**关于宁波诺丁汉大学研究道德委员会代章的说明**

浙江省自然科学基金委员会：

由于我校设有研究道德委员会，但委员会未设公章，故我校孙煦老师申报的浙江省基础公益项目《基于情感计算的阿尔兹海默患者智能看护系统设计研究》的附件伦理证明材料上的盖章,由宁波诺丁汉大学校章代章。

特此说明。

宁波诺丁汉大学

2022.8

University of Nottingham Ningbo

Research Ethics Checklist for Staff and Research Students

[strongly informed by the ESRC (2012) Framework for Research Ethics]

A checklist should be completed for every research project or thesis where the research involves the participation of people, the use of secondary datasets or archives relating to people and/or access to field sites or animals. It will be used to identify whether a full application for ethics approval needs to be submitted.

You must not begin data collection or approach potential research participants until you have completed this form, received ethical clearance, and submitted this form for retention with the appropriate administrative staff.

The principal investigator or, where the principal investigator is a student, the supervisor, is responsible for exercising appropriate professional judgement in this review.

Completing the form includes providing brief details about yourself and the research in Sections 1 and 2 and ticking some boxes in Sections 3 and/or 4, 5, 6. **Ticking a shaded box in Sections 3, 4, 5 or 6 requires further action by the researcher**. Two things need to be stressed:

* Ticking one or more shaded boxes does not mean that you cannot conduct your research as currently anticipated; however, it does mean that further questions will need to be asked and addressed, further discussions will need to take place, and alternatives may need to be considered or additional actions undertaken.
* Avoiding the shaded boxes does not mean that ethical considerations can subsequently be 'forgotten'; on the contrary, research ethics - for everyone and in every project – should involve an ongoing process of reflection and debate.

The following checklist is a starting point for an ongoing process of reflection about the ethical issues concerning your study.

SECTION 1: THE RESEARCHER(S)

1.1: Name of principal researcher: Dr Pinyan Tang / Prof.Xu Sun

1.2: Status:  Staff

Postgraduate research student

1.3: School/Division: Faculty of Science and Engineering (FoSE)

1.4: Email address: xu.sun@nottingham.edu.cn

1.5: Names of other project members (if applicable): Yaorun Zhang

1.6: Names of Supervisors (if applicable): Prof.Xu Sun

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 1.7: I have read the University of Nottingham’s Code of Research Conduct and Research Ethics (2010) and agree to abide by it: <http://www.nottingham.edu.cn/en/research/researchethics/ethics-approval-process.aspx> |  |  |
| 1.8: (If applicable) I have read the University of Nottingham’s e- Ethics@Nottingham: Ethical Issues in Digitally Based Research (2012) and agree to abide by it.  <http://www.nottingham.edu.cn/en/research/documents/e-ethics-at-the-university-of-nottingham.pdf> |  |  |
| 1.9: When conducting research on people (Section 5) I will prepare both a participant consent form as well as a *participant information sheet.* I am aware that the following templates are available on the Ethics webpage: <http://www.nottingham.edu.cn/en/research/researchethics/ethics-approval-process.aspx>   * Participant consent form 1 * Participant Information Sheet English and Chinese |  |  |

SECTION 2: THE RESEARCH

2.1: **Title of project:**

Design research of an intelligent respite care system for people with dementia based on emotional computing.

基于情感计算的阿尔兹海默患者智能看护系统设计研究

\*People with dementia (PwD) in this research specifically refer to people with moderate Alzheimer's disease (AD) (middle stage, according to the three common stages of AD of NICE guidance) based on medical diagnosis.

2.2: **Research question(s) or aim(s)**

Obj.l: To develop a holistic understanding how personal, social and cultural factors influencing carers' attitudes and behaviours pertaining to their caring role and respite, their relationships with PwD and other family members, and their perceptions of formal care services and professionals.

Obj.2: To create an annotated multimodal emotional corpus on dementia, which is essential for developing machine learning models for Automatic Multimodal Emotion Recognition in PwD.

Obj.3: To develop the Al (artificial intelligence)/ML (machine learning)-based wellbeing-driven respite technology (WellResT) application integrating Automatic ccc Multimodal Emotion Recognition (AMER) and Adaptive Storytelling (AST) techniques.

Obj.4: To translate insights about the factors influencing carers' attitudes towards caregiving and respite into a design framework, which will inform the interaction design of WellResT prototypes and in turn will be refined through feedback from the iterative development cycles.

Obj.5: To evaluate the impact of the use of WellResT prototypes on carers and PwD with a multidimensional realist evaluation framework.

2.3: **Summary of method(s) of data collection**

Different methods will be used at different stages of the research:

1) Methods of interviews, survey, and focus group will be used to collect information from:

* Carers about their attitudes and behaviours pertaining to their caring role and respite, their relationships with PwD and other family members, and their perceptions of formal care services and professionals;
* PwD about their needs and requirements on respite care;
* Professionals (including doctors, nurses, stuff from care centre) about treatment process, matters need attention, specific cases, etc.

2) Methods of user experiment will be used to collect voices, facial expressions, gestures, and physiological data from PwD, using the equipment of digital cameras, lapel microphones, gesture sensors, and wearable sensors to collect physiological signals such as brainwaves, heart rate, and skin conductance. Participants: approximately 150 PwD and their carers

3) Method of participatory design workshops will be used to develop prototypes of a respite care app. The participants will include end-users (PwD and carer), designers, HCI specialists, and other stakeholders

(professionals from hospital)

4) Evaluation user study with end-users to evaluate user experience of prototypes. Participants: approximately 20 PwD and their carer

*Note: All collected data include any video or vocal record will be preserved and analysed by researchers for academic purposes only during and after the research. All information provided will be captured electronically and stored on a password protected computer. It will be destroyed seven years after any publication arising from the work, in accordance with the university data storage policy.*

2.4: **Proposed site(s) of data collection**

Ningbo Huamei Hospital, laboratory on campus, etc.

2.5: **How will access to participants and/or sites be gained?**

Different recruitment strategies will be applied, including contacting participants from email lists, advertisements in social networks (e.g., wechat, weibo, etc.). We will also contact staff from hospital for recruiting potential participants. We have reached corporation agreement with the Ningbo Huamei Hospital. They have agreed to help in participant recruitment, following both the ethical policies of the hospital and that of UNNC.

SECTION 3: RESEARCH INVOLVING USE OF SECONDARY DATASETS OR ARCHIVES RELATING TO PEOPLE

If your research involves use of secondary datasets or archives relating to people all questions in Section 3 must be answered. If it does not, please tick the ‘not relevant’ box and go to Section 4.

|  |  |
| --- | --- |
| NOT RELEVANT |  |

Please answer each question by ticking the appropriate box.

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 3.1: Is the risk of disclosure of the identity of individuals low or non-existent in the use of this secondary data or archive? |  |  |
| 3.2: Have you complied with the data access requirements of the supplier (where relevant), including any provisions relating to presumed consent and potential risk of disclosure of sensitive information? |  |  |

SECTION 4: RESEARCH INVOLVING ACCESS TO FIELD SITES AND ANIMALS

If your research involves access to field sites and/or animals all questions in Section 4 must be answered. If it does not, please tick the ‘not relevant’ box and go to Section 5.

|  |  |
| --- | --- |
| NOT RELEVANT |  |

Please answer each question by ticking the appropriate box.

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 4.1: Has access been granted to the site? |  |  |
| 4.2: Does the site have an official protective designation of any kind? |  |  |
| If yes, have the user guidelines of the body managing the site  a) been accessed?  b) been integrated into the research methodology? |  |  |
|  |  |
| 4.3: Will this research place the site, its associated wildlife and other people using the site at any greater physical risks than are experienced during normal site usage? |  |  |
| 4.4: Will this research involve the collection of any materials from the site? |  |  |
| 4.5: Will this research expose the researcher(s) to any significant risk of physical or emotional harm? |  |  |
| 4.6: Will the research involve vertebrate animals (fish, birds, reptiles, amphibians, mammals) or the common octopus (Octopus vulgaris) in any capacity? |  |  |
| If yes, will the research with vertebrates or octopi involve handling or interfering with the animal in any way or involve any activity that may cause pain, suffering, distress or lasting harm to the animal? |  |  |

SECTION 5: RESEARCH INVOLVING THE PARTICIPATION OF PEOPLE

If your research involves the participation of people all questions in Section 4 must be answered.

Please answer each question by ticking the appropriate box.

1. **General Issues**

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 5.1: Does the study involve participants age 16 or over who are unable to give informed consent? (e.g. people with cognitive impairment, learning disabilities, mental health conditions, physical or sensory impairments? |
|  |  |
| 5.2: Does the research involve other vulnerable groups such as children (**aged under 16**) or those in unequal relationships with the researcher? (e.g. your own students) |  |  |
| 5.3: Will this research require the cooperation of a gatekeeper\* for initial access to the groups or individuals to be recruited? |  |  |
| 5.4: Will this research involve discussion of sensitive topics (e.g. sexual activity, drug use, physical or mental health)? |  |  |
| 5.5: Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life? |  |  |
| 5.6: Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind? |  |  |
| 5.7: Will this research involve people taking part in the study without their knowledge and consent at the time? |  |  |
| 5.8: Does this research involve the internet or other visual/vocal methods where people may be identified? |  |  |
| 5.9: Will this research involve access to personal information about identifiable individuals without their knowledge or consent? |  |  |
| 5.10: Does the research involve recruiting members of the public as researchers (participant research)? |  |  |
| 5.11: Will the research involve administrative or secure data that requires permission from the appropriate authorities before use? |  |  |
| 5.12: Is there a possibility that the safety of **the researcher** may be in question? |  |  |
| 5.13: Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants? |  |  |

\**Gatekeeper- a person who controls or facilitates access to the participants*

B. Before starting data collection

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 6.12: My full identity will be revealed to all research participants. |  |  |
| 6.13: All participants will be given accurate information about the nature of the research and the purposes to which the data will be put. (*An example of a Participant Information Sheet is available for you to amend and use* at xxxxx)  [*http://www.nottingham.edu.cn/en/research/documents/participant-information-sheet-in-english-and-chinese.doc*](http://www.nottingham.edu.cn/en/research/documents/participant-information-sheet-in-english-and-chinese.doc) |  |  |
| 6.14: All participants will freely consent to take part, and, where appropriate, this will be confirmed by use of a consent form. (An example of a Consent Form is available for you to amend and use at: <http://www.nottingham.edu.cn/en/research/researchethics/ethics-approval-process.aspx> ) |  |  |
| 6.15: All participants will freely consent to take part, but due to the qualitative nature of the research a formal consent form is either not feasible or is undesirable and alternative means of recording consent are proposed. |  |  |
| 6.16: A signed copy of the consent form or (where appropriate) an alternative record of evidence of consent will be held by the researcher. |  |  |
| 6.17: It will be made clear that declining to participate will have no negative consequences for the individual. |  |  |
| 6.18: Participants will be asked for permission for quotations (from data) to be used in research outputs where this is intended. |  |  |
| 6.19: I will inform participants how long the data collected from them will be kept. |  |  |
| 6.20: Incentives (other than basic expenses) will be offered to potential participants as an inducement to participate in the research. (Here any incentives include cash payments and non-cash items such as vouchers and book tokens.) |  |  |
| 6.21: For research conducted within, or concerning, organisations (e.g. universities, schools, hospitals, care homes, etc) I will gain authorisation in advance from an appropriate committee or individual. |  |  |

C. During the process of data collection

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 6.25: I will provide participants with my University contact details, and those of my supervisor (*where applicable*) so that they may get in touch about any aspect of the research if they wish to do so. |  |  |
| 6.26: Participants will be guaranteed anonymity only insofar as they do not disclose any illegal activities. |  |  |
| 6.27: Anonymity will not be guaranteed where there is disclosure or evidence of significant harm, abuse, neglect or danger to participants or to others. |  |  |
| 6.28: All participants will be free to withdraw from the study at any time, including withdrawing data following its collection. |  |  |
| 6.29: Data collection will take place only in public and/or professional spaces (e.g. in a work setting |  |  |
| 6.30: Research participants will be informed when observations and/or recording is taking place. |  |  |
| 6.31: Participants will be treated with dignity and respect at all times. |  |  |

D. After collection of data

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 6.32: Where anonymity has been agreed with the participant, data will be anonymised as soon as possible after collection. |  |  |
| 6.33: All data collected will be stored in accordance with the requirements of the University’s Code of Research Conduct |  |  |
| 6.34: Data will only be used for the purposes outlined within the participant information sheet and the agreed terms of consent. |  |  |
| 6.35: Details which could identify individual participants will not be disclosed to anyone other than the researcher, their supervisor and (if necessary) the Research Ethics Panel and external examiners without participants’ explicit consent. |  |  |

E. After completion of research

|  |  |  |
| --- | --- | --- |
|  | Yes | No |
| 6.37: Participants will be given the opportunity to know about the overall research findings. |  |  |
| 6.38: All hard copies of data collection tools and data which enable the identification of individual participants will be destroyed. |  |  |

If you have not ticked any shaded boxes, please send the completed and signed form to the School’s Research Ethics Officers, with any further required documents, for approval and record-keeping.

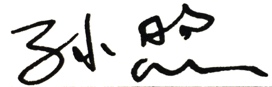
If you have ticked *any* shaded boxes **you will need to describe more fully how you plan to deal with the ethical issues raised by your research**. Issues to consider in preparing an ethics review are given below. Please send this completed form to the Research Ethics Officer who will decide whether your project requires further review by the UNNC Research Ethics Sub-Committee and/or whether further information needs to be provided.

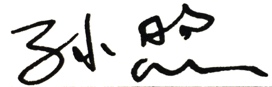
Please note that it is your responsibility to follow the University’s Research Code of Conduct and any relevant academic or professional guidelines in the conduct of your study. This includes providing appropriate information sheets and consent forms, and ensuring confidentiality in the storage and use of data. For guidance and UK regulations on the latter, please refer to the Data Protection Policy and Guidelines of the University of Nottingham:

Policy and guidelines - <https://www.nottingham.ac.uk/governance/records-and-information-management/data-protection/data-protection-policy.aspx>

**Any significant change in the project question(s), design or conduct over the course of the research should be notified to the School Research Ethics Officer and may require a new application for ethical approval.**

Signature of Principal Investigator/Researcher: Dr. Pinyan Tang/

Prof.Xu Sun 

Signature of Supervisor (where appropriate): Prof. Xu Sun 

Date 1 Aug. 2022

Research Ethics Panel response

the research can go ahead as planned

further information is needed on the research protocol (see details below)

amendments are requested to the research protocol (see details below)

|  |
| --- |
|  |

FoSE Ethics Officer

School REO……………………… Date ………………………

A. LIST OF POINTS TO CONSIDER WHEN SUBMITTING AN ETHICS REVIEW (taken from ESRC (2012) Framework for Research Ethics).

Risks

1. Have you considered risks to:

the research team?

the participants? Eg harm, deception, impact of outcomes

the data collected? Eg storage, considerations of privacy, quality

the research organisations, project partners and funders involved?

2. Might anyone else be put at risk as a consequence of this research?

3. What might these risks be?

4. How will you protect your data at the research site and away from the research site?

5. How can these risks be addressed?

Details and recruitment of participants

6. What types of people will be recruited? Eg students, children, people with learning disabilities, elderly?

7. How will the competence of participants to give informed consent be determined?

8. How, where, and by whom participants will be identified, approached, and recruited?

9. Will any unequal relationships exist between anyone involved in the recruitment and the potential participants?

10. Are there any benefits to participants?

11. Is there a need for participants to be de-briefed? By whom?

Research information

12. What information will participants be given about the research?

13. Who will benefit from this research?

14. Have you considered anonymity and confidentiality?

15. How will you store your collected data?

16. How will data be disposed of and after how long?

17. Are there any conflicts of interest in undertaking this research? Eg financial reward for outcomes etc.

18. Will you be collecting information through a third party?

Consent

19. Have you considered consent?

20. If using secondary data, does the consent from the primary data cover further analysis?

21. Can participants opt out?

22. Does your information sheet (or equivalent) contain all the information participants need?

23. If your research changes, how will consent be renegotiated?

Ethical procedures

24. Have you considered ethics within your plans for dissemination/impact?

25. Are there any additional issues that need to be considered ? Eg local customs, local ‘gatekeepers’, political sensitivities

26. Have you considered the time you need to gain ethics approval?

27. How will the ethics aspects of the project be monitored throughout its course?

28. Is there an approved research ethics protocol that would be appropriate to use?

29. How will unforeseen or adverse events in the course of research be managed? Eg do you have procedures to deal with any disclosures from vulnerable participants?

**Participant Information Sheet**

Dear Participant,

Thank you for agreeing to participate in this experiment in connection with my research at the University of Nottingham Ningbo. The project is *Design research of an intelligent respite care system for people with dementia based on emotional computing*.

Your participation in the research is voluntary. You are able to withdraw from the research at any time and to request that the information you have provided is not used in the project. Any information provided will be confidential. Your identity will not be disclosed in any use of the information you have supplied during the survey.

The research project has been reviewed according to the ethical review processes in place in the University of Nottingham Ningbo. These processes are governed by the University's Code of Research Conduct and Research Ethics. Should you have any question now or in the future, please contact me or my supervisor. Should you have concerns related to my conduct of the survey or research ethics, please contact my supervisor or the University's Ethics Committee.

Yours truly,

Pinyan Tang and Xu Sun

Contact details:

Student Researcher: Pinyan Tang pinyan.tang@nottingham.edu.cn

Supervisor: Xu Sun [xu.sun@nottingham.edu.cn](mailto:xu.sun@nottingham.edu.cn)

University Research Ethics Committee Coordinator, Mr Sherif Welsen

(Sherif.Welsen@nottingham.edu.cn)

**声明**

论文题目：基于情感计算的老年阿尔兹海默患者个性化智能暂托看护系统设计研究

尊敬的参与者：

谢谢您参与这次实验。这次问卷调查是我在宁波英国诺丁汉大学研究相联系的。研究题目是基于情感计算的老年阿尔兹海默患者个性化智能暂托看护系统设计。

您是自愿参与此次实验的。您可以在任何时候选择放弃这次实验，并要求您提供的信息不被使用在此次研究中。您提供的所有信息都是保密的。在使用您提供的信息时不会涉及您的身份以及个人信息。

宁波诺丁汉大学已根据研究道德检查程序对这项研究项目进行检查。这一程序是在学校关于研究行为和研究道德的行为标准的指导下进行的。如果您现在或将来有任何疑问，请联系本人或我的导师。如果您对我在实验中的研究行为或研究道德有任何质疑，请联系我的导师或者宁波诺丁汉大学的道德委员会。

汤品妍&孙煦

联系方式：

研究员：pinyan.tang@nottingham.edu.cn

导师：xu.sun@nottingham.edu.cn

诺丁汉大学研究道德委员会秘书：Mr Sherif Welsen (Sherif.Welsen@nottingham.edu.cn)

**Project title** ………Design research of an intelligent respite care system for people with dementia based on emotional computing………

**Researcher’s name** ………Pinyan Tang…/…Xu Sun……………………………

**Supervisor’s name** ………Xu Sun…………………………………………………………

* I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
* I understand the risk and the purpose of the research project and my involvement in it.
* I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
* I understand that while information gained during the study may be published, I will not be identified, and my personal results will remain confidential.
* I understand that the interview/data collectionwill be recorded/filmed.
* I understand that data will be stored in accordance with data protection laws.
* I understand that I may contact the researcher or supervisor if I require more information about the research, and that I may contact the Research Ethics Sub-Committee of the University of Nottingham, Ningbo if I wish to make a complaint related to my involvement in the research.

**Signed** ………………………………………………………………………… (participant)

**Print name** ………………………………………………………………… **Date** …………………………………

**Contact details**

Researcher: pinyan.tang @nottingham.edu.cn

Supervisor: xu.sun@nottingham.edu.cn

UNNC Research Ethics Sub-Committee Coordinator:

Sherif.Welsen@nottingham.edu.cn

**参与者同意书**

**项目标题**  …基于情感计算的老年阿尔兹海默患者个性化智能暂托看护系统设计研究…

**研究者姓名** ……汤品妍…/…孙煦……

**导师姓名**  ………孙煦……………………

* 本人已阅读声明，项目组织者已经向我解释了研究项目的性质和宗旨。本人理解并同意参与。
* 本人理解项目的风险及目的和在项目中的参与作用
* 本人明白可以在研究项目的任何阶段退出，不会因此影响现在以及将来的状况。
* 本人明白研究过程中信息可能会被公开，但本人身份不会被确认，个人的调查结果始终是被保密。
* 本人知道面谈/数据采集将会被录音/拍摄。
* 本人了解数据会根据数据保护相关法律进行存储。
* 本人知道，如果需要进一步有关研究的信息可以联系研究者或者导师，如果需要对参与研究提出投诉则可以联系宁波诺丁汉大学科研伦理小组委员会。

参与者签名……………………………………………………………………

日期……………………………………………………………………………

联系方式

研究者：pinyan.tang@nottingham.edu.cn

导师：xu.sun@nottingham.edu.cn

诺丁汉大学研究道德委员会秘书：Mr Sherif Welsen (Sherif.Welsen@nottingham.edu.cn)