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IT AND LAW

LEGAL REFLECTION ON MODULE PROJECT

TEAM: 09

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NAVIGATING IT-LEGAL CONSIDERATIONS IN BAD: SOFTWARE, DATABASES, AND PRIVACY

Abstract:

The intersection of Information Technology (IT) and Law is increasingly evident in projects like Bird Activity Detection (BAD), driven by technology and environmental science. Therefore, this reflection paper will offer a holistic view of the legal aspects inherent in this project by exploring the nuances of operating system licenses, software development licensing, databases used and manufactured, and the critical domains of privacy concerns associated with data collection. Besides, this reflection also seeks to underline the multifaceted nature of IT-legal considerations in innovative IT projects.

Introduction:

In this project, understanding and addressing the legal dimensions is vital. Thus, this reflection paper provides an overview of four key IT-legal aspects and delves into three specific aspects – legal protection of software and databases used, and privacy concerns associated with the produced solution – to underscore the intricate nature of IT-legal considerations.

I. OVERVIEW OF IT-LEGAL ASPECTS IN “BAD” PROJECT

1. Operating System and Development Environment Licenses

The Raspberry Pi Model 4 serves as the focus of the BAD project, offering a versatile and cost-effective platform for hardware integration and data processing. However, this introduces legal complexities, primarily revolving around the licensing terms of the operating system (OS) and the development environment associated with the Raspberry Pi.

The system runs using Raspberry Pi OS, which is a Linux-based distribution primarily built on Debian. In this context, it is imperative to grasp the intricacies of the licensing framework, which is often influenced by the GNU General Public License (GPL). Understanding and adhering to these licensing terms is not a mere formality but a fundamental requirement to ensure the legal sustainability and distribution of the project.

The GNU GPL is a copyleft license that is characterized by its strong stance on open-source principles. It places particular obligations on those who use or modify software governed by this license. For projects like BAD, where the Raspberry Pi OS is integral, the GPL mandates certain actions, including the potential disclosure of modified source code.

This requirement comes into play when modifications are made to the OS as part of the project's development. Therefore, our project team must engage in due diligence by thoroughly examining the licensing terms of the Raspberry Pi OS and related software components. This examination should encompass not only the OS itself but also any additional libraries or packages employed in the project. It is prudent to maintain meticulous records of the software components used, their licenses, and their associated obligations. This documentation should be made accessible in project materials, ensuring transparency and compliance.

2. Software Development License

One of the key elements in the BAD project is the development of a system tailored for the needs of bird behavior analysis. The creation of such software necessitates a clear understanding of software licensing, as the chosen licensing model will have far-reaching implications for the project's distribution, collaboration, and legal compliance.

In the context of BAD project, open-source licenses, such as the MIT License, are relevant. They grant developers the freedom to view, modify, and distribute the source code of the software. However, this liberty is not without obligations.

The components of the system are developed under open-source licenses, which is vital to provide clear and accessible attribution in project documentation. This not only fulfills legal obligations but also fosters an ethos of collaboration and recognition of the software's creators.

3. Legal Protection of Databases

Databases are integral to the BAD project, serving as repositories for bird behavior data and are crucial for the development of machine learning models. Consequently, this overview provides a brief insight into the legal aspects related to the protection of databases, with a focus on safeguarding data, ensuring compliance, and upholding ethical practices. In the project's context, the legal protection of databases primarily revolves around data security, adherence to usage restrictions, and the ethical treatment of data. These considerations are essential to maintain data integrity, uphold legal compliance, and honor the intellectual property rights of data creators. The subsequent sections of this reflection paper will delve deeper into these vital aspects to provide a comprehensive understanding of legal protection in the realm of databases used and manufactured within the project.

4. Privacy Concerns Associated with the Produced Solution

The BAD project, with its data collection through sensors, introduces privacy concerns, particularly when dealing with sensitive information. Consequently, our project should address these concerns with due diligence to ensure that privacy rights are upheld, and legal obligations are met. Compliance with data protection regulations, such as the

General Data Protection Regulation (GDPR) in the European Union, is imperative. GDPR imposes stringent requirements for the handling of personal data, including the need for explicit consent from individuals, secure storage and transmission of data, and the appointment of data protection officers in certain cases. In case where our project involves data from EU residents or has a global reach, adhering to GDPR is not only a legal obligation but also a best practice for protecting privacy.

II. ELABORATION ON LEGAL PROTECTION OF SOFTWARE AND DATABASES USED, AND PRIVACY CONCERNS ASSOCIATED WITH THE PRODUCED SOLUTION

1. Legal Protection of the Software Used

The development of custom software components in the BAD project is a cornerstone of our bird behavior analysis. This software is specifically designed to cater to the unique needs of our project, but it also brings with it a set of legal considerations related to software licensing.

1.1. Choice of Licensing Model

Selecting an appropriate licensing model for our software is a critical decision, as it has far-reaching implications for our project's distribution, collaboration, and legal compliance. We decided to use the MIT License. This essentially allows the use, modification, and redistribution of the licensed software without imposing excessive constraints on developers. In our project, compliance with the terms of open-source licenses is more than a legal necessity, since it is a testament to our ethical principles. We view open-source collaboration as a cornerstone of knowledge sharing and innovation. Therefore, our project team has decided to place a strong emphasis on adhering to software licensing terms.

1.2. Attribution and Transparency

One of the key obligations associated with the MIT License is attribution. When redistributing software under this license, we must include the original copyright notice and disclaimers. This requirement ensures that the original authors are acknowledged, maintaining transparency and respect for intellectual property rights.

1.3. Documentation and Recognition

We have developed detailed documentation which includes project reports, code repositories, and user manuals. In these materials, attribution should be clear and accessible, allowing users, collaborators, and the broader community to easily identify the origins of the open-source software components that we have integrated into our project. Our dedication to recognition through documentation goes beyond a legal requirement as it fosters a culture of collaboration and appreciation within the software development community. By giving credit

where it is due, we not only respect intellectual property rights but also encourage further innovation and knowledge sharing.

2. Legal Protection of Databases Used and Manufactured

Our project necessitates an understanding of the legal landscape surrounding databases. This includes attention to copyright and licensing, comprehension of usage restrictions in existing databases, and the implementation of safeguarding measures for proprietary databases. For this, we need to consider several key aspects in more detail.

2.1. Copyright and Licensing in Databases

Databases are eligible for copyright protection with certain qualifications. Copyright protection primarily extends to the original selection, arrangement, and presentation of data within a database, rather than the individual facts or data entries themselves. Hence, the initial step is to understand the copyright status of a database, as this sets the foundation for legal considerations.

2.2. Usage Restrictions in Existing Databases

Databases accessible for research may be subject to usage restrictions, regardless of their licensing status. These restrictions could span a wide spectrum of conditions, from limitations on the types of analysis that can be performed to restrictions on commercial utilization.

2.3. Proprietary Databases and Safeguarding Measures

Since our project team constructed a proprietary database, the legal and ethical responsibilities are amplified. Safeguarding measures, therefore, become vital to ensure data security and integrity. These measures involve data encryption to protect sensitive information from unauthorized access. We used MySQL as our data solution, which uses AES standard encryption, fulfilling this requirement. In addition, we use access control through logins and token authentication. This limits who can interact with the database and what actions they are authorized to perform.

3. Privacy Concerns Associated with the Produced Solution

Data privacy is a paramount consideration in the BAD project. In this era of advanced technology and data-driven research, the ethical handling of data is not only a legal requirement but also a moral obligation to protect the privacy of individuals whose data may be collected. In our project, challenges emerge due to the collection of data through sensors and the potential use of personal information. To ensure the responsible handling of data and compliance with relevant regulations, we address these privacy concerns through several measures.

3.1. Data Minimization

Data minimization is a foundational principle that underpins the data collection strategy of the BAD project. This principle revolves around the idea of collecting only the data that is essential to meet the project's specific objectives while avoiding the accumulation of extraneous or irrelevant data.

a. Rationale for Data Minimization

The primary motivation behind data minimization is to reduce potential risks and privacy concerns. Collecting excessive data not only increases the volume of information to be managed but also elevates the risk of data breaches, misuse, or unauthorized access. By limiting data collection to what is strictly necessary, our project can mitigate these risks and maintain better control over the information it possesses.

b. Implementation of Data Minimization

The principle is simple: if the data does not serve the research questions, it should not be collected.

The only circumstance in which user data is collected is during the user's sign-up on our website. This data has been expressly provided by the user, and hence complies with the need for explicit consent from the user. The data is never used for any other purpose than to identify or authenticate the user.

3.2. Privacy by Design

We opted to develop our system with Privacy by Design principles in mind, this involved several key measures to safeguard data privacy.

a. Data Anonymization

We collect personally identifiable information such as email addresses, telephone numbers, and usernames. We use ids to identify user accounts when appropriate, however when the data transferred from database to server, the information has not been anonymised. This is a weak point in the legal compliance of our system we have yet to address.

b. Encryption

Encryption is used to secure the contents of the database, so the data is secure at rest. However, during transmission the HTTP protocol is used meaning the data is not encrypted during this time. This can be addressed by changing over to the HTTPS protocol, which will use RSA encryption.

III. CONCLUSION

In previous chapters, we have addressed various considerations regarding legal aspects of the BAD project. Through the thoughtful selection of open-source licensing models, transparent attribution, and robust data minimization strategies, our project has been

somewhat successful at legal compliance. We conclude this by stating that we can improve upon our implementation of privacy by design in IT projects.

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