

# PLEAD

**Provenance-driven and Legally-grounded Explanations  
for Automated Decisions**



[plead-project.org](http://plead-project.org)



Prof Luc Moreau



Dr Ayah Helal



Dr Dong Huynh



Prof Sophie Stalla-Bourdillon

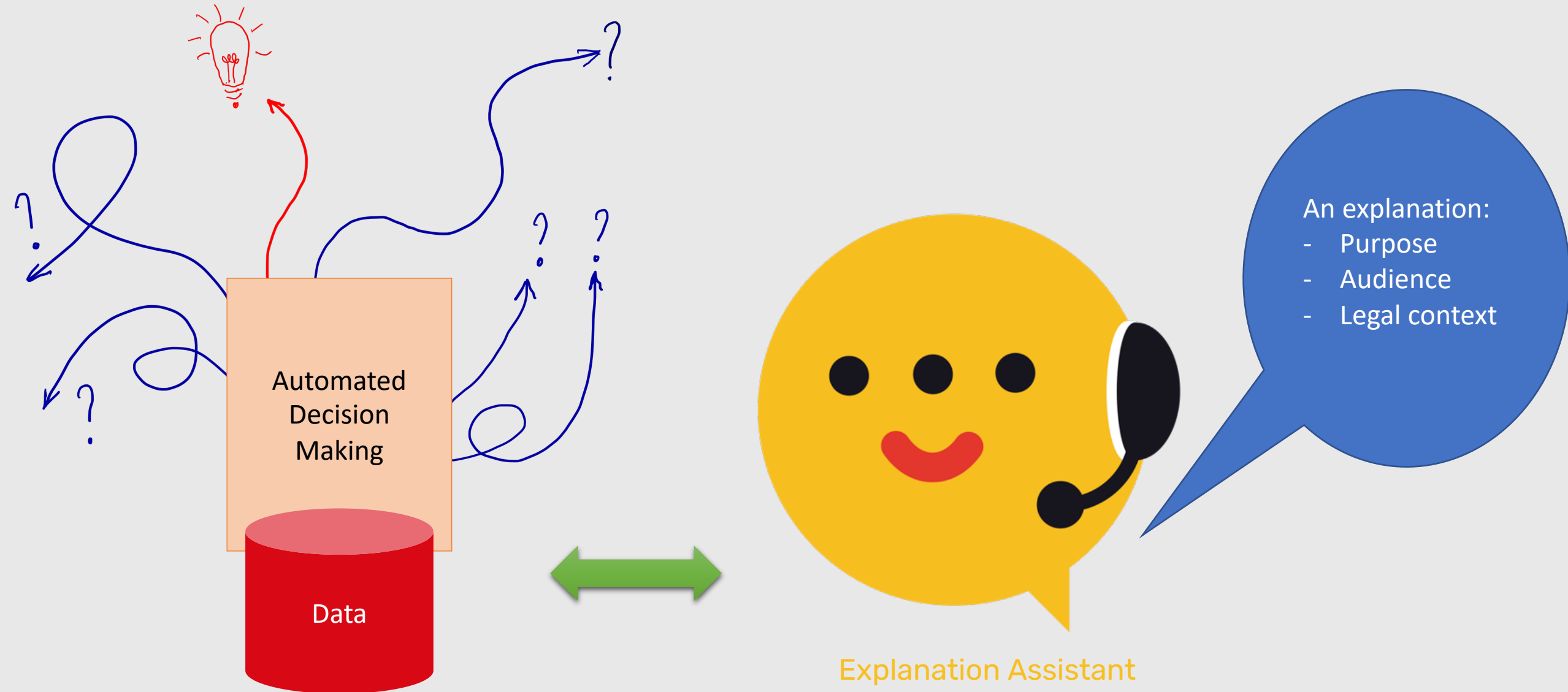


Dr Niko Tsakalakis





# The Vision





# Applications

## Credit Card Application



## School Allocation





Customer Letter

Requirements

Dear Joyce Patel,

We regret to inform you that your **application (applications/42)** was declined. That is because of **low credit score**. We made this decision with an automated scoring system that takes into account the information provided in your application as well as a credit score produced by **credit referencing agency (providers/1)**. Your credit score is **657**. This credit score was calculated using data from the categories described in this policy. Your credit score is below the acceptance threshold of **739**. Your credit score was impacted by **missed payment (records/177)**, **missed payment (records/179)** and **late payment (records/178)**.

This application was screened by an automated system to provide you with an instant response at **2021-06-21T23:29:14.911+01:00**. The evaluation was based on the information you provide by your **application (applications/42)**. The system also took into account information about you in **credit history report (creditreports/39)** provided by **credit referencing agency (providers/1)**. This information relates to your financial wellbeing and your credit history and it was used to determine how affordable and sustainable credit card plan would be for you Our assessment indicated that the commitment of the credit agreement would have an adverse impact on your financial situation. Hence our **decision (decisions/39)** is to refuse your application.

This decision took into account information on your application, information we hold about you as well as information about you provided by **credit referencing agency (providers/1)**. To perform identity matching, we received electoral register data last updated on date **2021-06-14T00:00:00** for your current address **Studio 77, Hawkins brook, Lake Arthurburgh, W2 6SQ**, your current address and your previous addresses supplied by **Utility Company (records/176)** and last updated on **2021-01-01**. We received a credit report and credit score from CRA which were calculated based **missed payment (records/177)** on **2021-06-21T23:29:33.802456**, **missed payment (records/179)** on **2021-06-21T23:29:33.805803** and **late payment (records/178)** on **2021-06-21T23:29:33.804241**.

You can request that one of our credit officers reviews this decision by clicking the button below. You will receive details of the responsible officer and the progress of the review once the process completes. If you disagree with the decision or you believe there are special circumstances that should be taken into account, you can contact us by clicking the button below. The decision number 39 will be included in the request automatically.

[Request human review](#)

[Contact us](#)

[File a notice of correction](#)

Decided at 21 Jun 2021, 11:29 p.m. for credit card application by [Joyce Patel](#)



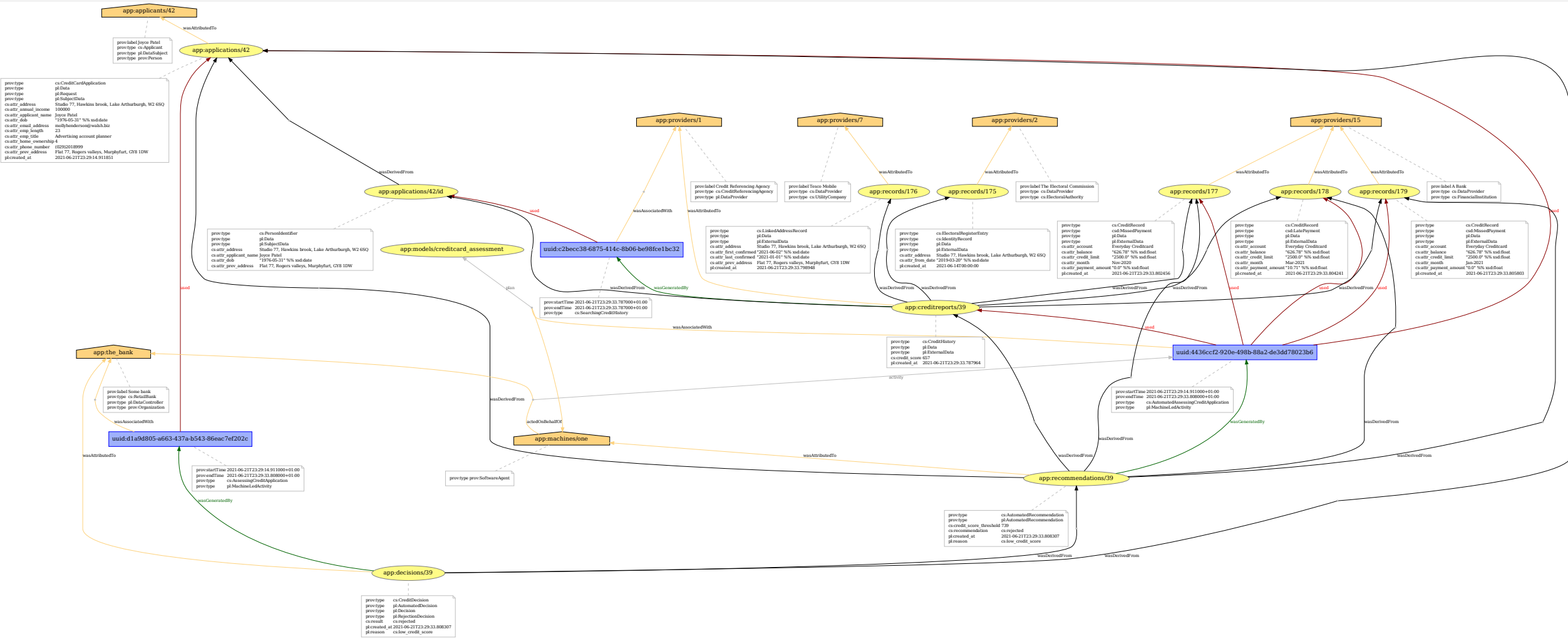


Customer Letter

Requirements

ID	Legal Requirement	Explanation Text
cs-1a	DP.GDPR.8.2	We regret to inform you that your <b>application (applications/42)</b> was declined. That is because of <b>low credit score</b> . <a href="#">Viz &gt;</a>
cs-1b	DP.GDPR.8.3	We made this decision with an automated scoring system that takes into account the information provided in your application as well as a credit score produced by <b>credit referencing agency (providers/1)</b> . <a href="#">Viz &gt;</a>
cs-1c	DP.GDPR.2.1	Your credit score is <b>657</b> . This credit score was calculated using data from the categories described in this policy. Your credit score is below the acceptance threshold of <b>739</b> . <a href="#">Viz &gt;</a>
cs-1d		Your credit score was impacted by <b>missed payment (records/177)</b> , <b>missed payment (records/179)</b> and <b>late payment (records/178)</b> . <a href="#">Viz &gt;</a>
cs-4a	DP.GDPR.8.1 DP.GDPR.2.1.1	This application was screened by an automated system to provide you with an instant response at <b>2021-06-21T23:29:14.911+01:00</b> . The evaluation was based on the information you provide by your <b>application (applications/42)</b> . <a href="#">Viz &gt;</a>
cs-4b	DP.GDPR.2.1.1	The system also took into account information about you in <b>credit history report (creditreports/39)</b> provided by <b>credit referencing agency (providers/1)</b> . <a href="#">Viz &gt;</a>
cs-4c	DP.GDPR.2.1.3	This information relates to your financial wellbeing and your credit history and it was used to determine how affordable and sustainable credit card plan would be for you <a href="#">Viz &gt;</a>
cs-4d		Our assessment indicated that the commitment of the credit agreement would have an adverse impact on your financial situation. Hence our <b>decision (decisions/39)</b> is to refuse your application. <a href="#">Viz &gt;</a>
cs-5a	DP.GDPR.2.1.1	This decision took into account information on your application, information we hold about you as well as information about you provided by <b>credit referencing agency (providers/1)</b> . <a href="#">Viz &gt;</a>

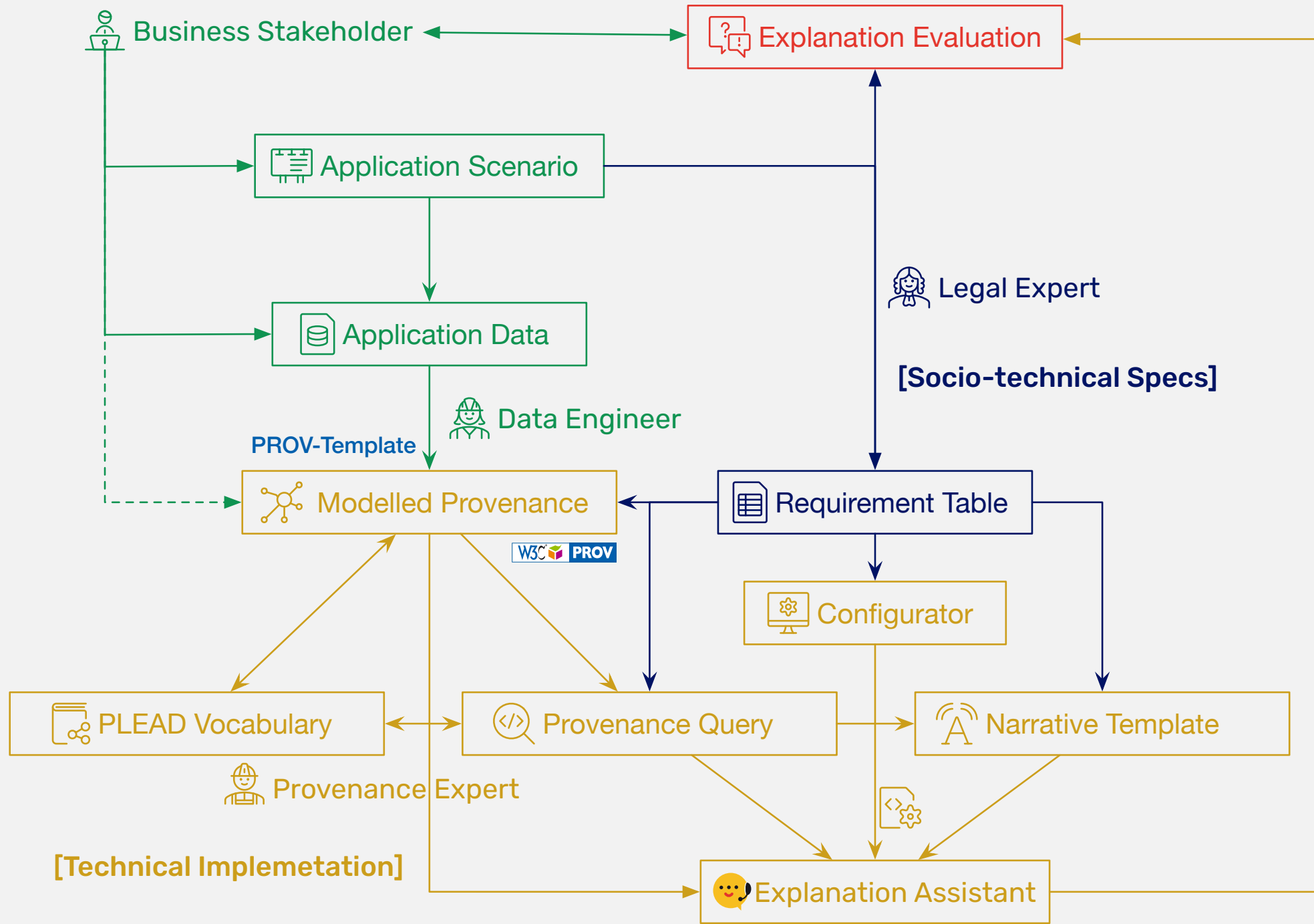




# Provenance-Driven Explanations



# PLEAD Methodology Overview





# Workflow

1. Application scenario
2. Policy requirements
3. Classification framework
4. Minimum content
5. Data categories
6. Data flows
7. [From Application Data to Provenance]
8. [From Provenance to Explanation Narratives]
9. Evaluation

Implementation





explain.openprovenance.org

## Loan Decision for Application #910600

⊗ We are sorry to inform you that your loan application was not successful.

Decided on: 25 Jun 2021, 1:53 p.m. Using: [Decision Pipeline #2](#)

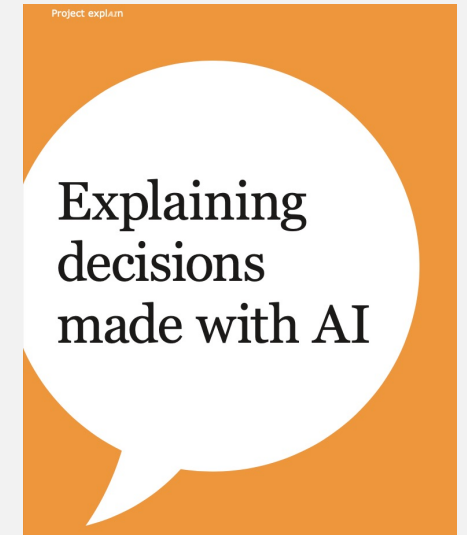
### Provenance-based Explanations for Data Subjects

Questions Automation Inclusion Exclusion Sources Relevance Accuracy Fairness

We recorded the provenance of the above decision, from which explanations about the decision can be generated. If you have queries about the above decision, some explanations can be found below by clicking on the corresponding questions below.

- [Has the loan decision been reached solely via automated means?](#)  
Whether a decision made solely by automated means without any meaningful human involvement.
- [What types of data were used to assess my loan application?](#)  
A loan application assessment may consider several types of data about the applicant, such as credit scores, or other publicly available information.
- [Which data was excluded from the decision process?](#)  
Some information you provided may not be used, either because it is not legal to do so or the organisation deemed it is not relevant to the decision of approving your loan.
- [Where did you get those data about me?](#)  
Data considered by a credit institution may come from a variety of sources.
- [How timely relevant is the data used for assessing my loan?](#)  
Data used in loan decision making may be collected a long time ago and no longer relevant.
- [Are the data used for assessing my loan application correct?](#)  
Data correctness may not be guaranteed: the applicant may have made a typo in their application or the data provided by a third-party may be inaccurate.

?



➔ [explain.openprovenance.org](https://explain.openprovenance.org)



vimeo.com

Inbox - trungdong@donggiang... Final Plenary - PLEAD Wiki explAIin PLEAD Explanation Configurator Webinar: PLEAD Explanations f...

vimeo Features Resources Watch Manage Videos Upgrade

Search, Notifications, Profile, New video

# PLEAD

Provenance-driven and Legally-grounded Explanations for Automated Decisions

KING'S COLLEGE LONDON Engineering and Physical Sciences Research Council UNIVERSITY OF SOUTHAMPTON

41:34

## Webinar: PLEAD Explanations for Automated Decisions

NOT YET RATED

2 days ago | More

PLEAD Project

Settings Review tools Send file

Get more privacy options, more player customization, and more storage. [Upgrade now.](#)

This column is only visible to you

### See video analytics

[View analytics](#)

### Pro

40x more upload space, powerful privacy options, and seamless collaboration tools.

➔ [vimeo.com/plead/webinar](https://vimeo.com/plead/webinar)