



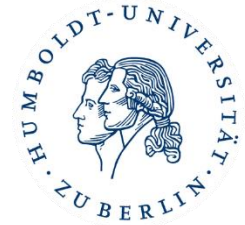
# The Campuscard System

Dr. Tamas Molnar

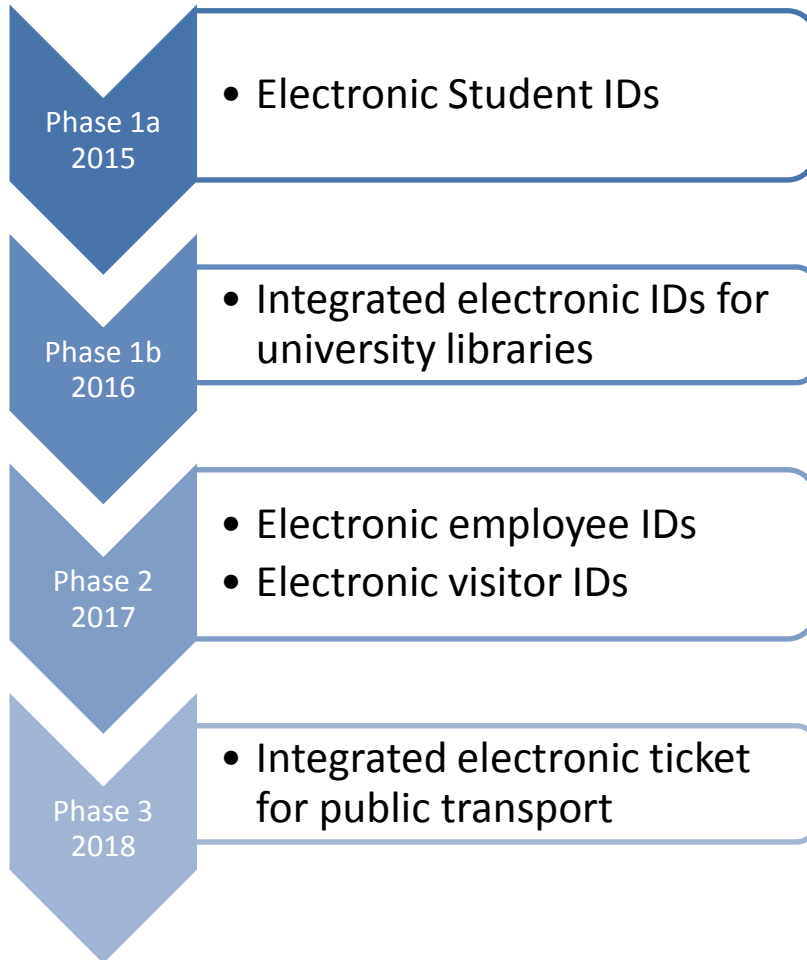
Humboldt-Universität zu Berlin

Berlin, Germany

# An alliance of universities



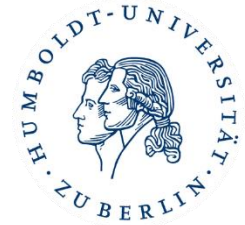
# Overview



- Mifare DESfire EV1 cards
- 25 mm TRW strip
- Photo and barcode for library use



# Problem – The card issuing process



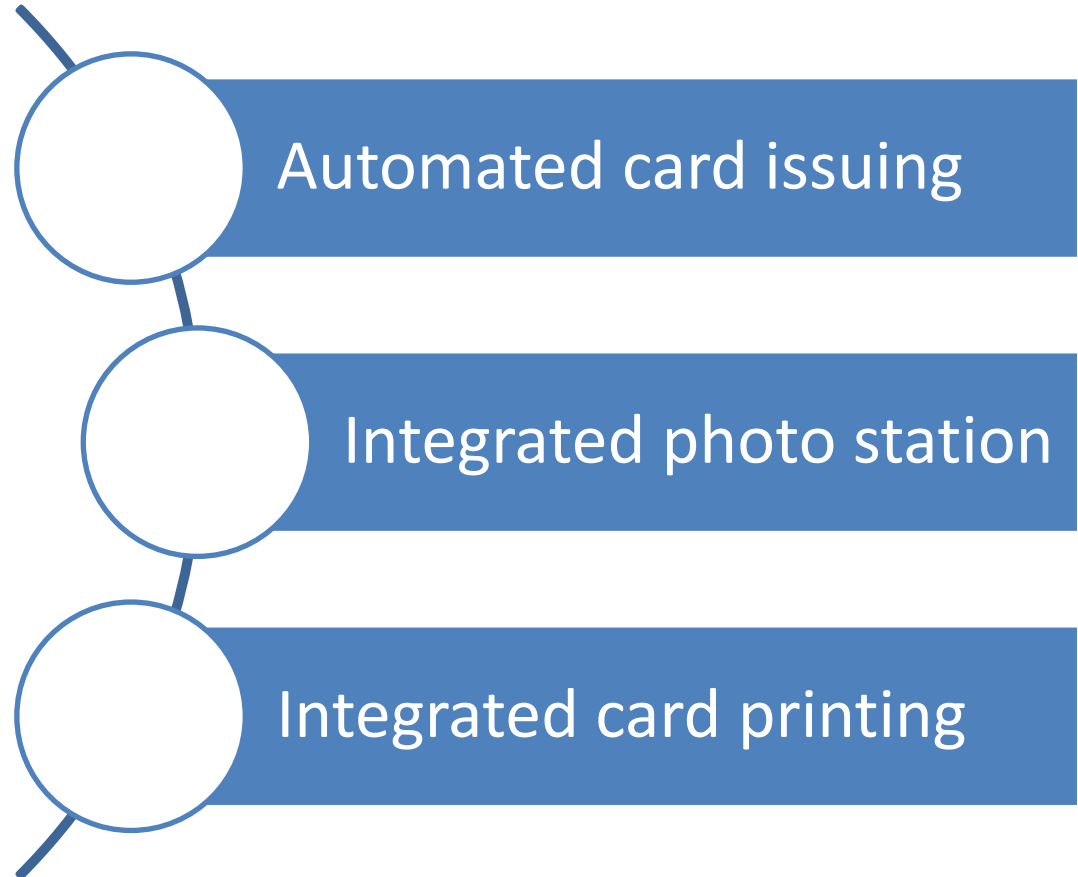
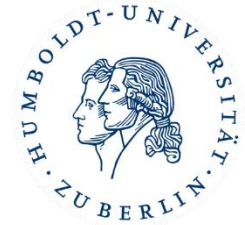
Personally

- Requires a high number of employees
- Multiple different processes
- Requires much office space

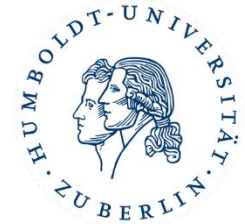
Dispatch

- Expensive
- Outsourcing is problematic because of privacy laws
- In-house production requires machinery
- Multiple different processes

# Our innovation – The print terminal



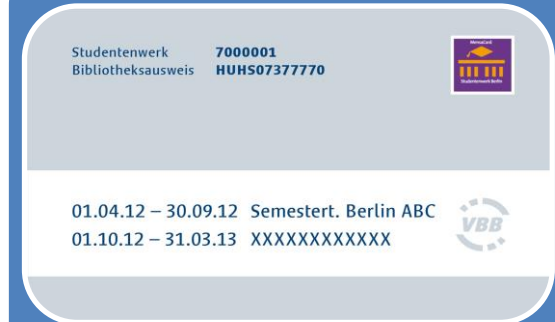
# The process



QR-code – received  
(electronic or postal  
delivery)



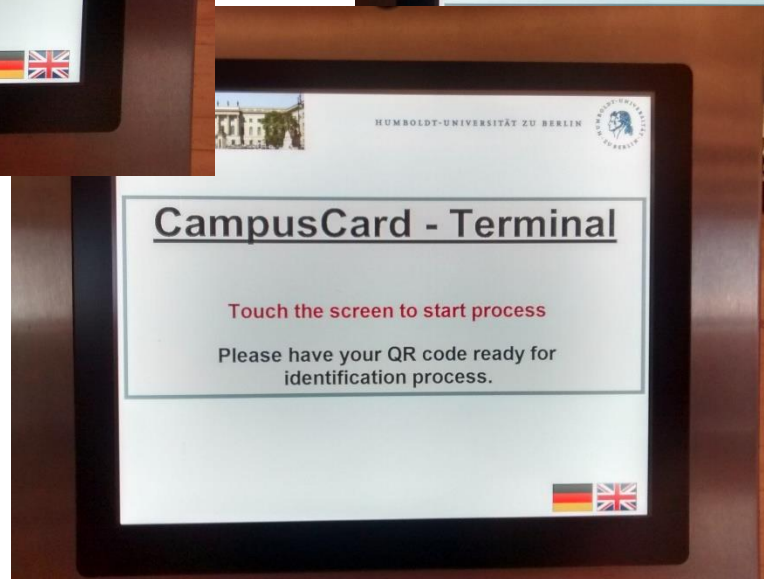
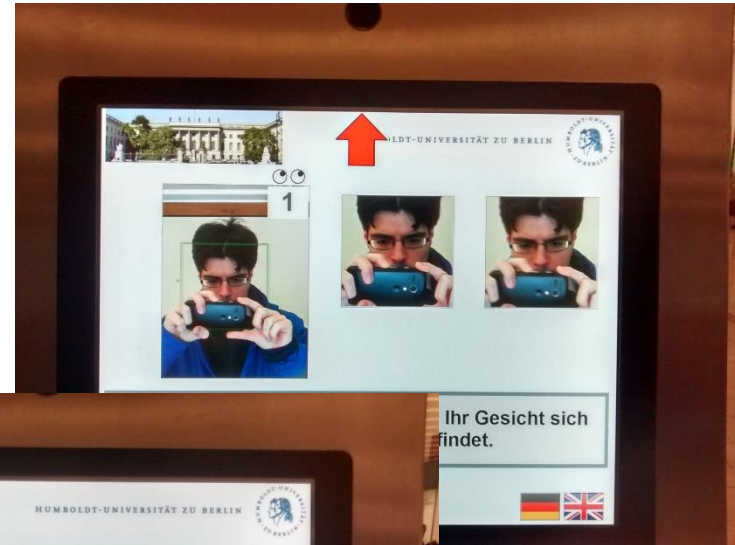
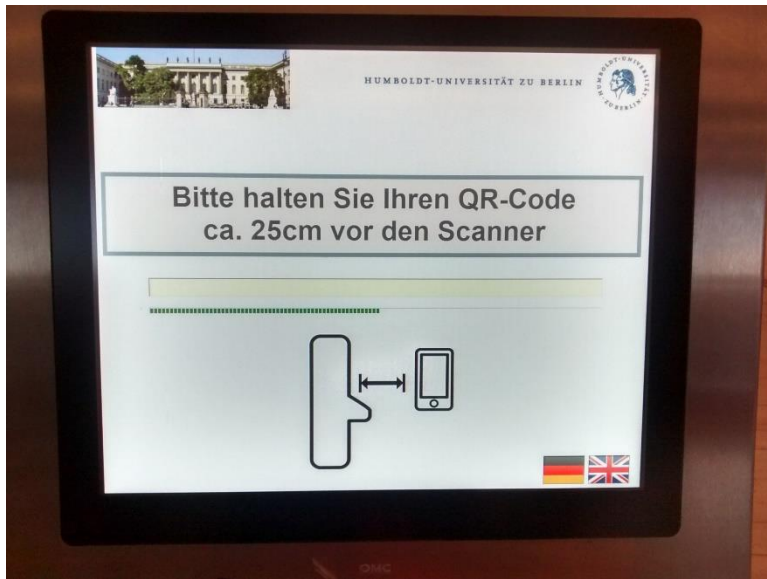
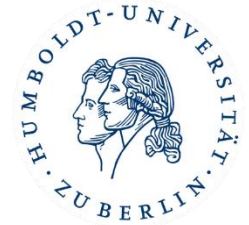
Card - received  
Through the terminal  
(20 terminals in  
Berlin)



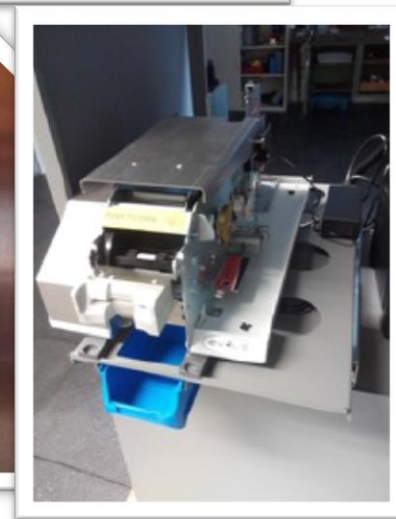
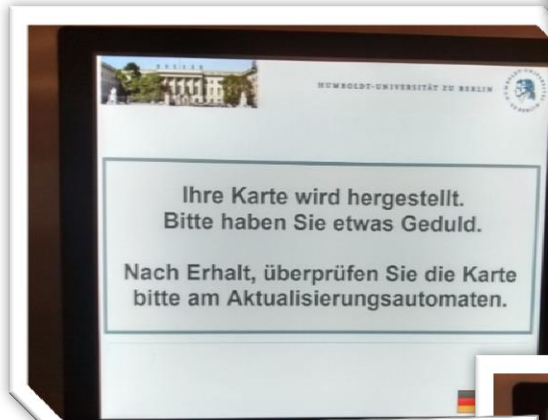
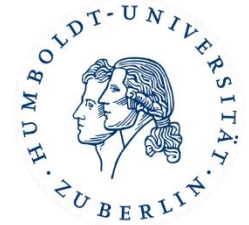
Card - validated  
Through TRW kiosk  
(30 kiosks in Berlin)



# The user interface

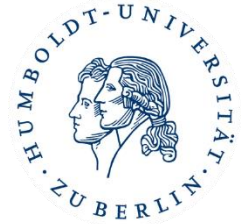


# Some impressions





# The system components



## Mifare DESfire EV1 4K 70pF cards

- Blank with the university layout and deployed cafeteria application

## Card print terminals

- Self service terminals with integrated photo station and card printer

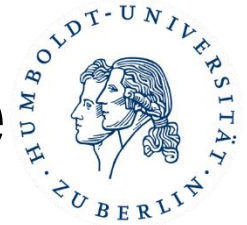
## TRW-kiosks

- Self service kiosks with integrated TRW-printer

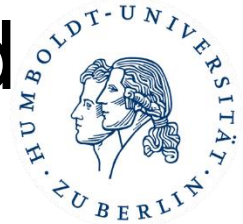
## Card management Software and WebGUI

- Universal solution for different data sources

# The Campuscard alliance



# Structure of the Campuscard alliance



## Individual solutions

- Design of the cards
- Design of the terminals, kiosks and WebGUIs
- Support for specific university services

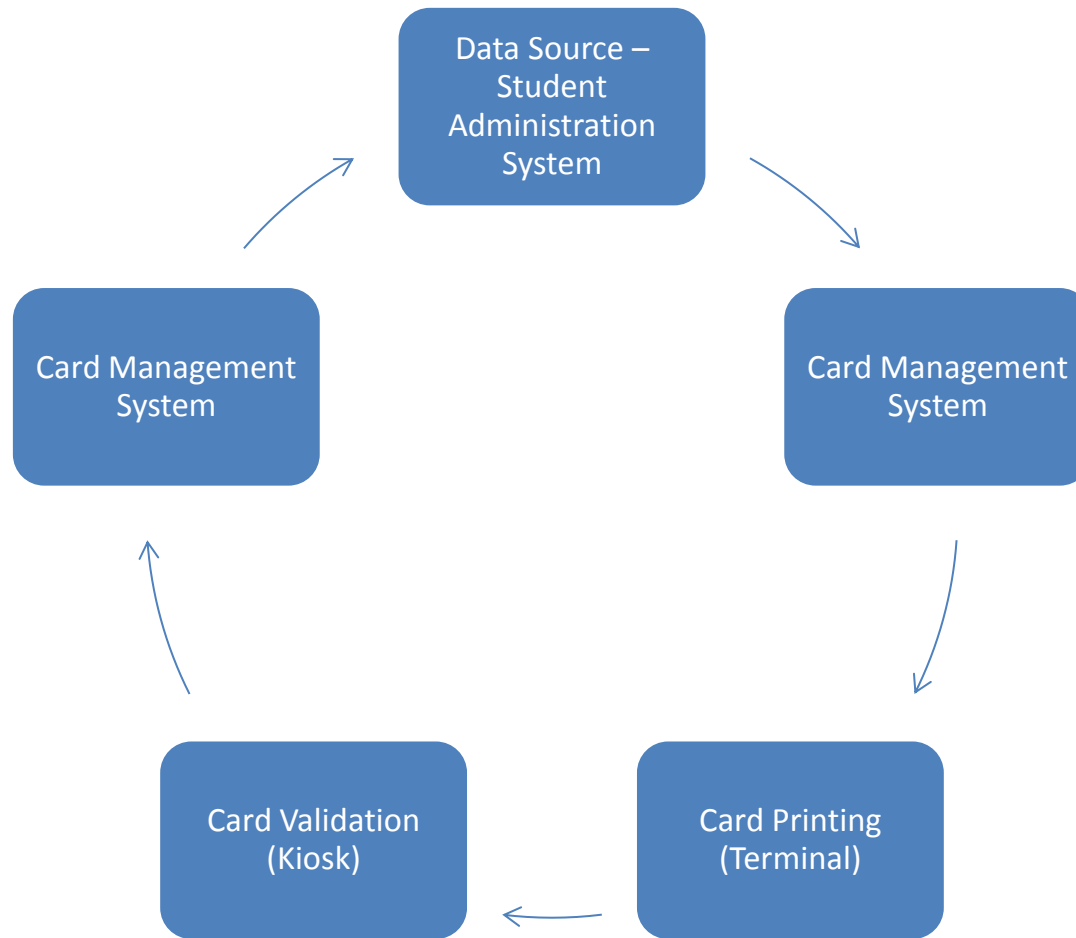
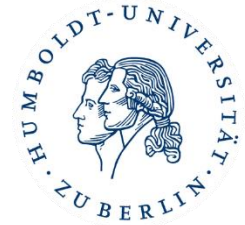
## Common components and compatibility

- Identical technological groundwork
- Identical system infrastructure
- Identical card structure

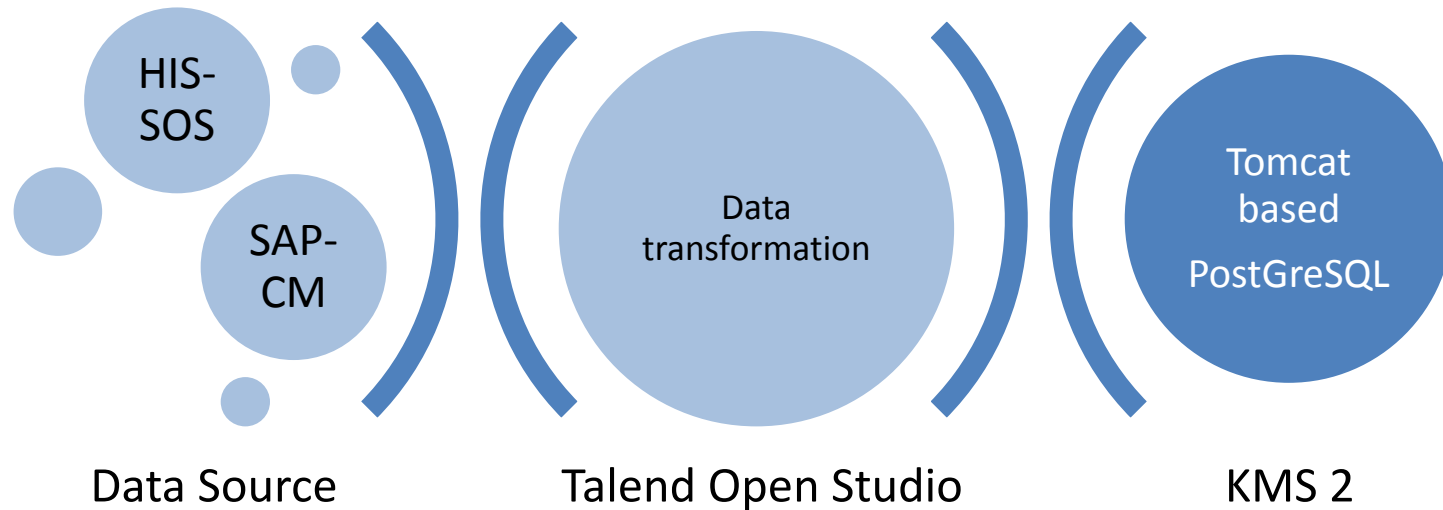
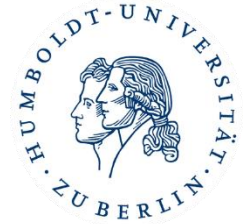
## Joint coordination

- Procurement
- Application compatibility
- Campuscard Service Centre
- Steering Committee

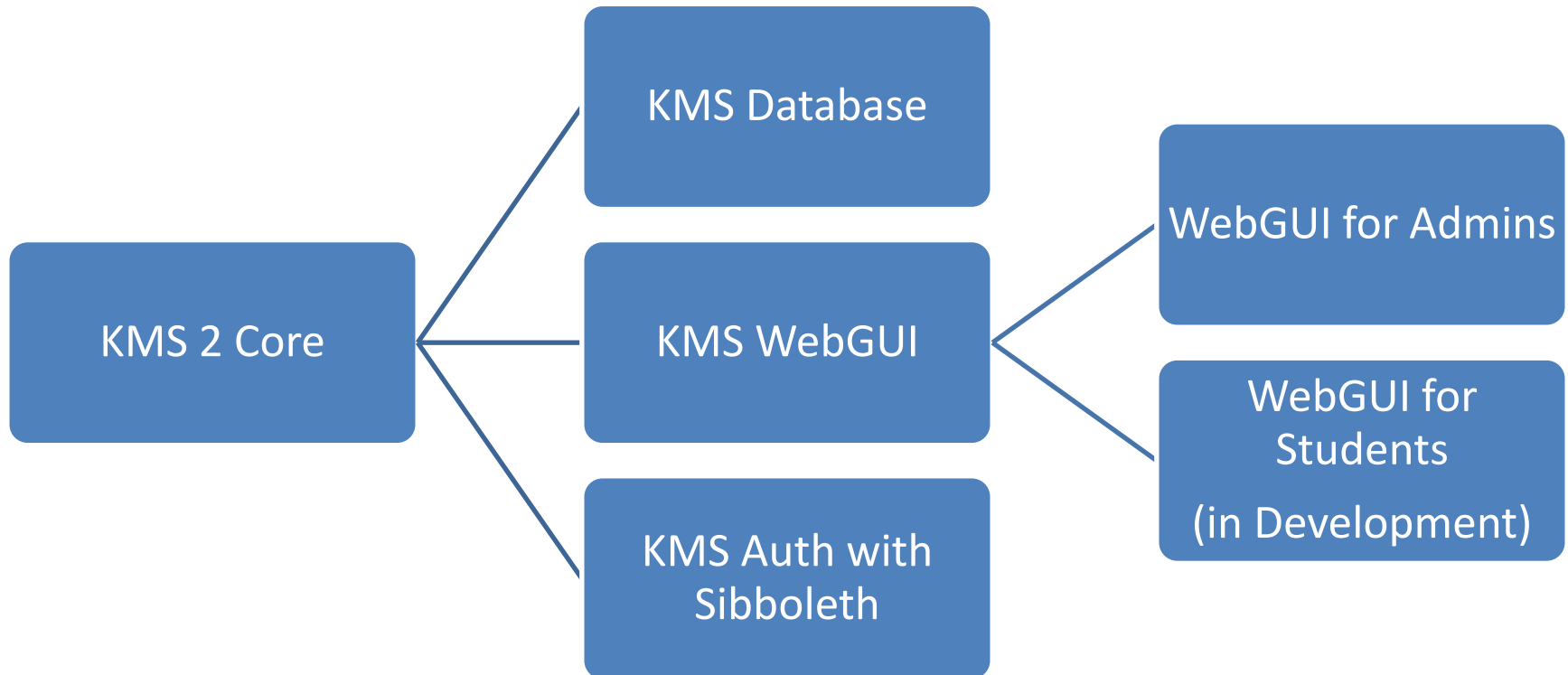
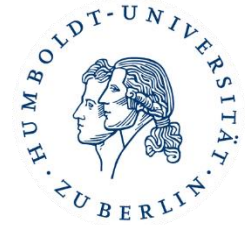
# The card management



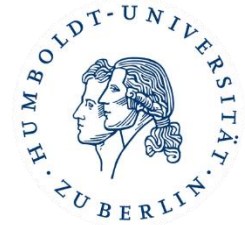
# What is inside?



# The KMS 2



# Interfaces



```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<CardInfo>
```

```
  <sys>sys</sys>
```

```
  <externid>8555236</externid>
```

```
  <photoflag>>true</photoflag>
```

```
  <cardid>0F000F000F000F</cardid>
```

```
<csid>0123456789012345678901234</csid>
```

```
</CardInfo>
```

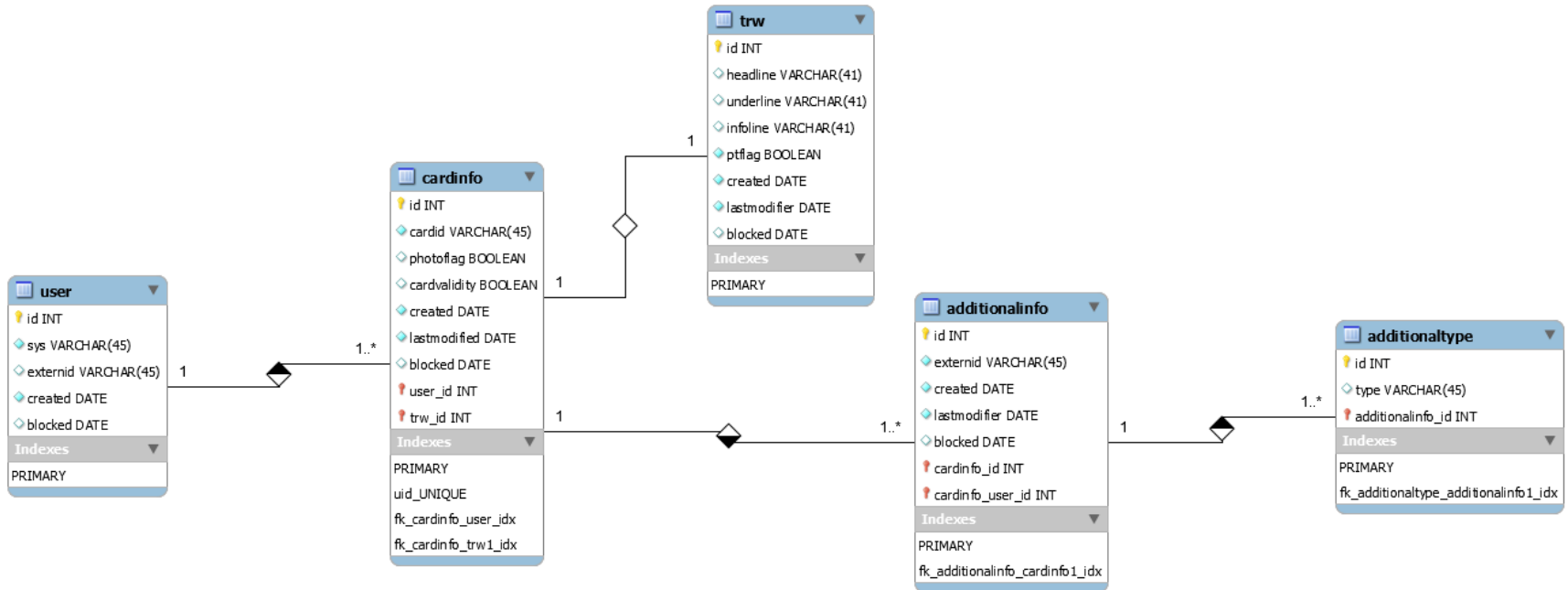
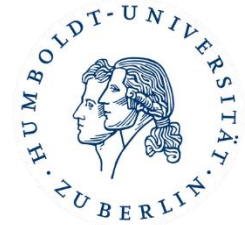
KMS 2

- RESTful
- XML or JSON

Machines  
(Terminals  
and Kiosks)

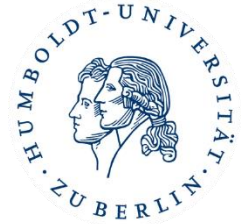
- RESTful
- XML or JSON

# KMS Database





# Database structure



PersonInfo

CardInfo

TicketInfo

Feature(N)

UniLog

# The future

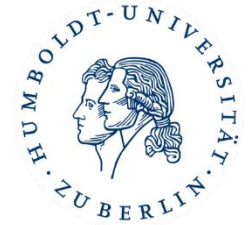
CampusCard –  
electronic  
multifunctional  
employee Card

CampusCard –  
Visitor Card

Integration of  
the electronic  
ticket

Integration of  
the electronic  
library ID with  
compatibility  
across the  
alliance

CampusCard –  
alumnicard



Thank you