All project members have had ethical training	The project team represents stakeholders of all possible end user groups	The data set is fully understood	The source of the data is known and verified	Do hardware limitations exist?	Do these limitations influence the system's functionality in the production environment
All project members are aware of the topic of bias that exists in the human decision-making process	The project team is a cross-functional team including diversity in ethnicity, gender, culture, education, age and socioeconomic status	Data is transparent	The quality of the data is ensured	Do these limitations influence the system creation process?	Is graphical UI limiting/favoring data over other data?
All project members know about the fact that human bias can be reflected in an algorithmic system	The project team has representatives from the public as well as the private sector	It is ensured that the data set represents the correct scope (enough data to represent a population or target group)	It is clarified which attributes can legally be used	Visual aspects are determined appropriately	Is a translation of data/information necessary?
All project members consider the same attributes and factors as most relevant in the system context.	Independent consultants are included for comparison with competing products	Test data is independent	Test data is reviewed	Does visual result representation (alphabetically or random) make any difference	Do the information and results become distorted through the application of translation?
All possible end user groups are included in the testing phase	Consequences and intentions have been considered	Test data is defined	Monitoring measures are defined, communicated, and applied	Does a change in navigation representation lead the user to favor different results?	The system features mentioned above are changed and end users are monitored on the above elements once more to see how their behavior changes
All possible end user groups have been evaluated	Context is faithful to the original source	Project management process includes methods that focus on bias issues	Auditing measures are defined, communicated, and applied	Code reviews take place	Possible user behavior is analysed beforehand to keep a learning system from adopting discriminatory behavior
Business aspect reviewed	Technical aspect reviewed	Risks concerning bias are assessed and known to each team member	Workshops / meetings are set frequently which address upcoming doubts of team members	Independent code audits are conducted	Is the documentation comprehensible??
Scope reviewed	Legal aspect reviewed	Critical thinking is promoted and demanded at every stage of the system creation process	Scenario thinking is fostered	Are the relevant information present?	Has the documentation been reviewed and approved?
The training data set is still as representative as the original data set	Added or omitted attributes are carefully chosen and justified	Perspectives are changed continuously to challenge assumptions	Freedom of expression is guaranteed and desired	Bias is identified and categorized	It is ensured that all the identified biases are monitored during the whole system creation process

The Framework for Bias Identification and Mitigation

Answers for the chatbot project from the Social Insurance Institution St. Gallen

The relevant topics in this area were intensively discussed	The stakeholders of the project were elicited, but not under the aspect of bias.	The meaning and purpose of each attribute is clear	The source of the data is known and verified	Yes, server locations must be in Switzerland.	Yes. This has a positive impact by increasing data protection and information security.
The bias issue was discussed. However, no further activities were undertaken to reference the bias issue.	The structure of the project team meets the diversity requirements	The data used are reliable, accurate and kept up to date	Data quality is guaranteed. The chatbot's speech recognition is regularly trained	The limitations do not affect the system functionality	There is no limiting or favoring of data over other data
The bias issue was considered marginal in the context of the chatbot project. The bot only provides informational hints	The project team consists of representatives from both sectors	The used data set represents the correct scope	It was clarified which attributes may be used	The chatbot determines the visual aspects appropriately	German is an official language and therefore no translation is necessary
No workshop was conducted to reference possible discrepancies.	Due to the size of the project, this measure could not be implemented	The test data used is independent	The test data used is reviewed	The visual result representation does not make any difference	There is no translation
Both employees and customers were involved in the test phase	It was determined what the chatbot should and should not be able to do. There are no interactions with other algorithms	The test data used is defined	The chatbot entries of the users are viewed regularly. If there is potential for improvement, the chatbot is adapted.	A change in navigation does not lead the user to different results	The mentioned system features do not change the behavior of the user in the context of the chatbot
The experiences of the test persons were recorded and evaluated	The system context corresponds to the original intended use	Bias is not identified as a source of danger for the chatbot	The chatbot is checked with the help of audit plans	Code reviews were implemented by the external implementation partner	The behavior of the users was analyzed beforehand
The business aspects were reviewed	The technical aspects were reviewed with a focus on server location, data security and data protection	Bias is not identified as a source of danger for the chatbot	The company culture promotes workshops to address upcoming doubts	No independent code audits were carried out	The documentation is comprehensible
The scope of the project was reviewed	The legal aspects were reviewed with a focus on server location, data security and data protection	Critical thinking and open-minded speaking are encouraged	Scenario thinking is fostered and implemented	All relevant information is present	The documentation is reviewed and approved collaboratively
The training data set corresponds to the original data set	Added or omitted attributes for the Chatbot are carefully chosen and justified	The perspectives are changed continuously	Freedom of expression is guaranteed and desired for the team members	No, in the context of the functionality of our chatbot, bias is not an issue.	No, in the context of the functionality of our chatbot, bias is not an issue.

Evaluation of the chatbot project from the Social Insurance Institution St. Gallen

All project members have had ethical training	The project team represents stakeholders of all possible end user groups	The data set is fully understood	The source of the data is known and verified	Do hardware limitations exist?	Do these limitations influence the system's functionality in the production environment
All project members are aware of the topic of bias that exists in the human decision-making process	The project team is a cross-functional team including diversity in ethnicity, gender, culture, education, age and socioeconomic status	Data is transparent	The quality of the data is ensured	Do these limitations influence the system creation process?	Is graphical UI limiting/favoring data over other data?
All project members know about the fact that human bias can be reflected in an algorithmic system	The project team has representatives from the public as well as the private sector	It is ensured that the data set represents the correct scope (enough data to represent a population or target group)	It is clarified which attributes can legally be used	Visual aspects are determined appropriately	Is a translation of data/information necessary?
All project members consider the same attributes and factors as most relevant in the system context.	Independent consultants are included for comparison with competing products	Test data is independent	Test data is reviewed	Does visual result representation (alphabetically or random) make any difference	Do the information and results become distorted through the application of translation?
All possible end user groups are included in the testing phase	Consequences and intentions have been considered	Test data is defined	Monitoring measures are defined, communicated, and applied	Does a change in navigation representation lead the user to favor different results?	The system features mentioned above are changed and end users are monitored on the above elements once more to see how their behavior changes
All possible end user groups have been evaluated	Context is faithful to the original source	Project management process includes methods that focus on bias issues	Auditing measures are defined, communicated, and applied	Code reviews take place	Possible user behavior is analysed beforehand to keep a learning system from adopting discriminatory behavior
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The training data set is still as representative as the original data set	Added or omitted attributes are carefully chosen and justified	Perspectives are changed continuously to challenge assumptions	Freedom of expression is guaranteed and desired	Bias is identified and categorized	It is ensured that all the identified biases are monitored during the whole system creation process

Answers for the swiss animal health project

No internal courses and definitions for ethical training exist	The consortium for the project implementation represents all stakeholders	Only attributes and features whose meaning is fully understood are used.	Official databases serve as sources for the data	No, a standard laptop can be used for training the algorithms.	There are no limitations that influence the system's functionality in the production environment
Developers have personal knowledge and interest but have not completed formal courses	The consortium is diversely composed. The development team consists of two persons	This process is underway. Data that is of low quality will be excluded from the list.	Currently, the data quality is low for certain attributes. The team is working on the correction and improvement	There are no limitations that influence the system creation process	Due to the project status, it is not yet possible to draw a conclusion in this area.
Developers have personal knowledge and interest but have not completed formal courses	The consortium for the project implementation represents all stakeholders and sectors	The team is aware that more data is needed to represent regional nuances and differences.	The legal department of the BLV has implemented this. An assessment will be made again at a later stage of the project	Due to the project status, it is not yet possible to draw a conclusion in this area.	Due to the project status, it is not yet possible to draw a conclusion in this area.
Several workshops were held to discuss and verify the relevant attributes and factors.	It is a completely new product. Therefore, no comparison can be made with other products	The test data used is independent	Due to the project status, it is not yet possible to draw a conclusion in this area.	Due to the project status, it is not yet possible to draw a conclusion in this area.	Due to the project status, it is not yet possible to draw a conclusion in this area.
Stakeholders have reviewed the algorithm. Testing by external and end-users will be carried out soon	Both the goal of the system and the worst-case scenarios are known	The test data used is defined. In the future, a real-life test must be conducted	Due to the project status, it is not yet possible to draw a conclusion in this area.	Due to the project status, it is not yet possible to draw a conclusion in this area.	Due to the project status, it is not yet possible to draw a conclusion in this area.
The end users and their needs are well defined	The system context corresponds to the original intended use	There is no specific focus on the bias issue.	Due to the project status, it is not yet possible to draw a conclusion in this area.	Due to the project status, it is not yet possible to draw a conclusion in this area.	The analysis of user behavior will be implemented
The business aspects have not yet been investigated	The technical aspects, for example the networking of the databases, were reviewed.	Possible bias risks were mentioned and discussed	Monthly project meetings and continuous discussion ensure the addressing of upcoming doubts	Due to the project status, it is not yet possible to draw a conclusion in this area.	The documentation is constantly being expanded and it is guaranteed that the documentation is comprehensible
The scope of the project was reviewed	The features of the system have been legally tested. The application itself is still pending	Due to the small number of data sets, the risk of bias must be expected	Due to the project status, it is not yet possible to draw a conclusion in this area.	The availability of the information is guaranteed by reports	The reports are reviewed by the consortium and project management.
The training data set corresponds to the original data set	Added or omitted attributes for the SAH are carefully chosen and justified	The perspectives are changed continuously and lead to adjustments	Freedom of expression is guaranteed and desired for the team members and the consortium	No bias potential has been identified so far	Documentation for this point has not been considered so far. We will implement this

Evaluation of the swiss animal health project

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