Fake News Faux Real

Description:

It is basically a web app to identify false news in news articles and other forms.
The classifier makes use of various algorithms to analyze text for patterns Indicative of fake news, such as sensational headlines, unverified sources, and conflicting information.

FakeRanks Faux Real analyzes various features such as

- the sentiment expressed
- the overall structure of the article
- language used in the text.

Also taking into consideration external factors, such as the credibility of the publisher and the availability of alternative sources that support or contradict the information presented.

Results obtained by analysis are then used to assign a "fake news score" to the article, indicating its reliability and accuracy.Readers are able to assess the credibility of the information they are reading quickly and easily as the score format is simple and user-friendly.

In addition to identifying fake news, FakeRanks Faux Real also provides educational resources to help users understand the critical indicators of false information and how to identify it.

Overall, FakeRanks Faux Real is a valuable tool for any news reader who wants to stay informed and protect themselves from the spread of false information. It provides a simple and effective way to identify fake news which not only

helps users to make informed decisions but also avoids the negative consequences of being misled.

Why do we need this project ?

Fake news has existed since the beginning of time. However, since the advent of the Internet, the rate at which fake news has spread has increased manifold. Given the ease of access to information, it has become very easy for people to spread false information and manipulate public opinion.

This has led to significant consequences, including spreading misinformation, manipulating public opinion, and undermining trust in journalism and other sources of credible information.
As a result, such technological solutions become extremely important to help people identify and flag false news and distinguish between credible and unreliable sources of information. In conclusion, developing a fake news classifier such as FakeRanks Faux Real is essential for addressing the challenges posed by the spread of false information online and ensuring the credibility and integrity of information in the digital age.

Features:

- Advanced machine learning algorithms: The application uses advanced machine learning algorithms such as Decision Tree, Naïve Bayes, Logistic Regression, Support Vector Machines to analyze and classify news articles and other forms of digital content based on various features, such as the style of writing and the use of language.

- News article classification: The application provides an automatic classification of news articles into credible or unreliable categories, helping users quickly and easily identify false information.

- User interface: FakeRanks Faux Real provides a user-friendly interface that allows users to submit articles for classification and view the results.

- Regular updates: FakeRanks Faux Real is regularly updated to ensure that it remains effective and accurate in identifying false information online.

- Sign Up: To use the FakeRanks Faux Real system, a user must first create an account. The sign-up process typically involves entering personal information such as a username, password, and email address. The user will then receive a confirmation email to activate their account.

- Login: After creating an account, the user can log in to the FakeRanks Faux Real system by entering their username and password. The system will verify the credentials and grant access to the user if they are correct.

- Session Management: Once logged in, the system will keep track of the user's session to ensure that they remain logged in until they log out or their session expires.

- Fetching data from URL : The user can enter the url instead of directly entering the text and the website will predict whether the data is real or fake.

- We will be using the following tools:
- Python/Flask/Django
- Jupyter Notebook
- HTML
- CSS
- Bootstrap
- SQLite

Requirements:

Functional Requirements:

- **User authentication**: the system should allow users to create accounts and log in securely.
- **News article submission**: users should be able to submit news articles for classification.
- **Text analysis**: the system should be able to analyze the text of the submitted news articles and identify fake news.
- **News classification**: the system should classify news articles as either "real" or "fake" based on the results of the text analysis.
- **Results display**: the system should display the results of the news classification to the user, along with an explanation of the decision.
- **Performance evaluation**: the system should be able to evaluate its performance based on user feedback and continuously improve its accuracy.
- **Fetching articles:** Upon entering the url of the news source, the data will get fetched on its own.

Non - Functional Requirements:

- **Scalability**: the system should be able to handle a large number of users and news articles.
- **Security**: the system should be secure and protect user data and privacy.
- **Speed**: the system should be fast and able to process news articles and classify them in real-time.
- **Accuracy**: the system should have a high accuracy in identifying fake news.
- **Reliability**: the system should be reliable and produce consistent results.
- **Usability**: the system should be user-friendly and easy to use.
- **Maintenance**: the system should be maintainable and allow for updates and improvements to be made easily.
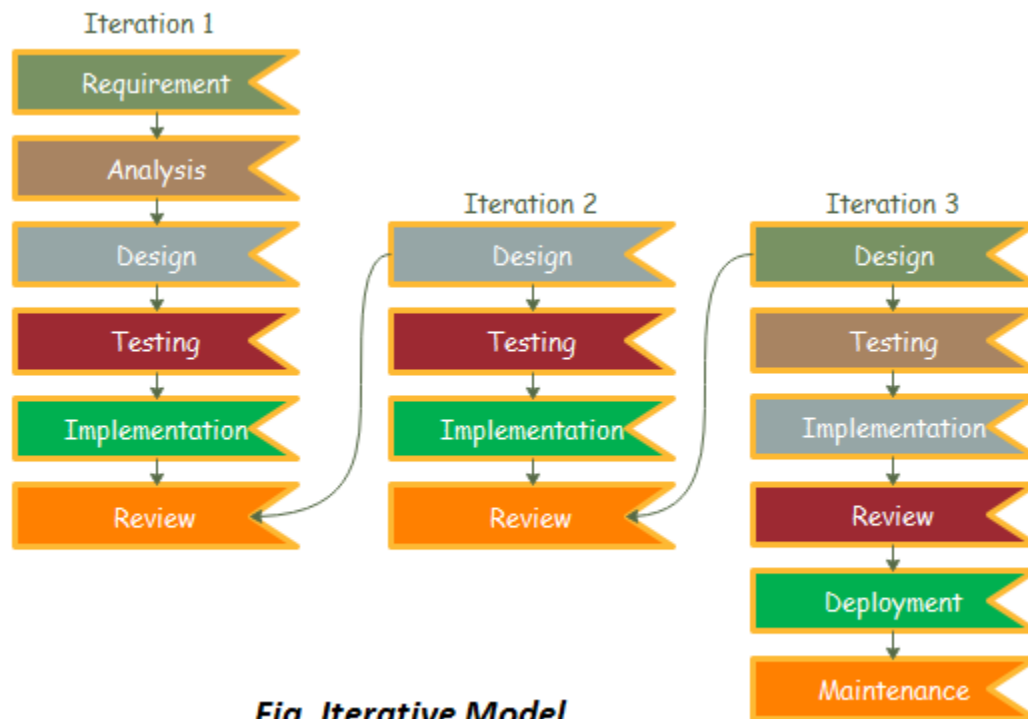
- **Flexibility:** the system should be able to respond to uncertainity in a way that it allows it to function normally.

Use Case:
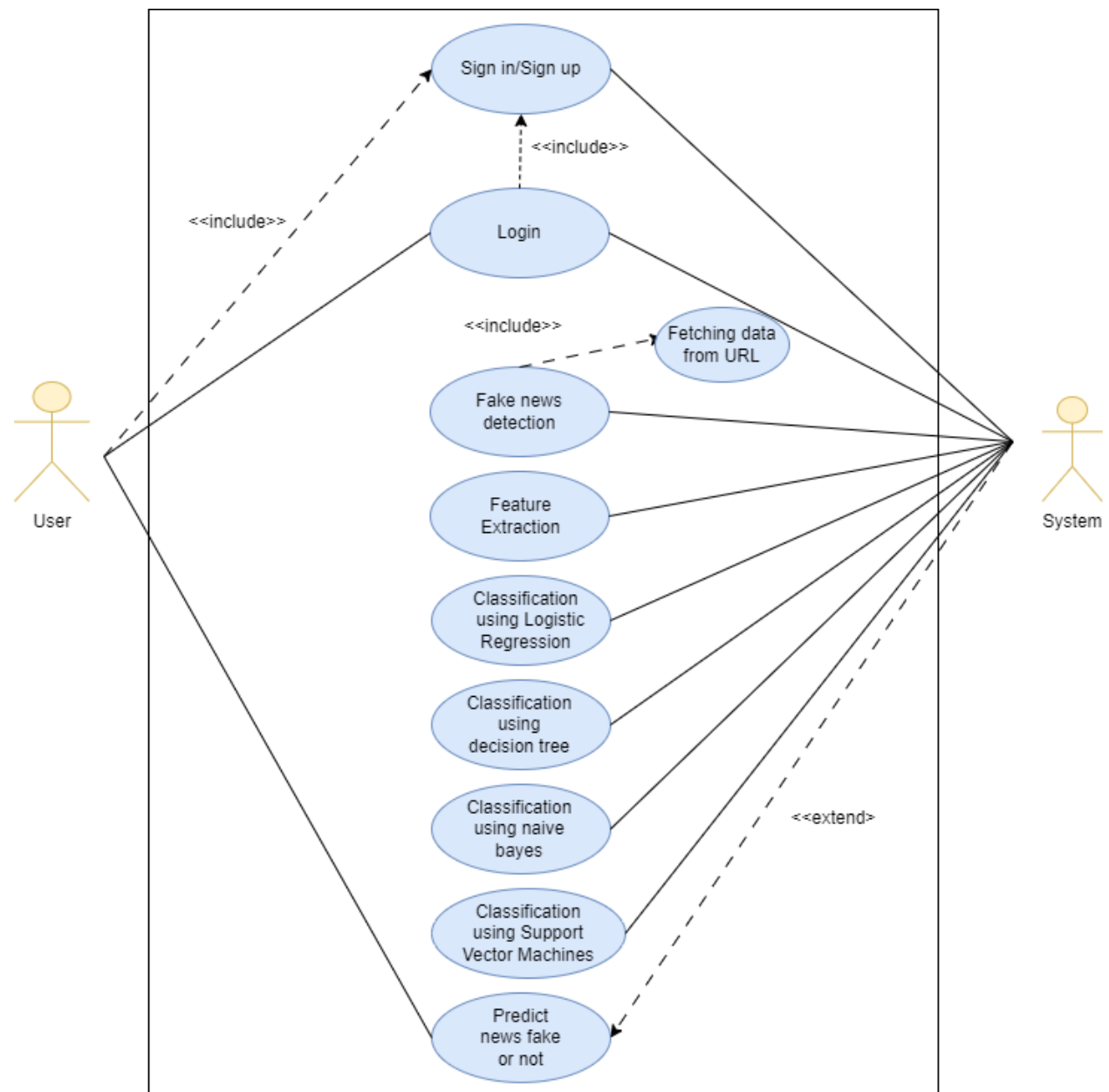
Process Model:

We will be using an **Iterative Model** for FakeRanks Faux Real.

Fig. Iterative Model

An iterative model can be used in the development of a fake news classifier like FakeRanks Faux Real for several reasons:

- **Improving Accuracy:** An iterative model allows for continuous improvement of the classifier's accuracy. The model can be trained on new data and updated based on feedback from users, allowing it to adapt and improve over time.

- **Addressing Complexity:** Fake news classification is a complex task, and an iterative model can handle this complexity by continually refining the classification process.

- **Incorporating Feedback:** The iterative model allows for user feedback to be incorporated into the training process, which can improve the accuracy of the classifier.

- **Better Model Selection:** An iterative model can help determine the best algorithms and techniques for the classification task, as well as the best parameters for those algorithms.

- **Handling Evolving Data:** The nature of fake news is constantly evolving, and an iterative model can handle this by incorporating new data and evolving to address new types of fake news.

- Overall, using an iterative model in the development of a fake news classifier like FakeRanks Faux Real can provide greater accuracy, flexibility, and robustness, allowing the classifier to continually improve over time.

References :

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