Integrating External Context with Personal Photographic Data

1. Introduction

The recollection of past events and sharing of experiences supports social bonding, contributes to the development of a personal narrative and in turn helps shape our identity (Thudt *et al.*, 2017; Uhde and Hassenzahl, 2022). There has been rising interest in work exploring so-called visual mementos regarding both their ability to support reminiscence (Parvinzamir *et al.*, 2019) and to express subjectivity (Thudt *et al.*, 2016), while these works are successful in their aims there remain opportunities to explore how more diverse forms of external context can be retrieved and expressed with such visualizations.

The goal of this study is to design, create and evaluate a personal visualization which can aid its user in recalling additional information regarding a moment portrayed in a digital photograph or photographs and allow the user to express this information with the visualization. The purpose of this goal is to investigate ways in which computers can assist humans in retrieving information from memory and to consider how people might express subjective experiences with visualizations. In the process this study could provide evidence that external context is worth exploring in greater detail in the subject of Data Visualization.

With this goal in mind, two research questions are suggested:

> **RQ1:** Can we computationally assist a user's recollection of relevant external context when visualising their photographic data?
>
> **RQ2:** By what means can we facilitate the expression of external context with interactive personal photographic visualizations?

To guide the project towards achieving its aim and answering the proposed questions five objectives can be identified which should provide satisfactory evidence to answer these questions:

A: Search and review the literature to establish the types of information people can recall about past moments in the presence of digital photographs.

B: Create a working prototype for a personal visualization that assists a user in recalling external context in the presence of digital photographs.

C: Identify ways in which information types identified in **A** can be expressed using visualization.

D: Further develop the prototype created in **B** to enable interactive enrichment of the user's visualization of their photographs.

E: Evaluate the effectiveness of the prototype both theoretically and by means of the authors personal reflection.

The likely products of this research include an instantiation of a personal visualization, including novel methods for both the retrieval of relevant context and the expression of subjectivity. By extension, this provides an improved understanding of the construct of Personal Visualization (defined in the following section). In addition, possible products might be evidence for the viability of using current design methodologies in a personal context and perhaps an improved perspective on the role of computation in assisting human memory. Finally, novel abstractions for both data and task may be uncovered.

The primary beneficiaries of the work will be those studying the field of Personal Visualization and while the scope of this work may be modest, the field itself is broad (Huang *et al.,* 2015); knowledge created during the course of this research could have relevance in other fields such as HCI applied, for example, to dementia care.

In its current format this study is intended to act as a design study, however it is important to note that there will no participation beyond that of the author and therefore generalisability may be limited insofar there will not be an analysis of user behaviour that has been controlled for bias. That is not to say there will not be a valid analysis as many of the accepted methods used to evaluate visualizations rely on justification according to known principles and qualitative analyses.

2. Critical Context

As first formalised by (Huang *et al.,* 2015) *Personal visualization* (PV)" involves the design of interactive visual data representations for use in a personal context". In the paper Huang et al. survey the literature from a broad range of existing fields to characterise the design space, identify clusters of current themes and pose challenges for the future of this field. One of the challenges posed by the paper, the "Recall of Relevant Context for Reasoning", is born of the recognition that correct or better interpretation of the data might come from the user's knowledge of their past activities, feelings or interactions, noting however that "memory is fallible and imprecise... Adding additional data from other sources (e.g., with help from context-aware technologies) may help to trigger people's memory." (Huang *et al.,* 2015). Furthermore, they note that appropriate context my vary from person to person, and so richer insights must be supported by devising flexible mechanisms which facilitate more general *types* of contextual data.

Within recent work which seek to define, characterize and understand self-reflection and personal insights (Baumer, 2015; Choe *et al.,* 2015, 2017) we uncover a definition of *external context* (EC); with a backdrop of visual data exploration, Choe et al. (2017) define EC as "Uncaptured data provided by the self-tracker to understand and explain a phenomenon shown in the data" and is found to be the most common subtype of the "Recall" type of visualization insight. It is worth clarifying here that *external,* when we refer to external context, is external to the *data* presented and **not** context which is external to the *user*, such as their surroundings.

Personal Informatics (PI) is the study of systems which "help people collect personally relevant information for the purpose of self-reflection and gaining self-knowledge." (Li *et al.,* 2010). The field is now well established, but it is not widely assumed that personal photography falls into

the category of personal data; a keyword search for "photo*" within a 38-page mapping of 523 publications of PI literature (Epstein *et al.,* 2020) returned no results. Nevertheless, some research explicitly includes photography as a PI data source "…personal informatics covers personal finance, personal communications, life photography…" (Rooksby *et al.,* 2014), whilst others present it as a source to be considered in parallel with people's data whilst asserting that photos clearly capture moments for reflection (Elsden *et al.,* 2015).

While photography's classification as a type of personal data does not particularly inform whether it is worth exploring or not, its classification may add weight to the argument that there is a requirement to augment computer assistance into its analysis. The Stage-Based Model of PI systems (Li et al., 2010) has been long held as the most widely used conceptual framework in the field (Epstein et al., 2020). The 'Integration' stage of the model lies between the data collection stage and the user reflection stage where "the information collected are prepared, combined, and transformed for the user to reflect on." (Li et al., 2010). This is also the stage of the model, and area of PI in general which is highlighted as being underexplored(Epstein *et al.,* 2020; Moore *et al.,* 2022) and is a reflection of similar encouragement form Huang et al. (2015) to address the challenge of "Integrating Computer Assisted Analysis" into the field of Personal Visualization. If we consider photography as a form of personal data then, we can consider that there is both a gap in the PI literature regarding photographic data and there is a call to arms in both the PI and PV literature to address methods of integration, RQ1 of this study seeks to contribute to these needs.

As mentioned in the introduction, there is rising interest in work exploring the expression of subjectivity with data visualizations. Thudt et al. (2016) introduce the construct of *visual mementos* which exists at the intersection of PV and digital mementos as a tool for the purposes of reminiscing and sharing experiences with others, their analysis highlighted a desire by participants to integrate additional data sources – in their words, "Designing more expressive features that support the subjective adaption and creation of visual representations, …, is a research challenge of visual mementos that needs further investigation.". In a later paper Thudt et al. (2017) analyse techniques used in a broad spectrum of data visualizations to express subjectivity in the context of personal narratives, citing literature from other disciplines which supports the argument that subjectivity is an important component of personal visualization.

To evidence the diverse use cases of personal visualizations Elsden et al. (2015) "invite interaction designers to look beyond goals to persuade or monitor, and look toward supporting people in making accounts of their data." and Parvinzamir et al. (2019) explore the concept of *personal visual analytics* in a study which designed a system to support reminiscence and that touches on the role of external contexts in the algorithmic stage of the PV system.

In Visual Analytics literature (Andrienko *et al.,* 2020)define the *subject* of analysis as the thing or phenomenon we seek to understand as opposed to the *object* of analysis which is the data associated with the subject. The object then, is seen as an abstraction of the subject and as we analyse the object we gain a better understanding, or mental model, of the subject. This author considers digital photos to be objective data of a subjective experience or moment. This work seeks to explore how external context can act as an additional source of data that, when augmented to photographic data, better expresses the user's mental model of the subject, that is the subjective *experience* recalled by the owner of the data.

3. Approaches: Methods & Tools for Design, Analysis & Evaluation

From a methodological point of view, the approach for this study will take process models from various sources and combine them in a nested fashion.

At the highest level the research takes on the form of the research workflow adapted from Oates (2006) with some notable adjustments whereby an additional data generation process occurs prior to progressing into a research strategy in order to gather the data required for that step. Figure 1 shows the course of action required to land at a knowledge generating analysis, this representation reflects the fact that a prior literature review has already taken place and a conceptual framework and research questions are laid out in this proposal.

The design and creation strategy for addressing **RQ1** will be used in this research as an appropriate strategy on the basis that the construction of a prototype will act as a vehicle to understand whether or not we can indeed assist a user's memory recollection. To answer **RQ2** there will be an exploration of the *means* by which we can facilitate expression, this question is strategically designed to allow for the production of theoretical designs should work plan not go as expected, but will be answered to a much higher quality should the development reach the necessary prototyping phase.

Within the Design and Creation stage of the Research Process lies a five-step approach outlining the means by which knowledge is extracted during the development of the visualization. The iterative, adopted from Oates (2006), process allows for the generation of new knowledge to be applied to prior stages in the cycle as the research develops (see Fig. 2) and fits well with the specific methods this study will use to develop the instantiation.

In terms of specific development methodology, an evolutionary prototyping (Dawson, 2005)

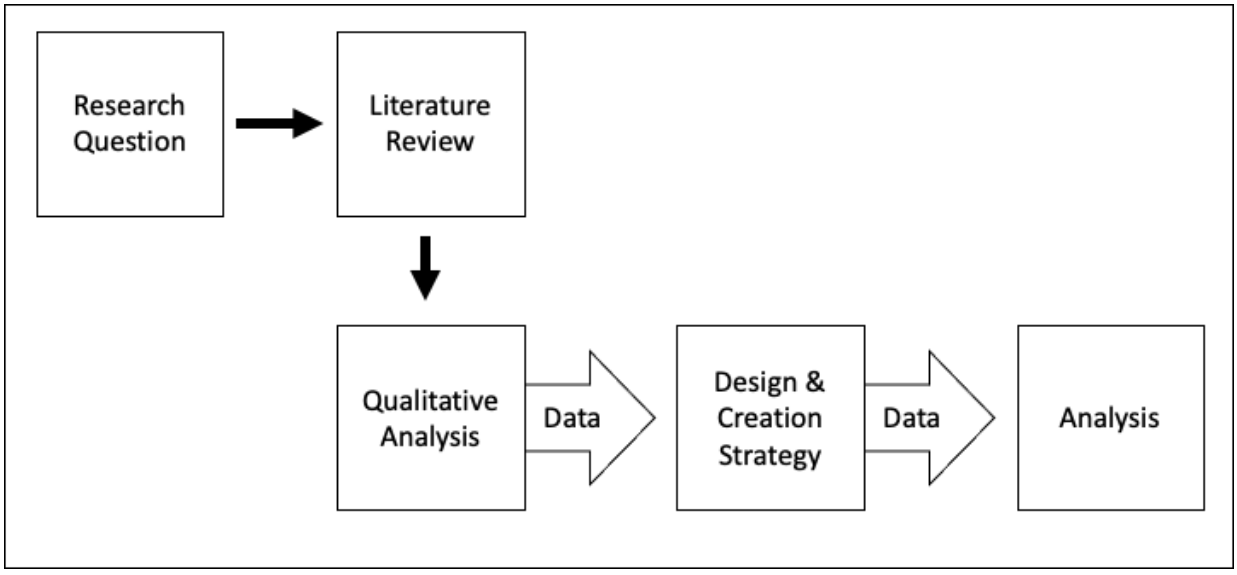


Fig. 1 Diagram of the abridged Research Process for this study.

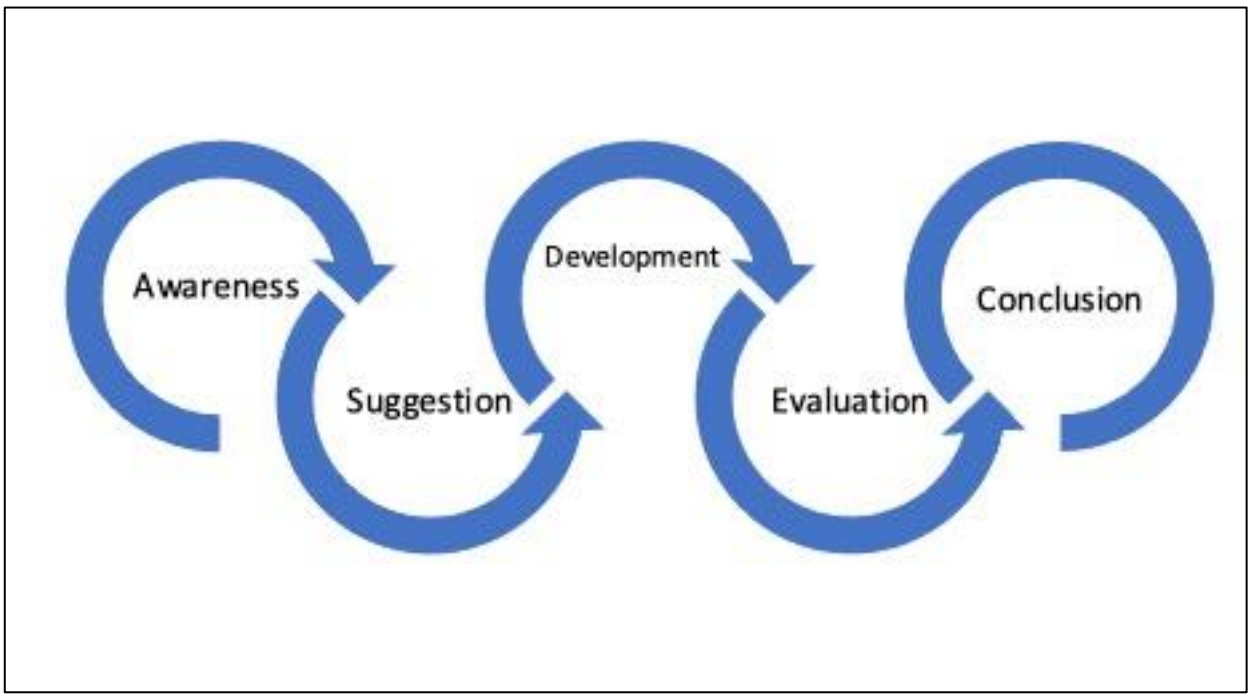


Fig 2. Design and Creation Research Process, Oates (2006).

methodology will be used in which each so-called system version (in our case visualization) will be the product of an iteration through the nested model for visualization and design and validation (Munzner, 2009). Each iteration will take a problem-driven approach ie a top down approach, from Domain Situation down to Algorithm (see Fig. 3) with validation at each level. It will be particularly interesting to discover if any existing idioms account for the somewhat novel abstract tasks involved in the recollection and recording of external contexts, as well as reminiscing.

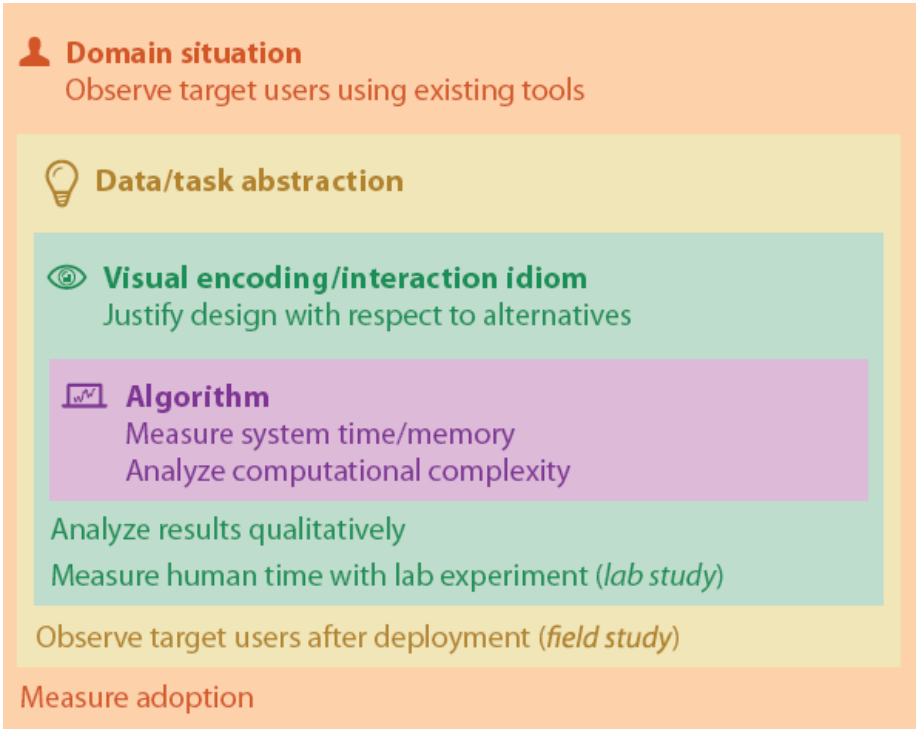


Fig 3. Four nested levels of visualization design and validation. Munzner (2009).

There will be two initial sources of data required to build the designs which are distinguished by their accessibility. The readily accessible data will consist of a digital photo archive provided by, and with permission from the author. As the study progresses any new additional sources of personal data will also be provided, with permission by the author. The second source of data is what will be used to assist the Abstraction level of the design and is the reason a literature review and qualitative analysis is required before moving forward with design and creation. Here, academic literature will be searched and reviewed, to build a taxonomy of external context types to inform the design and creation process. A methodology for this will follow a five-phase plane consisting of Planning, Identification and Extraction of Information, Design and Construction, Testing and Validation, and Deployment (Bayona-Oré *et al.,* 2014).

Initial prototyping will be developed using the Python programming language, although as the project progresses it may be desirable to improve implementations using a JavaScript package such as D3.js although it is noted this may require some level of upskilling to be able to bring into fruition. To aid the analysis of the research process, this study will aim to follow a Literate Visualization (Wood *et al.,* 2019) process in the interest of transparency and to aid the communication of reasoning.

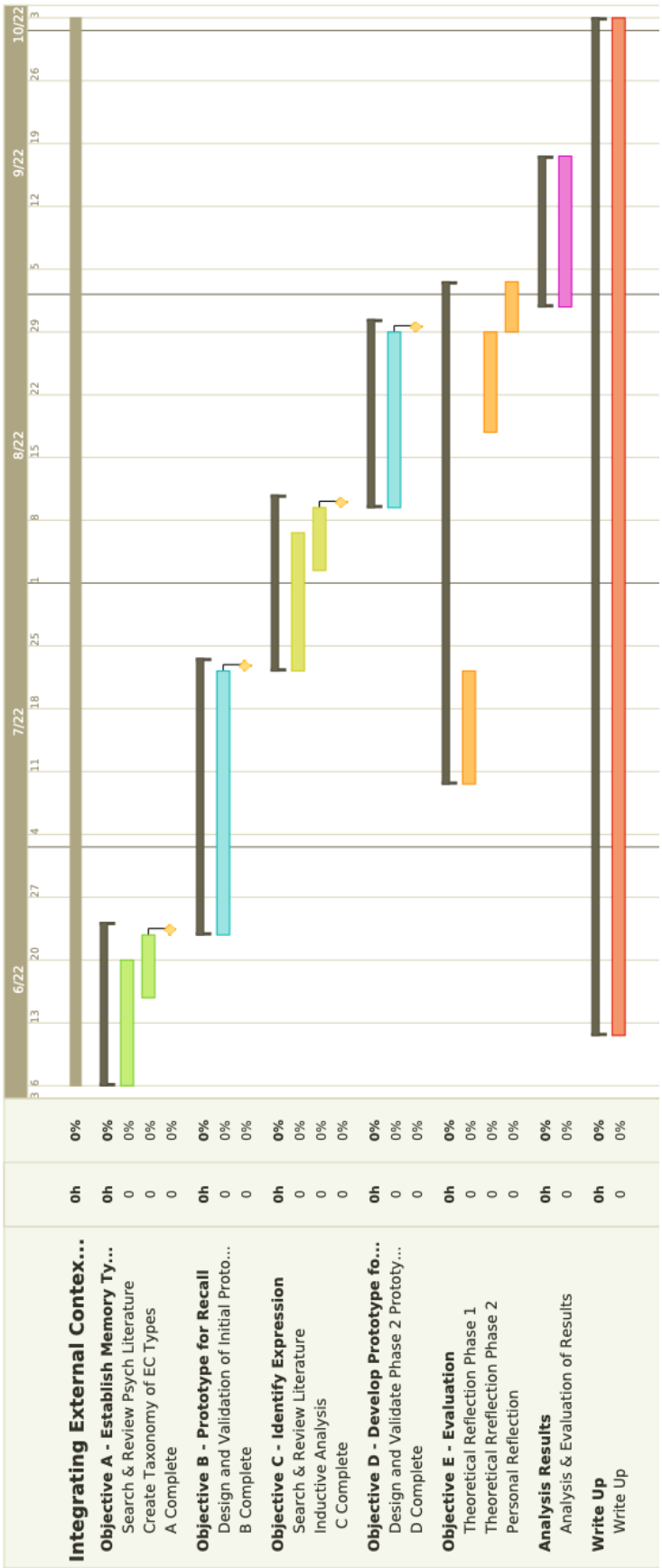
The choice of design and creation strategy allows for the use of a *proof-of-concept* evaluation to show whether we can indeed build a visualization that aids users to recall information from memory – the produced artefact itself will provide substantial evidence for the claim that it is possible to do so. Failure to produce something will not explicitly demonstrate that it is not possible but by carefully analysing the validation process, this study will either provide evidence for the conditions under which it is not possible and in that contribute to knowledge.

The *proof-by-demonstration* element of the evaluation will be present although less robust but given the context it will be surely valid in some sense. There will be a personal reflection by the author on the effectiveness of any artefact produced, and while this introduces the dangers of bias in the analysis, the field of research considers inherently personal contexts and so constitutes a situation where the researcher's perspective is both necessary and valid.

From a project management perspective this study will use a Work Breakdown Structure adapted from Dawson (2005) to guide its progression. Follow the recommended rule of thumb the project will be broken down into elements which will take no less than 4 working days. Each of these elements will be associated with one of the projects objectives as laid out in Section 1 of this proposal.

Important Note: *During the design and creation stage there will be a requirement to use the authors personal photographic data as example data to facilitate the development and evaluation of the artefact. The data will remain in full possession and ownership of the author throughout the study and will not be exposed to any risks outside of normal working life. All data will be processed in accordance with the Data Protection Act 2018 and the General Data Protection Regulations (GDPR).*

4. Work Plan


Integrating External Contex...
Objective A - Establish Memory Ty...
Search & Review Psych Literature
Create Taxonomy of EC Types
A Complete
Objective B - Prototype for Recall
Design and Validation of Initial Proto...
B Complete
Objective C - Identify Expression
Search & Review Literature
Inductive Analysis
C Complete
Objective D - Develop Prototype fo...
Design and Validate Phase 2 Prototy...
D Complete
Objective E - Evaluation
Theoretical Reflection Phase 1
Theoretical Rreflection Phase 2
Personal Reflection
Analysis Results
Analysis & Evaluation of Results
Write Up
Write Up
6/22
7/22
8/22
9/22
10/22

5. Risks

A risk management framework is taken form Dawson (2005).

Risk	Type	Likelihood (1-3)	Consequence (1-5)	Control
Personal Laptop Dying	Technical	2	4	Beware of symptoms, keep all data and progress saved in cloud, be prepared to replace any hardware quickly
Technical Ability	Technical	3	4	Assume upskilling is required and start early, have alternative evaluation strategies available for worst case scenario.
Time Management	Non-Technical	3	5	Early adoption of methods and habits for planning, prioritising based on project contribution and managing perfectionism.
Topic Redundancy	Non-Technical	1	3	Unlikely to discover at this stage the work is unnecessary, however the focus can be shifted towards analysing methods rather than subject should this happen.
Loss of Direction	Non-Technical	2	4	Maintain contact with supervisor and clarify any points of uncertainty.
Illness (eg. Monkeypox, COVID-19)	Non-Technical	1	3	Wash hands regularly for 30 seconds

References

Andrienko, N., Andrienko, Gennady, Fuchs, G. and Slingsby, A. (2020), "Visual Analytics for Data Scientists"

Baumer, E.P.S. (2015), "Reflective informatics: Conceptual dimensions for designing technologies of reflection", *Conference on Human Factors in Computing Systems - Proceedings*, Association for Computing Machinery, Vol. 2015-April, pp. 585–594.

Bayona-Oré, S., Calvo-Manzano, J.A., Cuevas, G. and San-Feliu, T. (2014), "Critical success factors taxonomy for software process deployment", *Software Quality Journal*, Springer, Vol. 22 No. 1, pp. 21–48.

Choe, E.K., Lee, B. and schraefel, m. c. (2015), "Characterizing Visualization Insights from Quantified Selfers' Personal Data Presentations", *IEEE Computer Graphics and Applications*, IEEE Computer Society, Vol. 35 No. 4, pp. 28–37.

Choe, E.K., Lee, B., Zhu, H., Riche, N.H. and Baur, D. (2017), "Understanding Self-Reflection: How People Reflect on Personal Data Through Visual Data Exploration", *PervasiveHealth: Pervasive Computing Technologies for Healthcare*, pp. 173–182.

Dawson, C. (2005), *Projects in Computing and Information Systems: A Student's Guide*

Elsden, C., Kirk, D.S. and Durrant, A.C. (2015), "A Quantified Past: Toward Design for Remembering With Personal Informatics", *Human–Computer Interaction*, Taylor & Francis, Vol. 31 No. 6, pp. 518–557.

Epstein, D.A., Caldeira, C., Figueiredo, M.C., Lu, X., Silva, L.M., Williams, L., Lee, J.H., *et al.* (2020), "Mapping and Taking Stock of the Personal Informatics Literature", *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, ACM PUB27 New York, NY, USA , Vol. 4 No. 4, p. 126.

Huang, D., Tory, M., Adriel Aseniero, B., Bartram, L., Bateman, S., Carpendale, S., Tang, A., *et al.* (2015), "Personal visualization and personal visual analytics", *IEEE Transactions on Visualization and Computer Graphics*, IEEE Computer Society, Vol. 21 No. 3, pp. 420–433.

Li, I., Dey, A. and Forlizzi, J. (2010), "A Stage-Based Model of Personal Informatics Systems", *Proceedings of the 28th International Conference on Human Factors in Computing Systems - CHI '10*, ACM Press, New York, New York, USA, available at:https://doi.org/10.1145/1753326.

Moore, J., Goffin, P., Wiese, J. and Meyer, M. (2022), "Exploring the Personal Informatics Analysis Gap: 'There's a Lot of Bacon'", *IEEE Transactions on Visualization and Computer Graphics*, IEEE Computer Society, Vol. 28 No. 1, pp. 96–106.

Munzner, T. (2009), "A nested model for visualization design and validation", *IEEE Transactions on Visualization and Computer Graphics*, Vol. 15 No. 6, pp. 921–928.

Oates, B.J. (2006), *Researching Information Systems and Computing*, SAGE Publications, available at: (accessed 1 August 2021).

Parvinzamir, F., Zhao, Y., Deng, Z. and Dong, F. (2019), "MyEvents: A Personal Visual Analytics Approach for Mining Key Events and Knowledge Discovery in Support of Personal Reminiscence", *Computer Graphics Forum*, Blackwell Publishing Ltd, Vol. 38 No. 1, pp. 647–662.

Rooksby, J., Rost, M., Morrison, A. and Chalmers, M. (2014), "Personal Tracking as Lived Informatics", *CHI '14: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 1163–1172.

Thudt, A., Baur, D., Huron, S. and Carpendale, S. (2016), "Visual Mementos: Reflecting Memories with Personal Data", *IEEE Transactions on Visualization and Computer Graphics*, IEEE Computer Society, Vol. 22 No. 1, pp. 369–378.

Thudt, A., Perin, C., Willett, W., Carpendale, S. and Subjectivity, S.C. (2017), "Subjectivity in Personal Storytelling with Visualization", John Benjamins Publishing, Vol. 23 No. 1

Uhde, A. and Hassenzahl, M. (2022), "Time perspectives in technology-mediated reminiscing: effects of basic design decisions on subjective well-being", *Human-Computer Interaction*, Taylor and Francis Ltd., Vol. 37 No. 2, pp. 117–149.

Wood, J., Kachkaev, A. and Dykes, J. (2019), "Design Exposition with Literate Visualization", *IEEE Transactions on Visualization and Computer Graphics*, IEEE Computer Society, Vol. 25 No. 1, pp. 759–768.

Computer Science Research Ethics Committee (CSREC)

http://www.city.ac.uk/department-computer-science/research-ethics

Undergraduate and postgraduate students undertaking their final project in the Department of Computer Science are required to consider the ethics of their project work and to ensure that it complies with research ethics guidelines. In some cases, a project will need approval from an ethics committee before it can proceed. Usually, but not always, this will be because the student is involving other people ("participants") in the project.

In order to ensure that appropriate consideration is given to ethical issues, all students must complete this form and attach it to their project proposal document. There are two parts:

PART A: Ethics Checklist. All students must complete this part. The checklist identifies whether the project requires ethical approval and, if so, where to apply for approval.

PART B: Ethics Proportionate Review Form. Students who have answered "no" to all questions in A1, A2 and A3 and "yes" to question 4 in A4 in the ethics checklist must complete this part. The project supervisor has delegated authority to provide approval in such cases that are considered to involve MINIMAL risk. The approval may be ***provisional*** – *identifying the planned research as* likely to involve MINIMAL RISK. In such cases you must additionally seek ***full approval*** from the supervisor as the project progresses and details are established. ***Full approval*** must be acquired in writing, before beginning the planned research.

A.1 If you answer YES to any of the questions in this block, you must apply to an appropriate external ethics committee for approval and log this approval as an External Application through Research Ethics Online - https://ethics.city.ac.uk/		*Delete as appropriate*
1.1	Does your research require approval from the National Research Ethics Service (NRES)? *e.g. because you are recruiting current NHS patients or staff?* *If you are unsure try - https://www.hra.nhs.uk/approvals-amendments/what-approvals-do-i-need/*	**NO**
1.2	Will you recruit participants who fall under the auspices of the Mental Capacity Act? *Such research needs to be approved by an external ethics committee such as NRES or the Social Care Research Ethics Committee - http://www.scie.org.uk/research/ethics-committee/*	**NO**
1.3	Will you recruit any participants who are currently under the auspices of the Criminal Justice System, for example, but not limited to, people on remand, prisoners and those on probation? *Such research needs to be authorised by the ethics approval system of the National Offender Management Service.*	**NO**
A.2 If you answer YES to any of the questions in this block, then unless you are applying to an external ethics committee, you must apply for approval from the Senate Research Ethics Committee (SREC) through Research Ethics Online - https://ethics.city.ac.uk/		*Delete as appropriate*
2.1	Does your research involve participants who are unable to give informed consent? *For example, but not limited to, people who may have a degree of learning disability or mental health problem, that means they are unable to make an informed decision on their own behalf.*	**NO**
2.2	Is there a risk that your research might lead to disclosures from participants concerning their involvement in illegal activities?	**NO**
2.3	Is there a risk that obscene and or illegal material may need to be accessed for your research study (including online content and other material)?	**NO**

2.4	Does your project involve participants disclosing information about special category or sensitive subjects? *For example, but not limited to: racial or ethnic origin; political opinions; religious beliefs; trade union membership; physical or mental health; sexual life; criminal offences and proceedings*	**NO**
2.5	Does your research involve you travelling to another country outside of the UK, where the Foreign & Commonwealth Office has issued a travel warning that affects the area in which you will study? *Please check the latest guidance from the FCO - http://www.fco.gov.uk/en/*	**NO**
2.6	Does your research involve invasive or intrusive procedures? *These may include, but are not limited to, electrical stimulation, heat, cold or bruising.*	**NO**
2.7	Does your research involve animals?	**NO**
2.8	Does your research involve the administration of drugs, placebos or other substances to study participants?	**NO**
A.3 If you answer YES to any of the questions in this block, then unless you are applying to an external ethics committee or the SREC, you must apply for approval from the Computer Science Research Ethics Committee (CSREC) through Research Ethics Online - https://ethics.city.ac.uk/ **Depending on the level of risk associated with your application, it may be referred to the Senate Research Ethics Committee.**		*Delete as appropriate*
3.1	Does your research involve participants who are under the age of 18?	**NO**
3.2	Does your research involve adults who are vulnerable because of their social, psychological or medical circumstances (vulnerable adults)? *This includes adults with cognitive and / or learning disabilities, adults with physical disabilities and older people.*	**NO**
3.3	Are participants recruited because they are staff or students of City, University of London? *For example, students studying on a particular course or module.* *If yes, then approval is also required from the Head of Department or Programme Director.*	**NO**
3.4	Does your research involve intentional deception of participants?	**NO**
3.5	Does your research involve participants taking part without their informed consent?	**NO**
3.5	Is the risk posed to participants greater than that in normal working life?	**NO**
3.7	Is the risk posed to you, the researcher(s), greater than that in normal working life?	**NO**
A.4 If you answer YES to the following question and your answers to all other questions in sections A1, A2 and A3 are NO, then your project is deemed to be of MINIMAL RISK. **If this is the case, then you can apply for approval through your supervisor under PROPORTIONATE REVIEW. You do so by completing PART B of this form.** **If you have answered NO to all questions on this form, then your project does not require ethical approval. You should submit and retain this form as evidence of this.**		*Delete as appropriate*
4	Does your project involve human participants or their identifiable personal data? *For example, as interviewees, respondents to a survey or participants in testing.*	**YES**

PART B: Ethics Proportionate Review Form

If you answered YES to question 4 and NO to all other questions in sections A1, A2 and A3 in PART A of this form, then you may use PART B of this form to submit an application for a proportionate ethics review of your project. Your project supervisor has delegated authority to review and approve this application under proportionate review. You must receive final approval from your supervisor in writing before beginning the planned research.

However, if you cannot provide all the required attachments (see B.3) with your project proposal (e.g. because you have not yet written the consent forms, interview schedules etc), the approval from your supervisor will be ***provisional***. You **must** submit the missing items to your supervisor for approval prior to commencing these parts of your project. Once again, you must receive written confirmation from your supervisor that any provisional approval has been superseded by with ***full approval*** of the planned activity as detailed in the full documents. **Failure to follow this procedure and demonstrate that final approval has been achieved may result in you failing the project module.**

Your supervisor may ask you to submit a full ethics application through Research Ethics Online, for instance if they are unable to approve your application, if the level of risks associated with your project change, or if you need an approval letter from the CSREC for an external organisation.

B.1 The following questions must be answered fully. **All grey instructions must be removed.**		*Delete as appropriate*
1.1.	Will you ensure that participants taking part in your project are fully informed about the purpose of the research?	**YES**
1.2	Will you ensure that participants taking part in your project are fully informed about the procedures affecting them or affecting any information collected about them, including information about how the data will be used, to whom it will be disclosed, and how long it will be kept?	**YES**
1.3	When people agree to participate in your project, will it be made clear to them that they may withdraw (i.e. not participate) at any time without any penalty?	**YES**
1.4	Will consent be obtained from the participants in your project? Consent from participants will be necessary if you plan to involve them in your project or if you plan to use identifiable personal data from existing records. "Identifiable personal data" means data relating to a living person who might be identifiable if the record includes their name, username, student id, DNA, fingerprint, address, etc. *If YES, you must attach drafts of the participant information sheet(s) and consent form(s) that you will use in section B.3 or, in the case of an existing dataset, provide details of how consent has been obtained.* *You must also retain the completed forms for subsequent inspection. Failure to provide the completed consent request forms will result in withdrawal of any earlier ethical approval of your project.*	**YES**
1.5	Have you made arrangements to ensure that material and/or private information obtained from or about the participating individuals will remain confidential?	**YES**

B.2 If the answer to the following question (B2) is YES, you must provide details	*Delete as appropriate*

2	Will the research be conducted in the participant's home or other non-University location?	**NO**

B.3 Attachments **ALL of the following documents MUST be provided to supervisors if applicable.** **All must be considered prior to final approval by supervisors.** **A written record of final approval must be provided and retained.**	***YES***	***NO***	***Not Applicable***
Details on how safety will be assured in any non-University location, including risk assessment if required (see B2)			**X**
Details of arrangements to ensure that material and/or private information obtained from or about the participating individuals will remain confidential (see B1.5)	**X**		
Full protocol for any workshops or interviews**			**X**
Participant information sheet(s)**			
Consent form(s)**			
Questionnaire(s)**			**X**
Topic guide(s) for interviews and focus groups**			**X**
Permission from external organisations or Head of Department**			**X**

***If these items are not available at the time of submitting your project proposal, then **provisional approval** can still be given, under the condition that you must submit the final versions of all items to your supervisor for approval at a later date. **All** such items **must** be seen and approved by your supervisor before the activity for which they are needed begins. Written evidence of **final approval** of your planned activity must be acquired from your supervisor before you commence.*

Changes

If your plans change and any aspects of your research that are documented in the approval process change as a consequence, then any approval acquired is invalid. If issues addressed in Part A (the checklist) are affected, then you must complete the approval process again and establish the kind of approval that is required. If issues addressed in Part B are affected, then you must forward updated documentation to your supervisor and have received written confirmation of approval of the revised activity before proceeding.

Templates for Consent and Information

You must use the templates provided by the University as the basis for your participant information sheets and consent forms. You **must** adapt them according to the needs of your project before you submit them for consideration.

Participant Information Sheets, Consent Forms and Protocols must be consistent. Please ensure that this is the case prior to seeking approval. Failure to do so will slow down the approval process.

We strongly recommend using Qualtrics to produce digital information sheets and consent forms.