why is this research being conducted?	\boxtimes	
Why have you been invited to take part?	\boxtimes	
What will happen if you decide to take part in this research study?	\boxtimes	
How will your data be used?	\boxtimes	
How will your privacy be protected (including any legal limits to confidentiality)?	\boxtimes	
What are the benefits of taking part in this research study?	\boxtimes	
What are the risks of taking part in this research study?	\boxtimes	
Can you change your mind at any stage and withdraw from this study?	\boxtimes	
How will you find out what happens with this project?	\boxtimes	
Contact details for further information	\boxtimes	
5.2 Informed Consent Procedures – please confirm whether written consent is to	o be ob	tainec
Please tick the relevant checkbox		
Yes ⊠ No □		
If Yes, describe the procedures by which written consent will be obtained. If you are in participants, you will also need to obtain their written assent. Templates are available Forms - Applications, Templates and Amendments section of the Research Ethics we	via the	
	-	
Written consent will be obtained by providing participants with a paper Informed C which they will be asked to sign.	onsent	Form
, ,	consent	Forn

If you are gathering data from an online process such as Google Form or SurveyMonkey then you should use a page such as the one below, to capture participants' informed consent and your data gathering should not proceed until participants have completed this form with the appropriate answers.

Participant - please complete the following (by clicking Yes/No for each question)

I have read the Plain Language Statement (or had it read to me) *	I understand I may withdraw from the Research Study at any point *
Yes	○ Yes
O No	O No
I understand the information provided *	I have read and understand the arrangements to be made to protect confidentiality of data, including that confidentiality of information provided is
○ Yes	subject to legal limitations *
O No	○ Yes
0	○ No
I have had an opportunity to ask questions and discuss this study *	I have read and understand confirmations relating to any other relevant information as indicated in the PLS.*
○ Yes	○ Yes
O No	○ No
I understand the information provided in relation to data protection *	I consent to participate in this research study *
O Yes	○ Yes
O No	O No
I have received satisfactory answers to all my questions *	
O Yes	
O No	

SECTION 6 - SUBMISSION CHECKLIST AND RESEARCHER DECLARATION

6.1 Please confirm all required supplementary documentation to be included in this application within Section 7:

Checklist – tick the relevant check box for each item	Yes	N/A
Participant Information Sheet/s	\boxtimes	
Informed Consent Form/s	\boxtimes	
Informed Assent Form/s		\boxtimes
Recruitment Advertisement		\boxtimes
Questionnaire/Survey	\boxtimes	
Interview/Focus Group Questions		\boxtimes
Debriefing Material		\boxtimes
Bibliography		\boxtimes
Approval from another Research Ethics Committee		\boxtimes
Evidence of other external approvals (e.g. Board of Management letter)		\boxtimes
Evidence of internal approvals (e.g. BSC approval review letter)		\boxtimes
Other – provide details here:		\boxtimes

6.2 Signed Declaration

By submitting this form, the applicant (and supervisor) agree to the following:

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 REC guidance and resources, the University's Conflict of Interest Policy, its 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.

I also acknowledge my requirement to be informed as to other duties and legal obligations applying to my research, and to comply with these duties and obligations - this includes being informed about DCU Data Protection guidelines for researchers, DCU Child Protection policy and procedures (where relevant) and DCU Insurance requirements.

I and my co-investigators and/or supporting staff have the to conduct the research set out in the attached application related to the research that may arise. Research will not coin place.	and to deal with any emergencies and contingencies
Electronic Signature(s):	
Supervisor:	
Print Name here:David Sinclair	
Date:25/3/25	
Student(s)signature(s):	Stuff
Last updated 15 th August 2023	Page 13
Last apacitod to /tagast 2020	1 490 10

Print Name(s) here:	Jakub Czerniejewski	Josh Casey
Date:12/04/25_		

SECTION 7 – SUPPLEMENTARY DOCUMENTATION

DCU Research Ethics Committee Participant Information Sheet

Introductory Statement

David Sinclair – Supervisor Josh Casey – Student Jakub Czerniejewski – Student

DCU School of Computing and Engineering

Title: User Testing of Smart Turn, 4th Year Project

What is this research about?

This research is about user testing Smart Turn which is an Internet of Things product that uses microcontrollers and Bluetooth. It focuses on improving the road experience for cyclers and electric scooter users by providing touch-activated turn signals and a screen to display turn-by-turn navigation information.

Why is this research being conducted?

This research is being conducted to evaluate the effectiveness of Smart Turn in reducing the distractions of users compared to using a smartphone for navigation and to measure the usefulness of the turn signals.

Why have you been invited to take part?

You have been invited to take part in this research as you are a fellow DCU COMSCI or COMBUS student, which means you have the ability to give useful feedback about our project while also having the skill of riding a bicycle which is essential for our user testing.

What will happen if you decide to take part in this research study?

You will be asked to put out a jacket with mounted LED turn signals and a microcontroller which is connected to Bluetooth, once the jacket is equipped we will ask you to get on a bicycle that has our screen and touch sensor mounted to it, then we will ask you to ride the bike by following the instructions on the screen and use our turn signals during this state we will observe users interactions with our project. Once that's completed, we will ask you to use our simple app to input a location on a map. Finally, we will ask you to fill out an anonymous survey rating Smart Turn and its usefulness.

How will your data be used?

Your data will be kept confidential as we will use an anonymous survey from Google Forms, on top of that the data gathered during our observations of users who used Smart Turn will also be kept

anonymous and unidentifiable to any users who participated. The data will be stored until the 2nd of May 2025 when it will be destroyed.

How will your privacy be protected (including any legal limits to confidentiality)?

Please note that confidentiality of information can only be protected within the limitations of the law i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

What are the benefits of taking part in this research study?

You will get to try out and have a direct say in our 4th-year project by leaving relevant feedback which will greatly help us refine the project before submission.

What are the risks of taking part in this study?

The risk of taking part in this study involves having a minor accident on the bicycle, this risk has been minimized by picking participants who can cycle well and by having Josh and Jakub guide the user making sure the path is clear.

Can you change your mind at any stage and withdraw from this study?

This study is voluntary and you can withdraw from this study at any point your data that has been collected will be fully deleted on the 2nd of May 2025.

How will you find out what happens with this project?

You can find out more about this project by contacting us through email using the contact details below.

Contact details for further information:

David Sinclair: david.sinclair@dcu.ie
Josh Casey: josh.casey24@mail.dcu.ie

Jakub Czerniejewski: jakub.czerniejewski2@mail.dcu.ie

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 Informed Consent Form – DCU REC

Smart Turn 4th Year Project User Testing

School of Computing and Engineering

David Sinclair – Supervisor: david.sinclair@dcu.ie Josh Casey – Student: josh.casey24@mail.dcu.ie

Jakub Czerniejewski – Student: jakub.czerniejewski2@mail.dcu.ie

Clarification of the purpose of the research

I acknowledge that my data will be kept confidential.

I understand that the purpose of this research is to evaluate and improve the 4th Year Project (Smart Turn). I was made aware that no personal data will be collected and that my data will be stored up and included the 2nd of May 2025, in a secured location in DCU (institutional Google Drive)

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 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 am aware that I will be asked to use Smart Turn while riding a bicycle	Yes/No
I have been told that my actions will be observed and recorded while using the system	Yes/No
I understand how to operate the system	Yes/No
I understand that I will be asked to navigate the Smart Turn app	Yes/No
I am that I will have to fill out an anonymous survey as a part of the research	Yes/No

I may withdraw from the Research Study at any point.

Please note that confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

I understand that my data will be stored until the 2nd of May 2025 and will be deleted by Josh Casey on the same date.

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

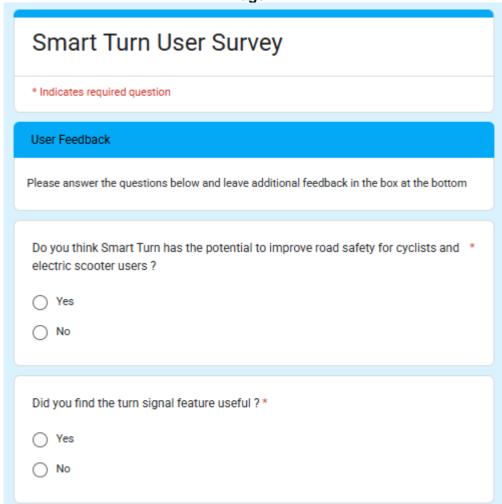
Participants Signature:	
Name in Block Capitals:	
Witness:	
Date:	

Our Survey Page 1

Smart Turn User Survey Informed Consent Form
Please answer the following questions by selecting Yes or No
* Indicates required question
I have read the Plain Language Statement (or had it read to me) * Yes No
I understand the information provided * • Yes • No
I have had the opportunity to ask questions and discuss the study * Yes No

I understand the information provided in relation to data protection *
Yes
○ No
I have received satisfactory answers to all my questions *
Yes
○ No
I understand I can withdraw from the Research Study at any point *
Yes
○ No
I have read and understand the arrangements to be made to protect *
confidentiality of of data, including that confidentiality of information provided is subject to legal limitations
Yes
○ No
I have read and understand the confirmations relating to any other relevant information as indicated in the PLS
Yes
○ No
I consent to paticipate in this research study *
Yes
○ No
Next Clear form
Clear form

Page 2



Do you think our navigation screen is useful ?*	
○ Yes	
○ No	
Was Smart Turn intuative to use ? *	
○ Yes	
○ No	
Do you think our navigation screen is less distracting than a mobile phone ? *	
○ Yes	
○ No	
Please leave any aditional feedback you have in the box below *	
Your answer	
Tour diswer	
Back Submit Clear form	