EUGLOH

European University Alliance for Global Health

eduTAP

Bridging online identity to mobile credentials for reliable and trustworthy on-site service access (in the educational sector)

Co-funded by the Erasmus+ Programme of the European Union

User Experience is key

eduTAP ist about **Service Access** on site (on and off campus)

- For Member of the Higher Education Institution
- For incoming members of other Higher Education Institutions / Partners ← Mobility (short- and long-term)

For the Person **User Experience** is key, it should be as easy and simple as possible

- Benchmark Examples

WLAN Access

Login to Online Services

→ To access services on site it should be as easy as using the WLAN with eduroam

eduTAP – educational tapping

tap to …

- ✓ tap to identify yourself,
- ✓ tap to verify your status,
- ✓ tap to proof your entitlement,
- ✓ tap to claim a discount,

tap to access a service on-site directly:

- ✓ tap to pay (open and close loop-payments),
- ✓ tap to open a door,
- ✓ tap to lend a book,
- ✓ tap to take a campus shuttle.

https://eduTAP.eu

*no app, **just tap**!*

eduTAP – mission:

- **digitizing cards** → passes in the smart device **wallets**
- leveraging the possibilities of smart devices for **interoperability**
- enable ***easy*** **service access on-site**

chip card / smart card

enable transition

- enable HEIs and Service Providers to:
  - create, issue, and manage passes within the smart device wallet
  - interact with wallet passes to give access to services, identify, and verify the status of students and staff
- enable students and staff members to access services on-site, easy and consistent

Access Services → a question of interoperability

Identification
- Identification
- Status verification
- Proof of entitlement
- Single Sign On / 2FA / FIDO2
- Attendance check
  - *Check-in for exams*
  - *attendance at courses*
  - *Time recording*
- Electronic Signature (*of legal documents*)

Electronic payment / cashless campus
- Canteen & cafeterias
- Vending machines
- Printing / scanning (*secure & follow me printing*)
- Ticketing (*secure & follow me printing*)

Physical Access Control
- Areas (*campus, parking lot*)
- Buildings
- Rooms
  - Classrooms
  - Labs
  - Computer rooms
  - Learning spaces
  - Offices
  - Accommodation facilities *(i.e., dorms)*
- Sports facilities

Library services
- Access to / borrow
  - Physical media (book, audio and video media)
  - E-media (book, audio and video media)
- Learning spaces

Transport
- On campus services (*university shuttle service*)
- Public transport tickets & discounts

Discount and promotions
- Discounts on cultural activities
  - Museums
  - theaters
  - cinemas
- Shops
- Restaurants

on- & off-campus → **on-site usage**
online services

providing service → create benefits

The European Student Card

- ✓ Vision of the European Commission: Towards a European Education Area
- ✓ The **European Student Card Initiative** (ESCI)
  - → Students can get their **status verified** easily across Europe
  - → **Access to on- and off-campus services**
  - → ***easier*** access to student services at host universities on a ***mobility*** programme
- ✓ European Charter for Higher Education (ECHE) of the Erasmus+ Program

A great vision!

European University Alliance for Global Health

9 Universities, 1 Goal:
Building Europe's Campus for Global Health

Co-funded by the Erasmus+ Programme of the European Union

EUGLOH 2.0 Consortium Partners

Université Paris-Saclay · Lund University · SZTE University of Szeged · U.Porto · LMU Ludwig-Maximilians-Universität München · Universidad de Alcalá · UiT The Arctic University of Norway · Universitas Studiorum Neoplantensis · Universität Hamburg – Der Forschung | Der Lehre | Der Bildung

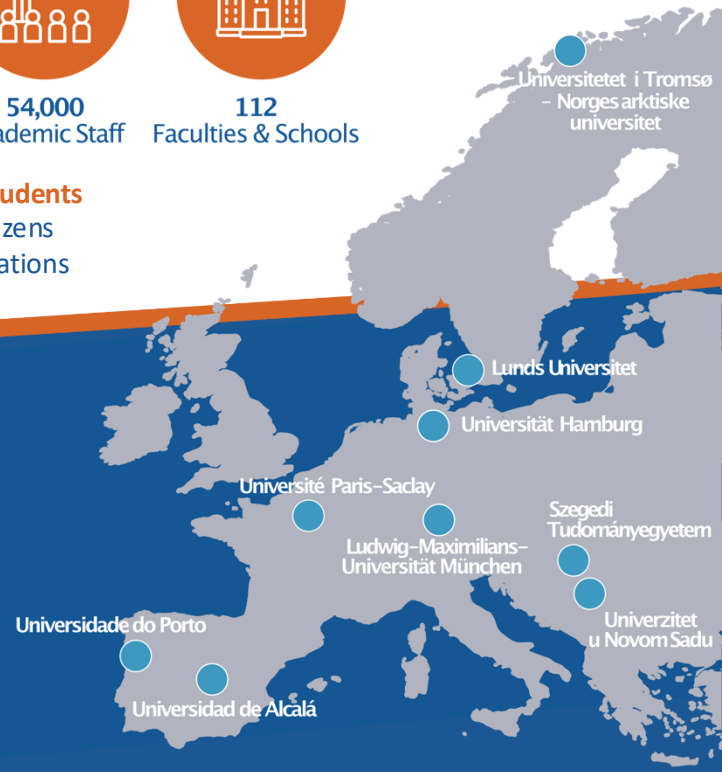
→ UNS & UiT are from non-member states of the European Union

338,500 Students

54,000 Academic Staff

112 Faculties & Schools

15-20 % foreign students
40 % European citizens
60 % from other nations



Key Goals

- Interdisciplinary Global Health programmes across universities – striving towards a joint European degree.
- **A vibrant, multicultural and inclusive inter-university campus.**
- **Seamless mobility for students, staff and professionals – physical and virtual.**
- Strong links between higher education, research and local socio-economic ecosystems to prepare young people for the jobs of tomorrow.
- Empowering future generations to find solutions for Global Health challenges.

} Interoperable services and identification

EUGLOH campus cards
current state and connected services

→ Vision:

All university members should be able to use services of host university while on visit

Status of four core members (IT wise)

Ludwig-Maximilians-Universität München

- Legic CTC Cards (Legic Advant + Prime)
- Payment (Studierendenwerk München)
- Cloud-Printing and Scanning (Secure-Printing and Payment)
- Library
- Ticket for Public Transport System

Université Paris-Saclay

- NXP Mifare DESfire Cards
- Payment (izly – les Crous)
- Library
- Physical Access Control

Lunds universitet

- NXP Mifare Classic Cards
- Physical Access Control (online and offline)
- Login at copiers (for copy/print/scan)
- Library
- Several other services, but not any payment services

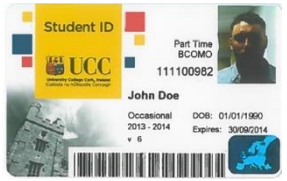
Universidade do Porto

- NXP Mifare Classic Cards / Java Cards with Mifare Classic emulation
- Library
- Physical Access Control
- Canteen & cafeterias
- Printing Service
- Attendance

Not compatible technologies

Path to an interoperable campus card

EUROPEAN STUDENT



ESN
Erasmus Student Network

ISIC INTERNATIONAL STUDENT IDENTITY CARD

Trust-Level: NO-TRUST

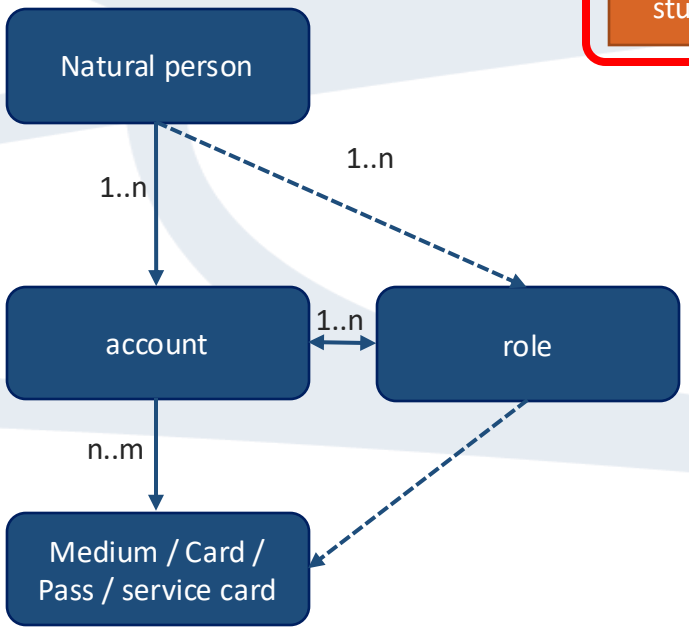
transition

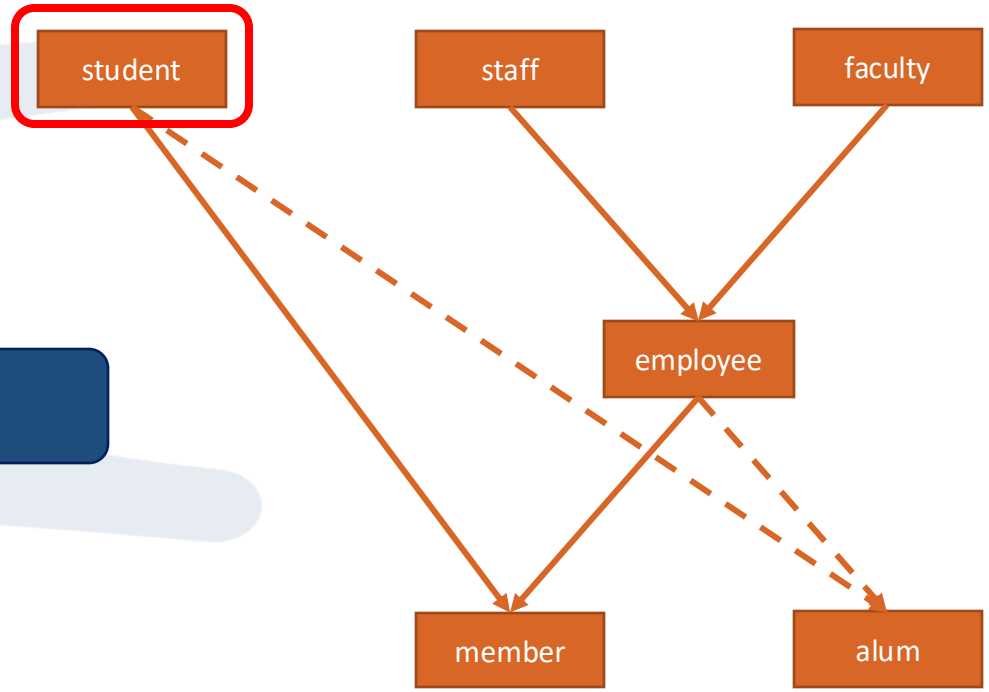
eduTAP

- ✓ state-of-art technology,
- ✓ secure and trustworthy,
- ✓ compliant to GDPR
- ✓ ensures interoperability

European Student Card → Services and Service Consumers

- Why focus on students and ISCED:2011 Level 6/7/*8 for ESC*?
- It is about **providing services → eduTAP is for anyone**
  - For users of the (home or host) institution
  - User incoming for a short-term or long-term mobility
- Staff / faculty members are more likely on short-term mobility than students **→ leading by example**





ISCED:2011 Level

Level	Label
0	Early childhood education
1	Primary education
2	Lower secondary education
3	Upper secondary education
4	Post-secondary non-tertiary education
5	Short-cycle tertiary education
6	Bachelor's or equivalent
7	Master's or equivalent
8	Doctorate or equivalent
x	Faculty or Staff member of HEI

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Physical Access Control
- Areas (*campus, parking lot*)
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on- & off-campus → **on-site usage**
online services

providing service → create benefits

Digitizing cards vs. leveraging the possibilities of smart devices
→ Stages of Digitalization – Period of Digital transformation

Digitalization 1.0

- Digitization – create digital versions of analog documents

→ Digitization vs. Digitalization

Digitalization 2.0

- Digitalization with internal focus
- Optimize internal administrative processes – **organization centric optimizations** -
- Processing of data

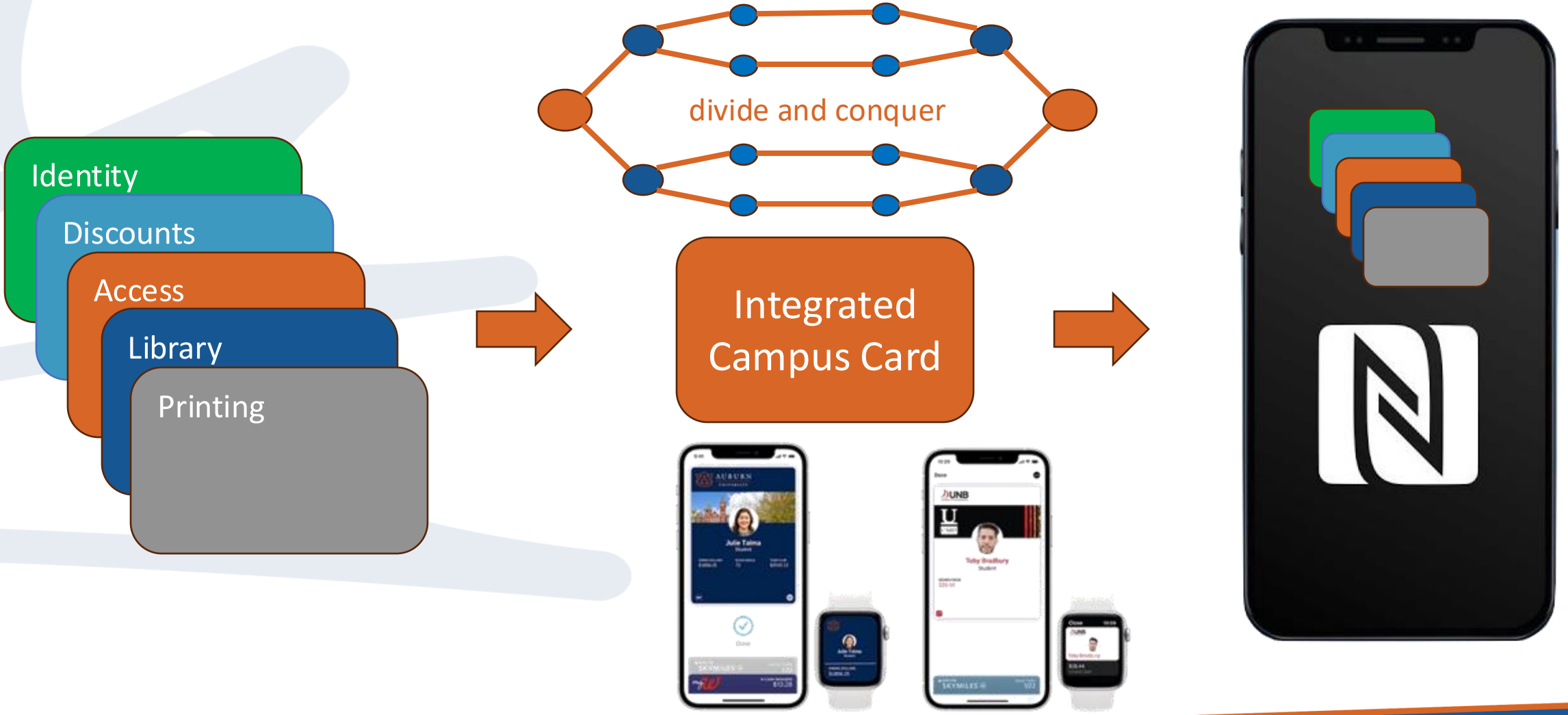
→ Digital transformation (a hard shift)

Digitalization 3.0

- Digitalization with focus on the user – **user centric optimizations** -
- Optimization on how services are discovered and seamlessly used
- Flow of data

→ Service-oriented
→ **Digital identity**
→ Interoperability

Path to an interoperable campus card → HEIDI



Medium → Services

Identification
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- Status verification
- Proof of entitlement
- Single Sign On / 2FA / FIDO2
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Physical Access Control
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Library services
- Access to / borrow
  - Physical media (book,
  - E-media (book, audio and

Transport
- On campus services (*university shuttle service*)
- Special case of "Proof of entitlement"

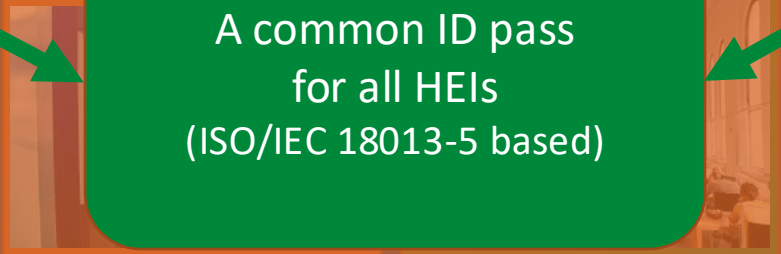
sport tickets
s
e of
/ "discount"

Discount and promotions
- Discounts on cultural activities
  - Museums
  - theaters
  - cinemas
- Shops
- Restaurants
- → Special case of "Identification" / "Status verification" / "Proof of entitlement"

separate service passes

(*can chose appropriate technology*)
→ Working solutions by solutions providers

A common ID pass
for all HEIs
(ISO/IEC 18013-5 based)



providing service → create benefits

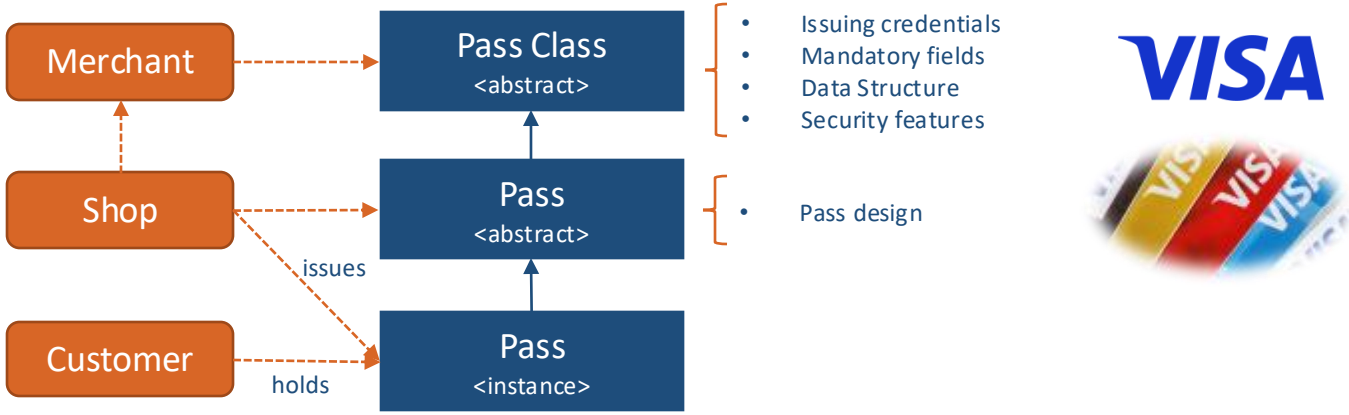
Technical details and features of Wallets / Passes

The wallet is a **container for multiple passes**

Technical features:

- **Auto-Presentment / Smart Select ← reader selects the specific pass to interact with** (if available)
- Selectable Authentication requirements ← **security features**
- Expressmode (Apple)
- Battery reserve (pass is still usable if phone has powered off; important for keys, transit tickets, payment)
- Groupable
- Validity dates
- Remote updateable / revokable
- Offline usable (→ non traceable)

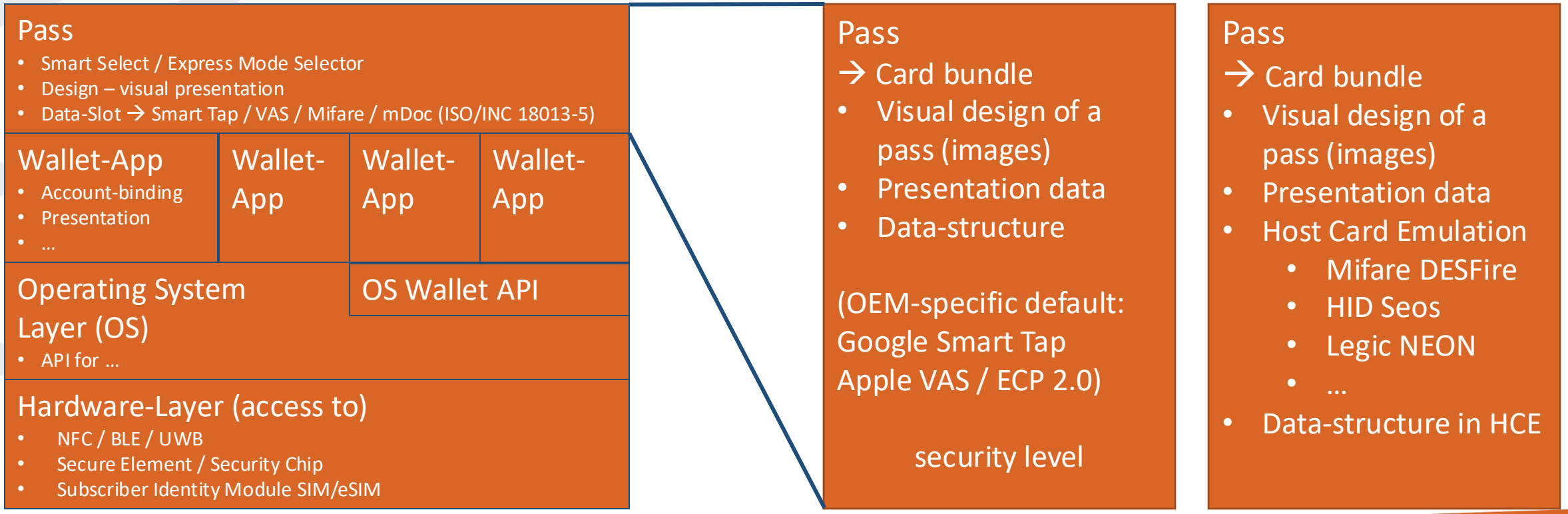
- *Host Card Emulation possible*



Technical details and features of Wallets / Passes

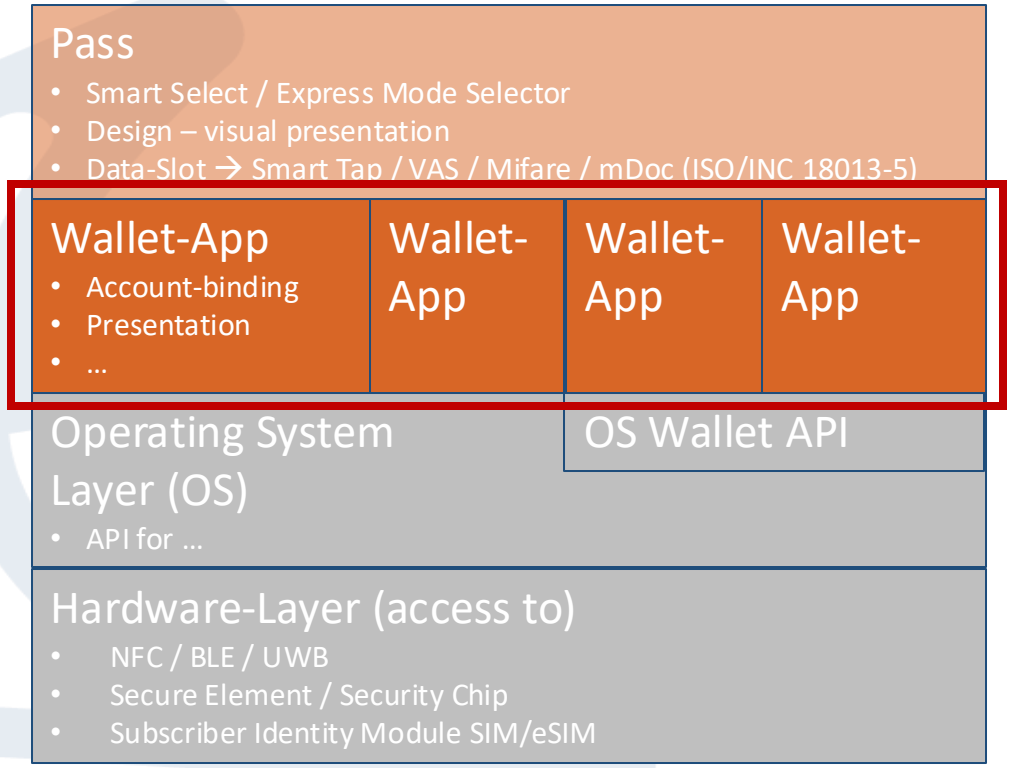
- ✓ Technical details and features of Wallets / Passes → Path to an **interoperable** campus card
- ✓ if each pass (technology) can be individually selected and leveraged, and the Pass in the Wallet can be selected by the reader (**Smart Select / Auto-Presentment**)

→ **one pass per service**



Technical details and features of Wallets / Passes

Detail view on the Wallet



EU Digital Identity Wallet

EWC

OpenWallet FOUNDATION

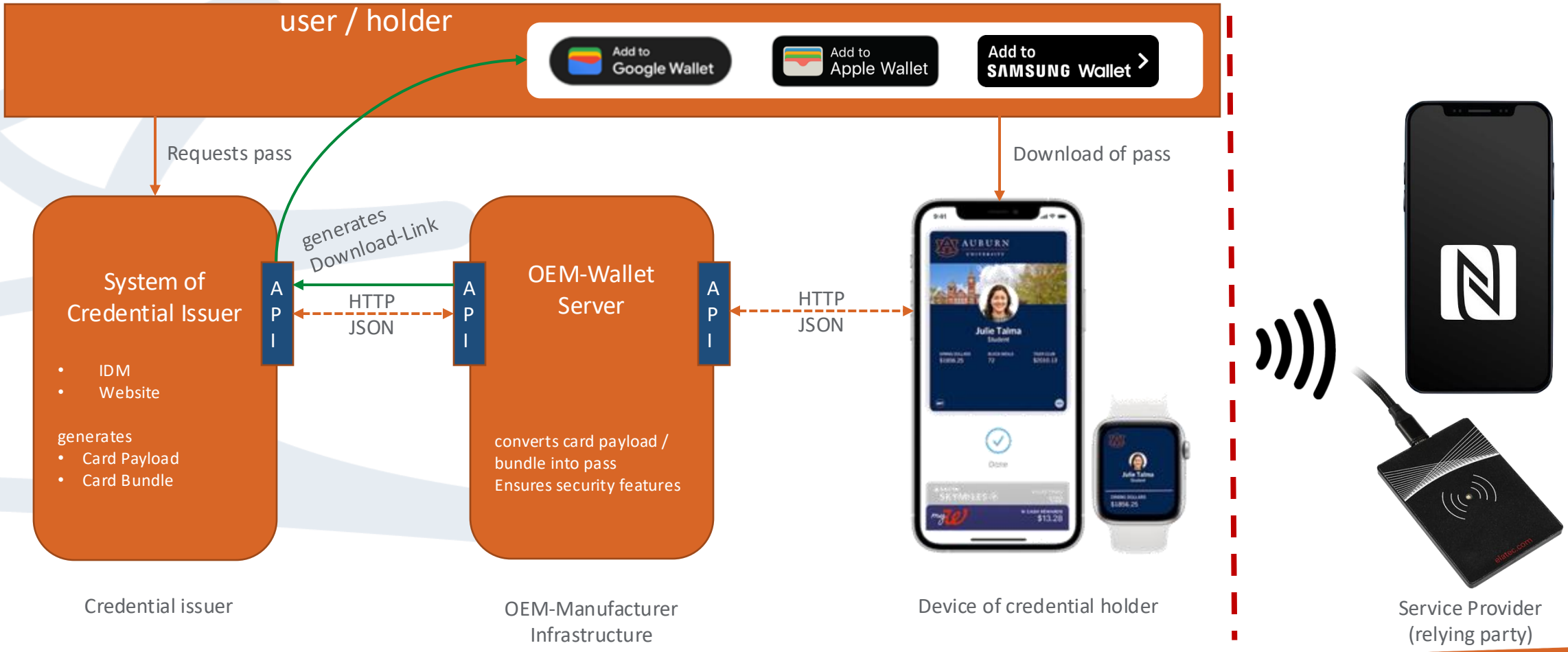
Necessary to issue passes to **all relevant wallets**

→ The eduTAP solution is wallet **agnostic**, not bound to a specific Wallet provider or company

→ eduTAP just enables HEI and Service Providers to easily **create** and **issue** wallet passes

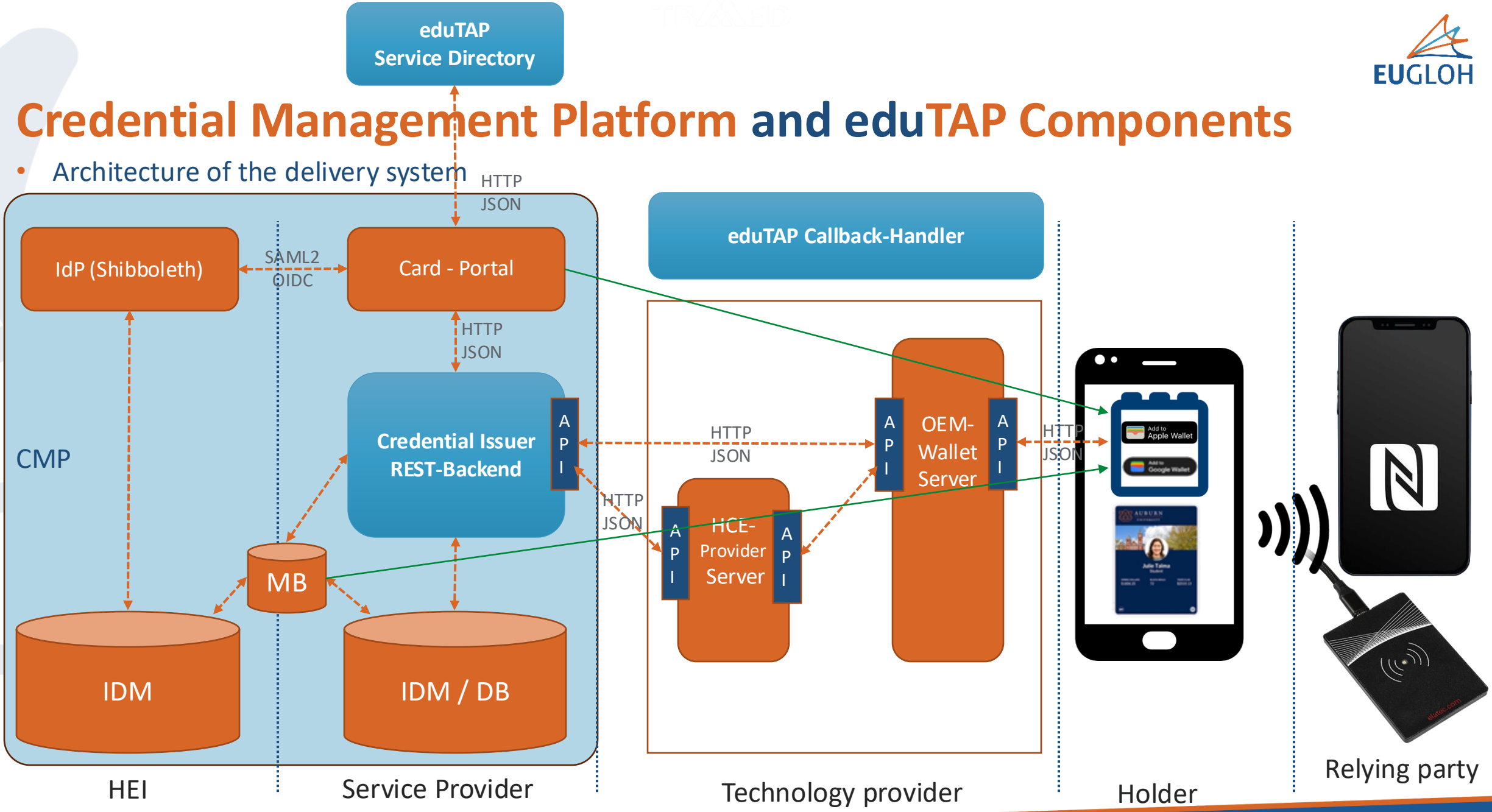
Issuing process of wallet passes redeming

→ importance for the users – always the same process

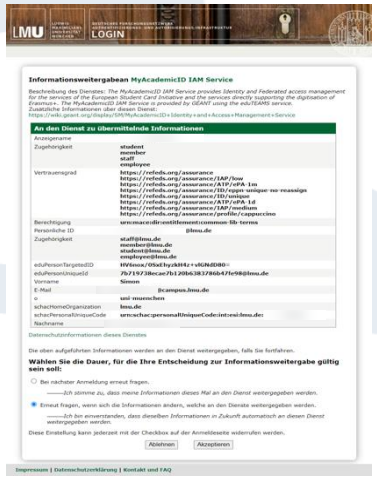


Credential Management Platform and eduTAP Components

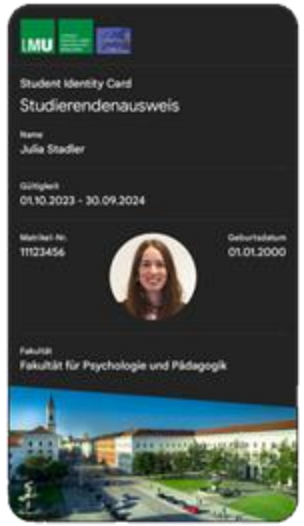
- Architecture of the delivery system

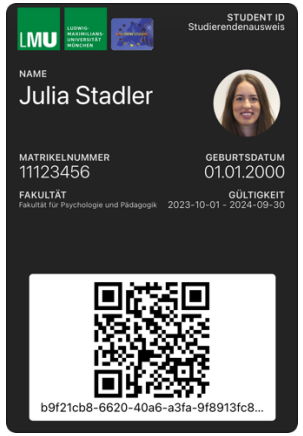


Transition of credentials into the Smartphone Wallets



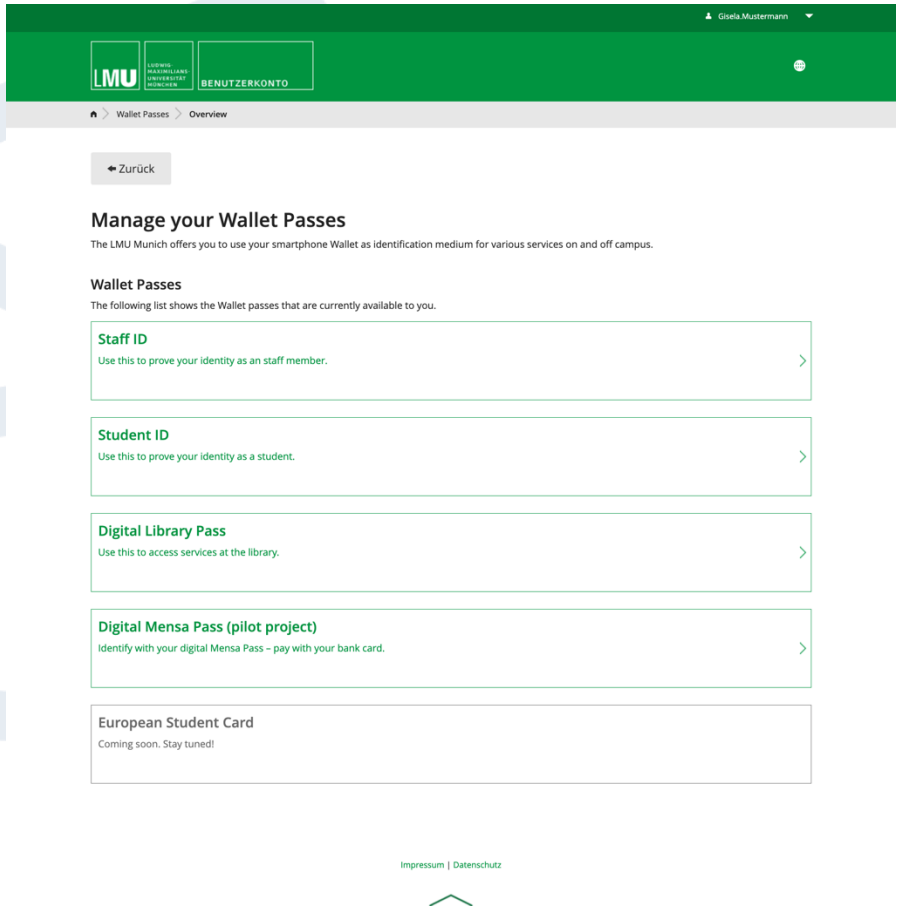
transition

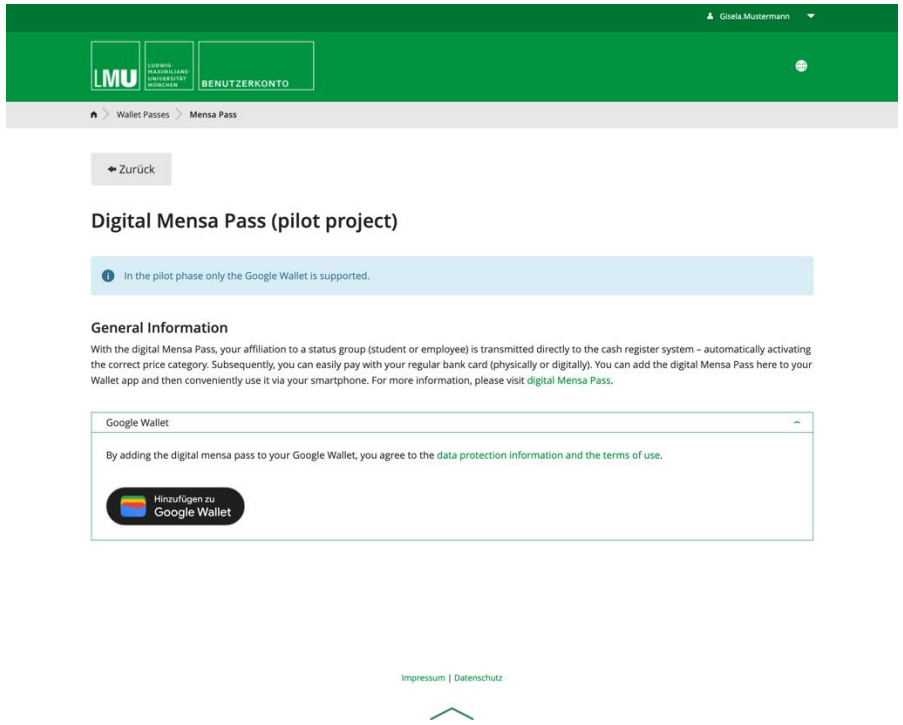




An das Lesegerät halten

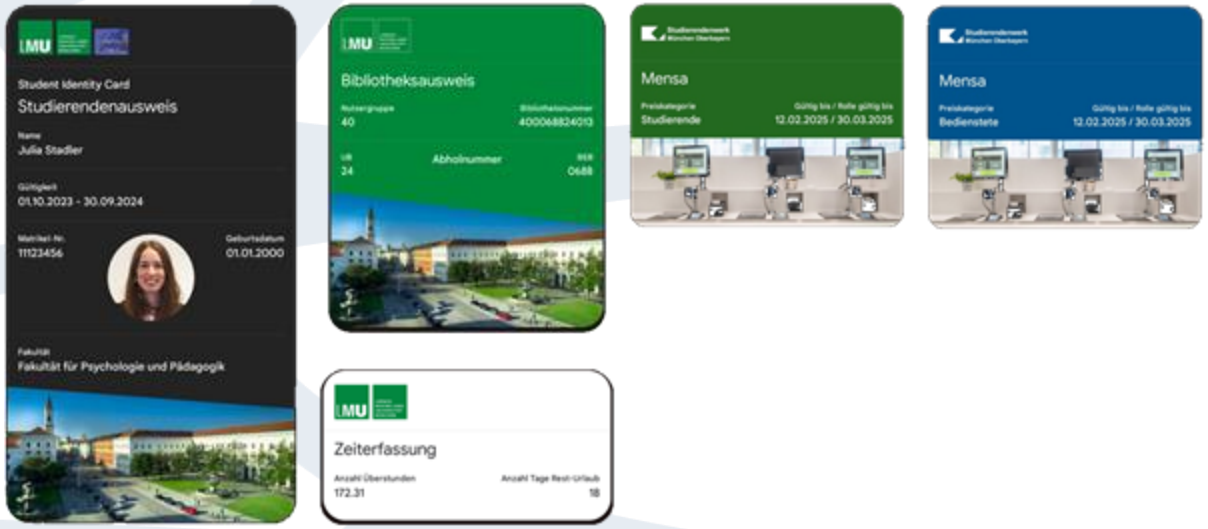
Transition of credentials into the Smartphone Wallets
Examples: LMU Munich Benutzerkonto – Pass Portal





Transition of credentials into the Smartphone Wallets
Examples: Active and potential IDs for LMU Munich

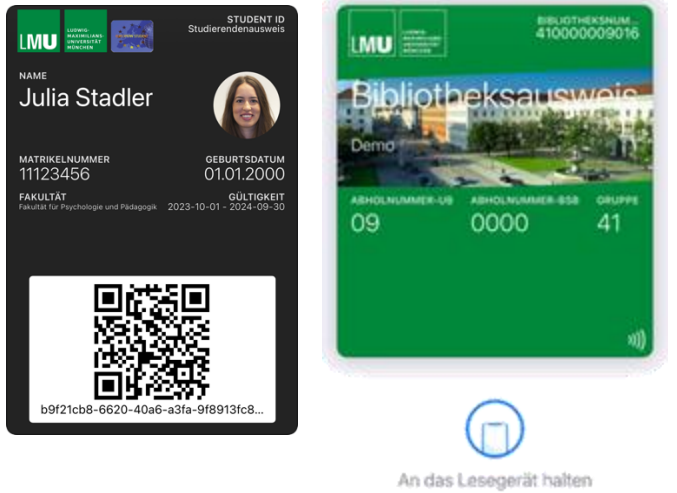
Google Wallet



→ all **NFC enabled**

Add to Google Wallet

Apple Wallet

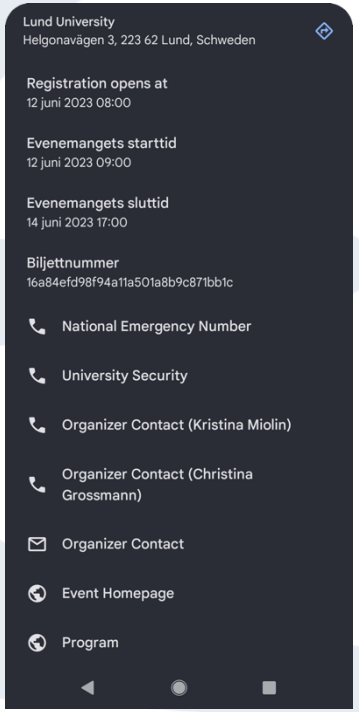


→ **NFC possible**

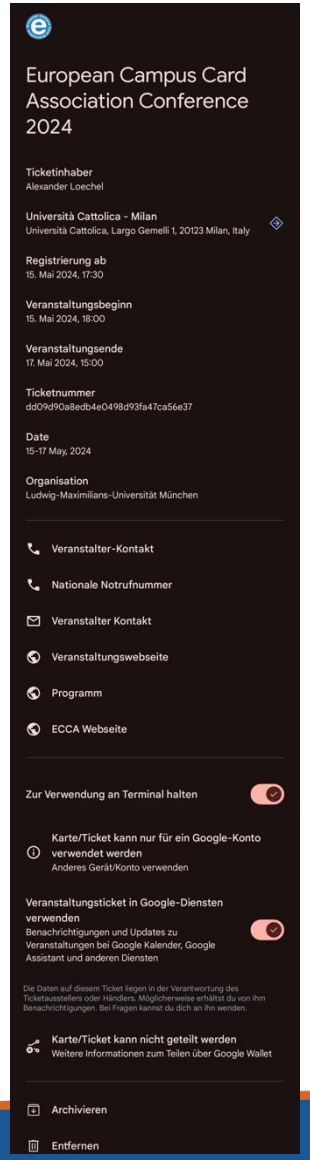
Add to Apple Wallet

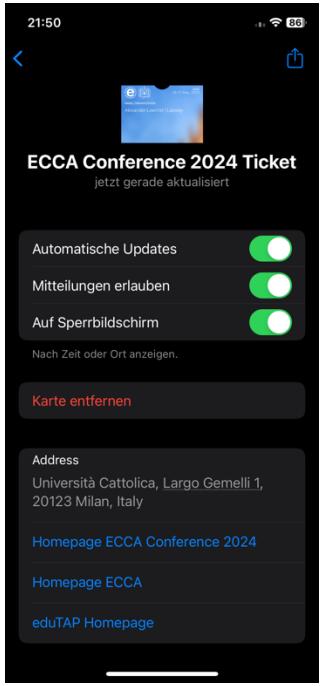
Transition of credentials into the Smartphone Wallets
Examples: Event Tickets

EUGLOH Annual Summit 2023 in Lund

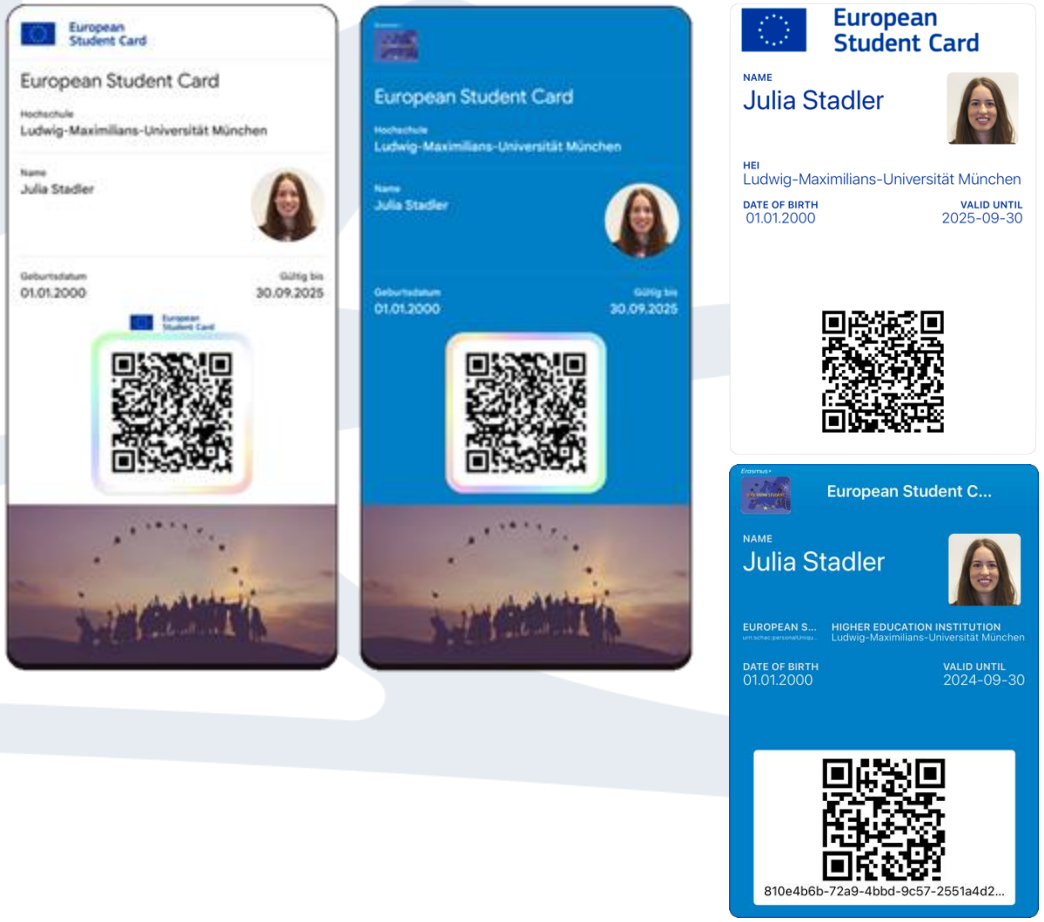


ECCA 2024

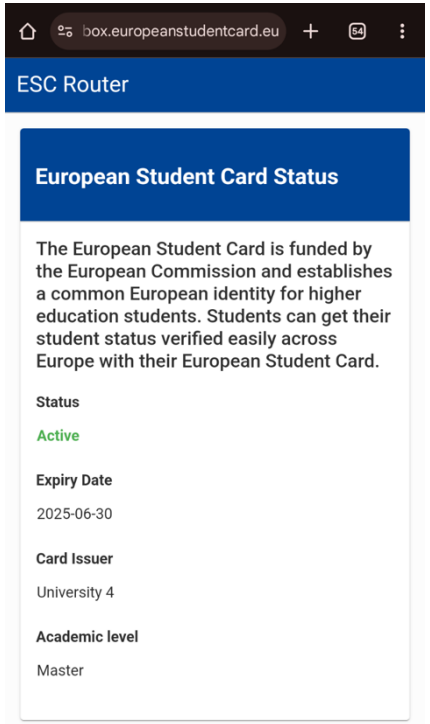




Transition of credentials into the Smartphone Wallets
Examples: European Student Card in the Wallet



- Discount off-campus
- For usage at HEIs that accept the ESC
- No NFC or additional data

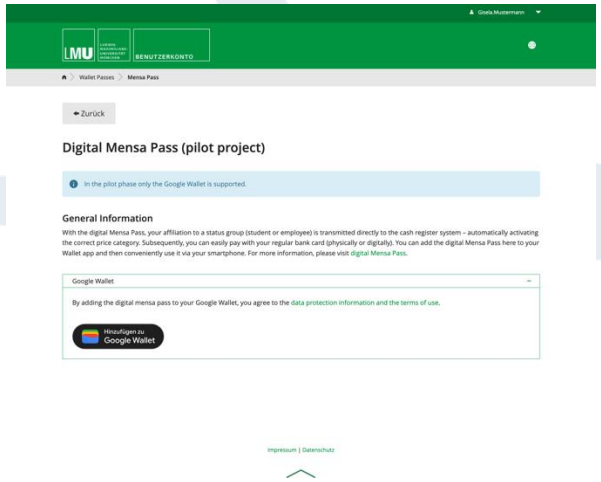


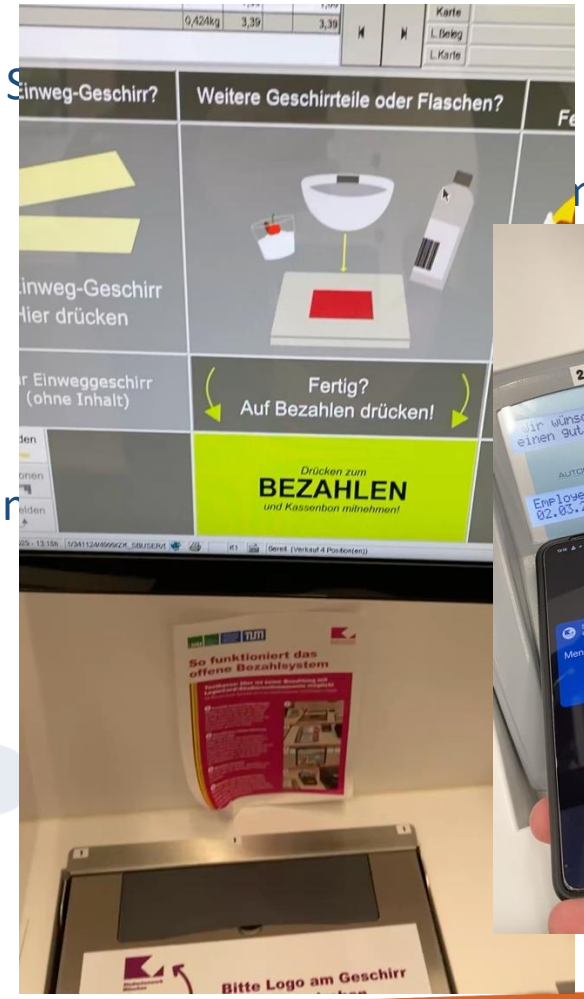
Transition of credentials into the Smartphone Wallets
Examples: LMU Munich – Mensa Discount & Payment

Mensa Discount Passes in Google Wallet for S

Pass Samples

Self-Service Portal to obtain a Mensa Discoun





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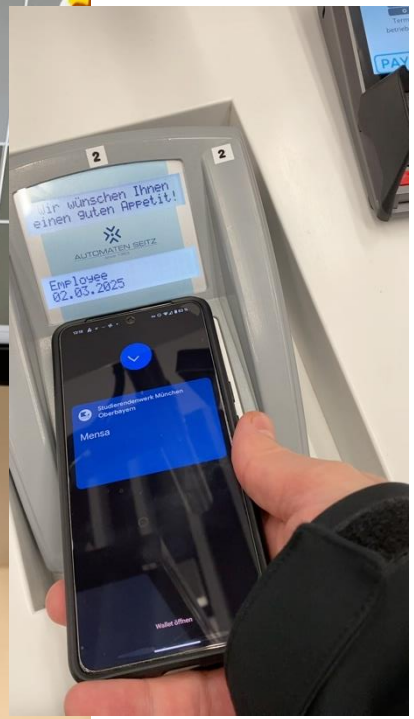

eduTAP – educational tapping – What is eduTAP?

- eduTAP the concept
  - of splitting integrated campus cards into separate service passes and
  - a harmonized identity pass

- eduTAP the software – to enable HEIs and Service Providers to:
  - create, issue, and manage passes within the smart device wallet
  - interact with wallet passes to give access to services, identify, and verify the status of students and staff members

→ The eduTAP concept helps to fulfill the great vision of the European Student Card and enable interoperability

eduTAP Deliverables

The eduTAP project and community implements

- **eduTAP core** → generic libraries and tools; everything to create, issue and manage passes in the wallets
- eduTAP libs → generic libraries and tools; everything to interact with and process data from a wallet pass
- **eduTAP docs** → Information about eduTAP and Wallets
- Central Service Directory → find service and obtain a service pass if necessary
- Infrastructure and Deployment helpers

HEIs and Service Providers that want to adopt and use eduTAP needs to implement or configure

- Mandant Specific Applications (MasA) → eduTAP@institution implementation

eduTAP is community open source

More Information's → https://eduTAP.eu • https://docs.eduTAP.eu & https://github.com/edutap-eu

Demo → Download an eduTAP created pass

eduTAP

https://demo.edutap.eu/

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Add to Apple Wallet

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