Cloudpermit permitting service with integrated automatic data content and code compliance checking

Training material

Cloudpermit

Funded by the European Union

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Innovate UK

UK Participants in Horizon Europe Project ACCORD are supported by UKRI grant numbers 10040207 (Cardiff University), 10038999 (Birmingham City University and 10049977 (Building Smart International)

Short description

- Cloudpermit is a cloud-based online permitting service that provides a digital experience to applicants and authorities in about 2 000 local authority organizations across Finland, Canada, and the US
- Cloudpermit has been added with capabilities to accept and process IFC models, including integrated automatic data and code compliance checking
- This presentation describes a typical Cloudpermit user experience in a building permit application and explains how some of the ACCORD components are used in the process

Where it can be applied?

- Cloudpermit is used as a user interface and process management in any permit application process
- In the use cases, Cloudpermit hides the complexity of model checking from the final users. Through Cloudpermit, the users can for example
  - Provide the IFC models to applications in an intuitive and easy UI
  - Easily see results from the integrated data and code compliance checking, executed by third party checking tools such as Solibri Model Checker or ClearlyBIM by Future Insight
  - Read the building data to permit applications directly from the IFC models

Who can apply?

- Cloudpermit is used by the final users of the concept, e.g.
  - applicants,
  - architects,
  - designers,
  - other BIM professionals,
  - building permitting and other authorities

ACCORD

Automatic compliance checking in permitting service

User experience demo

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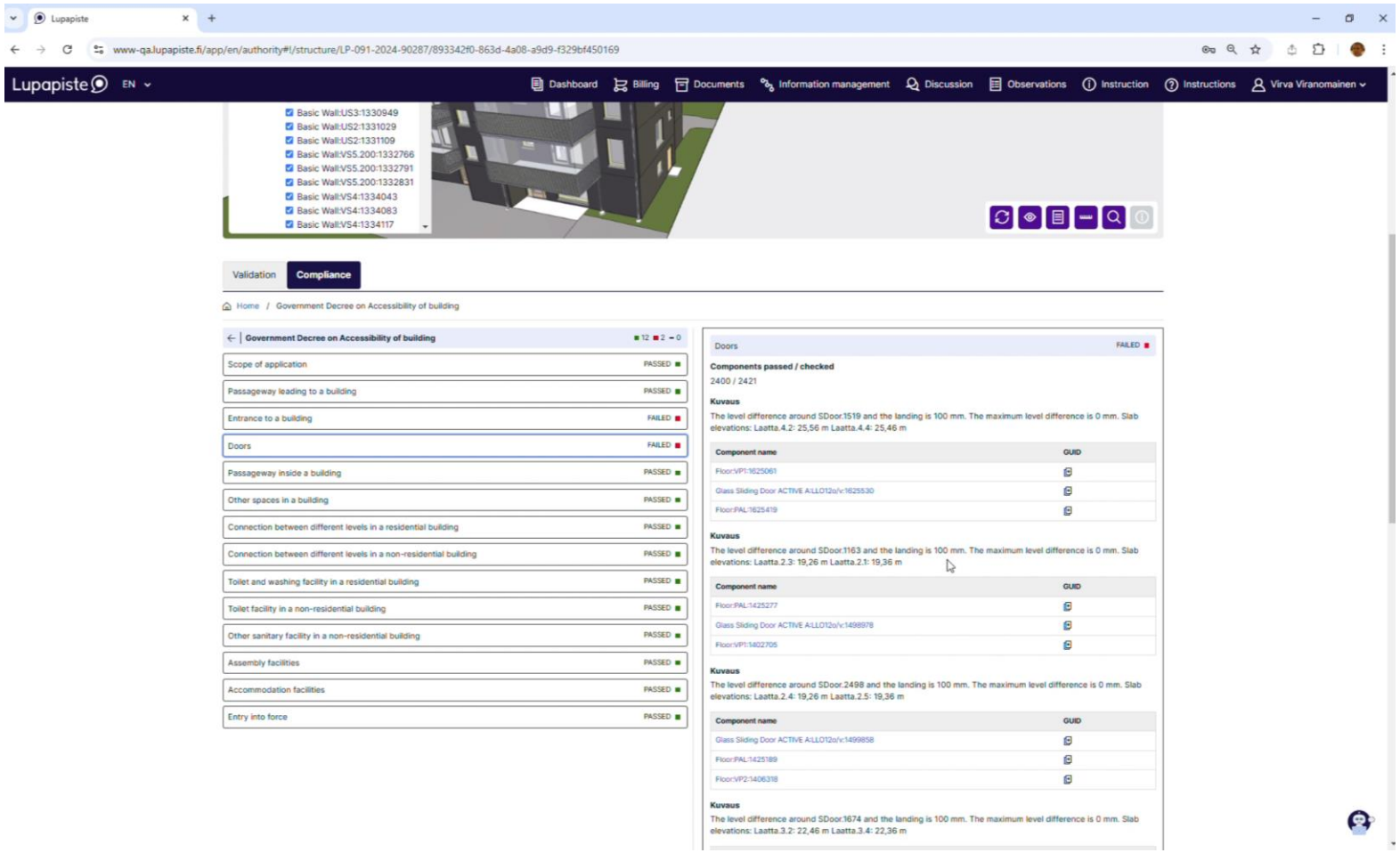
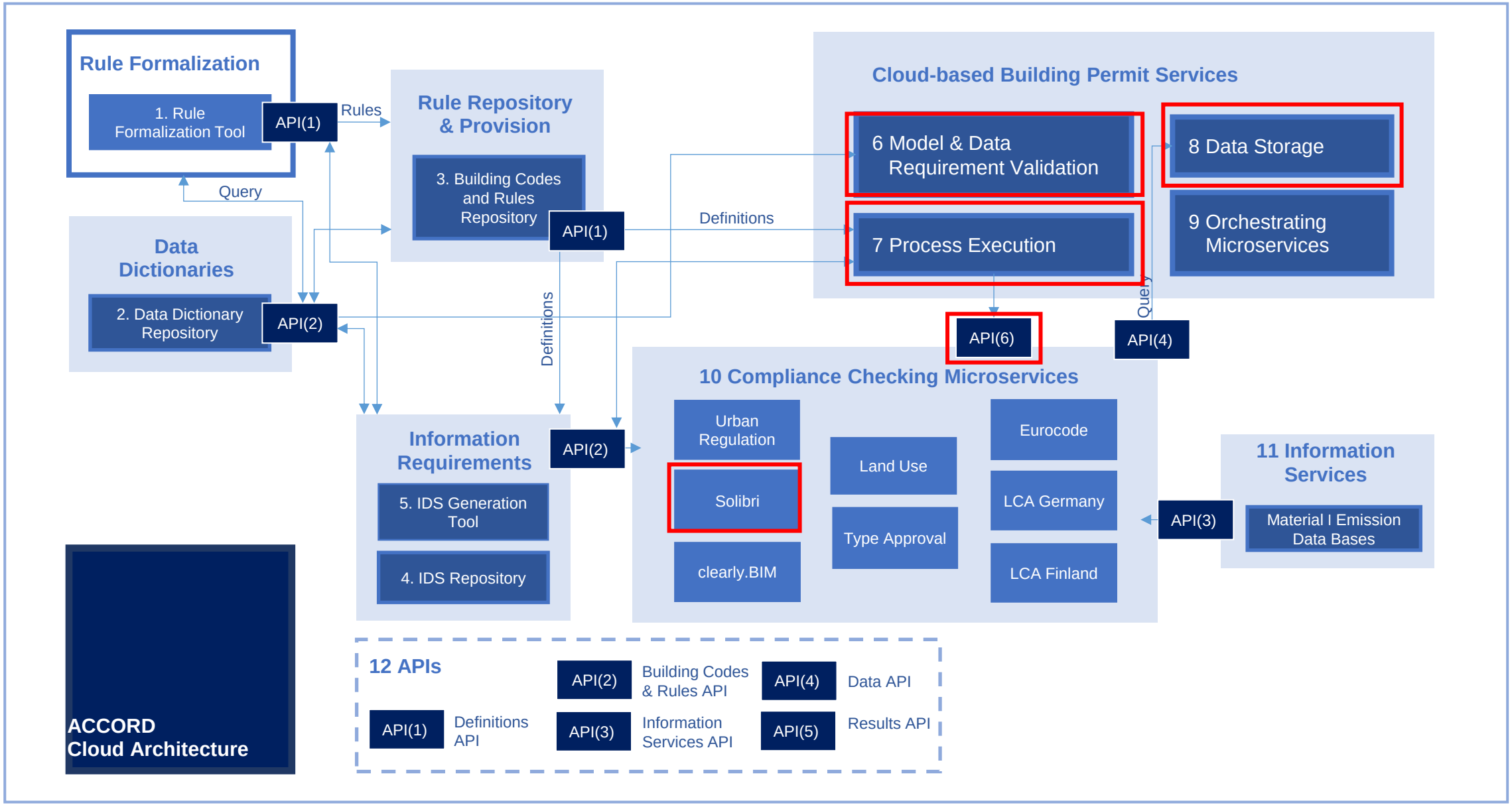
Demo video


Lupapiste
www-qa.lupapiste.fi/app/en/authority#!/structure/LP-091-2024-90287/893342f0-863d-4a08-a9d9-f329bf450169
Lupapiste EN
Dashboard
Billing
Documents
Information management
Discussion
Observations
Instruction
Instructions
Virva Viranomainen
Basic Wall:US3:1330949
Basic Wall:US2:1331029
Basic Wall:US2:1331109
Basic Wall:VS5.200:1332766
Basic Wall:VS5.200:1332791
Basic Wall:VS5.200:1332831
Basic Wall:VS4:1334043
Basic Wall:VS4:1334083
Basic Wall:VS4:1334117
Validation
Compliance
Home / Government Decree on Accessibility of building
Government Decree on Accessibility of building
Scope of application PASSED
Passageway leading to a building PASSED
Entrance to a building FAILED
Doors FAILED
Passageway inside a building PASSED
Other spaces in a building PASSED
Connection between different levels in a residential building PASSED
Connection between different levels in a non-residential building PASSED
Toilet and washing facility in a residential building PASSED
Toilet facility in a non-residential building PASSED
Other sanitary facility in a non-residential building PASSED
Assembly facilities PASSED
Accommodation facilities PASSED
Entry into force PASSED
Doors FAILED
Components passed / checked
2400 / 2421
Kuvaus
The level difference around SDoor.1519 and the landing is 100 mm. The maximum level difference is 0 mm. Slab elevations: Laatta.4.2: 25,56 m Laatta.4.4: 25,46 m
Component name
GUID
Floor:VP1:1625061
Glass Sliding Door ACTIVE A:LLO12o/v:1625530
Floor:PAL:1625419
Kuvaus
The level difference around SDoor.1163 and the landing is 100 mm. The maximum level difference is 0 mm. Slab elevations: Laatta.2.3: 19,26 m Laatta.2.1: 19,36 m
Component name
GUID
Floor:PAL:1425277
Glass Sliding Door ACTIVE A:LLO12o/v:1498978
Floor:VP1:1402705
Kuvaus
The level difference around SDoor.2498 and the landing is 100 mm. The maximum level difference is 0 mm. Slab elevations: Laatta.2.4: 19,26 m Laatta.2.5: 19,36 m
Component name
GUID
Glass Sliding Door ACTIVE A:LLO12o/v:1499858
Floor:PAL:1425189
Floor:VP2:1406318
Kuvaus
The level difference around SDoor.1674 and the landing is 100 mm. The maximum level difference is 0 mm. Slab elevations: Laatta.3.2: 22,46 m Laatta.3.4: 22,36 m

Automatic compliance checking in permitting service

Application of ACCORD Architecture


Rule Formalization
1. Rule Formalization Tool
API(1)
Rules
Query
Rule Repository & Provision
3. Building Codes and Rules Repository
API(1)
Definitions
Cloud-based Building Permit Services
6 Model & Data Requirement Validation
7 Process Execution
8 Data Storage
9 Orchestrating Microservices
Data Dictionaries
2. Data Dictionary Repository
API(2)
Definitions
API(6)
Query
API(4)
10 Compliance Checking Microservices
Information Requirements
API(2)
Urban Regulation
Solibri
clearly.BIM
Land Use
Type Approval
Eurocode
LCA Germany
LCA Finland
API(3)
11 Information Services
Material I Emission Data Bases
5. IDS Generation Tool
4. IDS Repository
ACCORD Cloud Architecture
12 APIs
API(1) Definitions API
API(2) Building Codes & Rules API
API(3) Information Services API
API(4) Data API
API(5) Results API

Thank you!

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