XMDM – Web Application for managing parameters in other applications

Project Proposal – Work Based Project

Name: David Cotter

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Programme: Higher Diploma in Computer Science

Title

XMDM

Project Type

Work Based Project

Project Category

Web Application

Company Overview

Deutsche Börse is a leading financial exchange organization headquartered in Frankfurt, Germany, known for operating stock and derivatives exchanges, providing clearing and settlement services, and offering market data solutions. It plays a vital role in the European financial industry by facilitating the trading and management of various financial instruments.

Proposal

The problem:

XMDM is a web application which provides business & development team an easier way to modify parameters in the other applications. It applies the "four eyes principal & audit trail history", this means a person can make changes but it needs to be approved by another person before the system is updated.

XMDM is currently used by Data platform applications. Business groups set parameters to the XMDM GUI & the data platform applications, reads it, and adapts their behaviour.

Its main purpose is to store data (mainly configuration or parameters which are changed by user), provide validation and keep track of changes. With ever increasing automation to applications used in the business – there is a need to reduce manual interaction wherever possible.

The company would like to add more support for APIs so that even backend applications can use it, and trigger actions.

Potential issues include:

- the data used in the application
- giving access to company data and code

The solution:

Current

Combined frontend and backend implemented in java and primefaces.

Proposed

Split/separate frontend from the backend using Scala

Revalidate processes.

It is proposed to use dummy data for the application (so that it doesn't violate ethics guidelines).

An NDA will be signed

- with exceptions (for showcase, and the Project Report).
- for the viewing of the code, it can be arranged as a review over a Zoom call with shared screen as the company has restrictions on the access of the GitHub repository.

Proposed Functionalities

- User login.
- Update data parameters manually in the app as necessary.
- Import Export the data via excel.
- Users can only see the tabs they have access to, while admin/developer can see all tabs.
    o Restricted access depending on the role you have assigned to your username.
    o Admin tab to view all users.

Technologies, Tools & Frameworks:

Scala

Play framework

Jira / Trello

Docker

GitHub

Postgres

Project Process:

Incremental Model as it allows for the development of a system through iterations with each iteration building on the previous.

Stakeholders:

Deutsche Boerse employees

This Ethics Checklist must be completed for all final year undergraduate, taught postgraduate and research projects in the School of Science and Computing.

View your response(s)

🖶 Respondent: **David Cotter** (Group: CM–HDIPCS) Submitted on: Saturday, 25 November 2023, 11:06 AM

Ethics Checklist for Undergraduate, Taught Postgraduate and Research Projects in the School of Science and Computing

All students in the School of Science and Computing who are either (1) in the final year of an undergraduate/BSc degree, or (2) on a taught postgraduate/MSc programme **must complete this Ethics Checklist before conducting their project** regardless of the project type or discipline. The Checklist should also be completed by anyone (whether staff member or student) conducting a **research project** (whether programmatic or not) within the School.

The purpose of this Ethics Checklist is to **identify projects that will require formal ethical approval** from the School Research Ethics Committee, or the SETU Research Ethics Committee, before they can proceed.

Students/applicants should note that this Ethics Checklist is a **formal declaration**, and great care must be taken to **answer all questions accurately**. Students should consult with their project supervisors/advisors regarding any aspects or questions that they are unsure of before completing and submitting the Ethics Checklist.

Students/applicants must **answer all questions** presented to them until the Checklist questionnaire is completed.

Feedback Report

No human experimentation issues (UG).

No animal experimentation issues (N/A).

No issues regarding the use of human tissues.

No animal tissue or biological fluids issues.

No ionising radiation issues.

No primary data collection issues (N/A).

No underage/vulnerable people issues (UG).

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No issues regarding existing/secondary data use (N/A).

No controversial data issues.

No issues related to the collection of rare or protected plants.

No issues regarding the use of genetically modified (GM) plant material.

Instructions:

1. If the above feedback is **entirely green** then, based on your answers, there is **no need to apply for ethical approval** for your project.
2. If **any** part of the above feedback is **yellow/amber**, then there is at least one issue with your project that needs to be reviewed and **you must apply for ethical approval** to continue your project.
3. If **any** part of the above feedback is **red** then there is a serious ethical issue and **you cannot continue your project** as currently planned.

It is recommended that you print this Feedback Report to a PDF file for your records. You should also forward and discuss this Feedback Report PDF with your project supervisor. They will be able to advise if you have any further questions or if you need to apply for ethical approval.

1 * Are you a student on a **final year undergraduate** programme, a **taught postgraduate** programme, or are you conducting a **research project**?

- ◉ Final Year Undergraduate
- ○ Taught Postgraduate
- ○ Postgraduate Research Project
- ○ Other Research Project

2 * What is the **working title** of your project?

XMDM – Web Application for data storage

3 * Who are the project **supervisors/advisors/principal investigators**?

Colm Dunphy / TBC

4 * Does your project involve **human experimentation**?

○ Yes ◉ No

5 * Does your project involve **live animal experimentation**?

○ Yes ◉ No

(6) * Is the planned animal experimentation limited to **non-invasive procedures only** (such as feeding, weighing, or taking naturally voided faecal or hair samples), and does **not** involve any invasive procedures (such as taking rectal faecal samples or blood) from live animals?

○ Yes ○ No

7 * Does your project involve the use of **human** remains/cadavers/tissues/cells/biological fluids/embryos/foetuses?

○ Yes ◉ No

(8) * Do you intend to only use established **commercial human cell lines**, and no other **human** remains/cadavers/tissues/cells/biological

fluids/embryos/foetuses in your project?

○ Yes ○ No

9 *   Does your project involve the use of **animal cells, tissues** or **biological fluids**?

○ Yes ◉ No

(10) * Do you intend to only use (1) **established commercial animal cell lines**, or (2) **slaughterhouse–derived tissues/fluids**, or (3) **fluids collected as part of routine animal husbandry** (e.g. milk) and no other animal tissues or biological fluids in your project?

○ Yes ○ No

11 *   Does your project involve the **collection of rare or protected plants**?

○ Yes ◉ No

12 *   Does your project involve the generation or use of **genetically modified (GM) plant material**?

○ Yes ◉ No

(13) * Do you agree to (1) only use **established genetically modified (GM) plant cell lines, seeds, or plant products** in your project, (2) **not generate new plant mutations** using chemical or other means, and (3) follow specified SETU **containment and use protocols** for GM plant materials at all times?

○ Yes ○ No

14 *   Does your project involve the use of **ionising radiation**? (e.g. use of gamma ray spectrometry)

○ Yes ◉ No

(15) * Do you agree to carefully **follow the instructions** of the SETU designated **Radiation Protection Officer (RPO)**, and **adhere to all legal requirements** as set out in the Radiological Protection Act 1991 (Ionising Radiation) Regulations ([2019](#)), regarding the use of ionising radiation materials and equipment?

○ Yes ○ No

16 *   Does your project involve the **collection of any new (or primary) data** from **individual people or groups**?

○ Yes ◉ No

(17) * Does your project involve the **collection of any new (or primary) individual or group data** that is **personally or uniquely identifying**? (e.g. data about people or organisations/companies/groups that could be used to identify those individuals or groups; data collection might take any form, including internet and social media data, etc.)

○ Yes ○ No

(18) * Will you ensure that participants who you are collecting data from are provided with **fair warning** and must provide **explicit informed consent** for any data collected?

○ Yes ○ No

(19) * Will you ensure that any project–related data collection, data storage, and data use is in **full compliance** with the **EU General Data Protection Regulation (**[GDPR](#)**)** and the **Data Protection Act (**[2018](#)**)**?

○ Yes ○ No

(20) * Does any of the data that you intend to collect include **sensitive or private personal information** about individuals, or **commercially sensitive information** about organisations/companies/groups?

○ Yes ○ No

21 *   Does your project involve **persons under the age of 18 years** (i.e. minors), or **any vulnerable groups**? (e.g. prisoners, refugees, those in care, addiction service users, etc.)

○ Yes ◉ No

22 * Does your project involve the use of **existing (or secondary) human data**? (i.e. data originally collected for another purpose)

○ Yes ◉ No

(23) * Is the existing or secondary human data you intend to use either (1) **anonymous/non-personally identifying** and in the **public domain**, or (2) available with **explicit and specific informed consent or permission** for the data to be **legally** reused in the way you intend?

○ Yes ○ No

(24) * Are any aspects of the primary/secondary data you intend to use for the project **controversial** in nature?

○ Yes ○ No

25 * Before you submit the Ethics Checklist, you must **confirm all of the following**:

☑ I understand that the Ethics Checklist is a formal declaration.
☑ I have answered all questions on the Ethics Checklist carefully and truthfully.
☑ The supervisor/advisor (or principal investigator) for the project is present as the Ethics Checklist is being submitted, or they have given me explicit permission to submit it in their absence.
☑ I have had adequate ethics training and/or instruction prior to completing the Ethics Checklist.
☑ I understand, and agree to abide by, the general ethical principle of "do no harm" for this project.
☑ I will follow the instructions given in the Feedback Report.

26 * Authentication Code (ask your project supervisor/advisor for this code)

Enter Student Number: [   ]

Enter the Authentication Code below and click "Verify Code" [Verify Code]

Note: If an INVALID authentication code is used then this submission is NULL and VOID

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