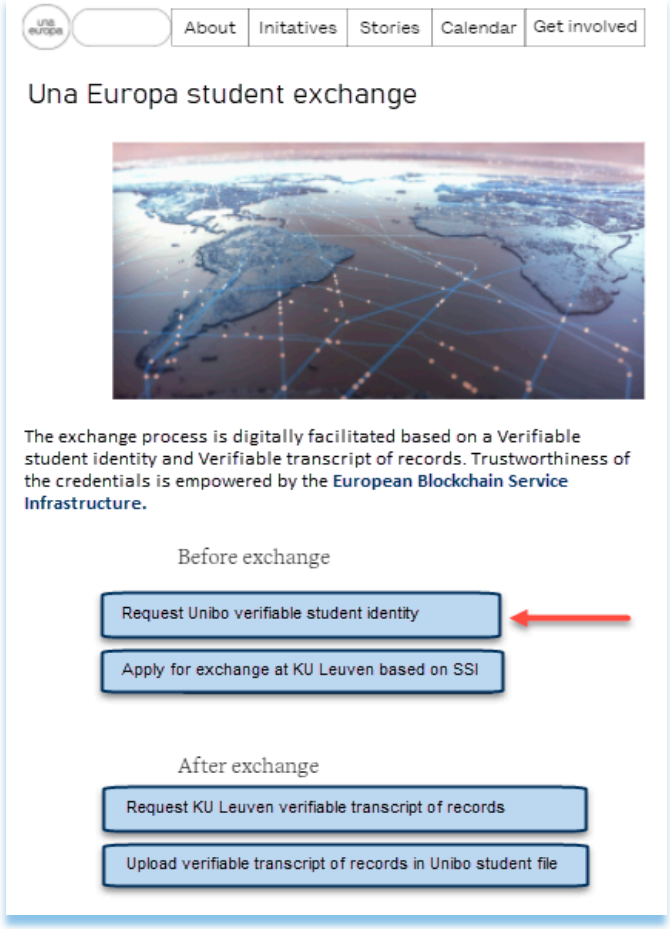
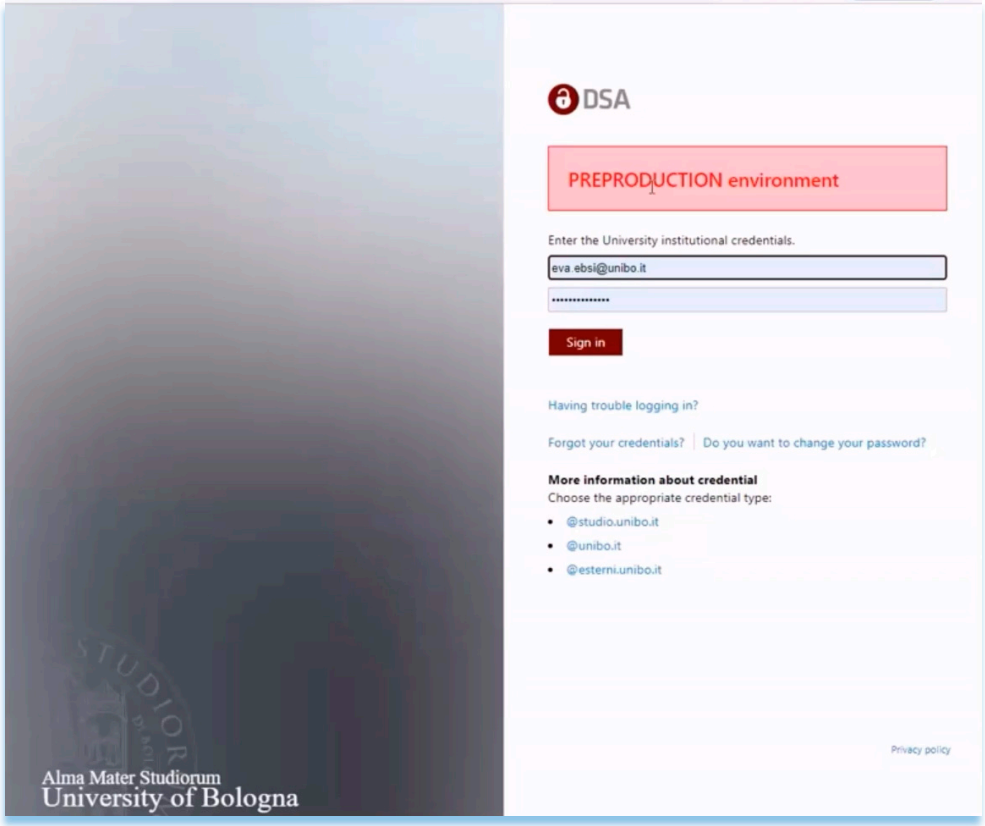
Supplementary material

Scenario 1: Issuance and storage of a verifiable student identity by Unibo (IT)

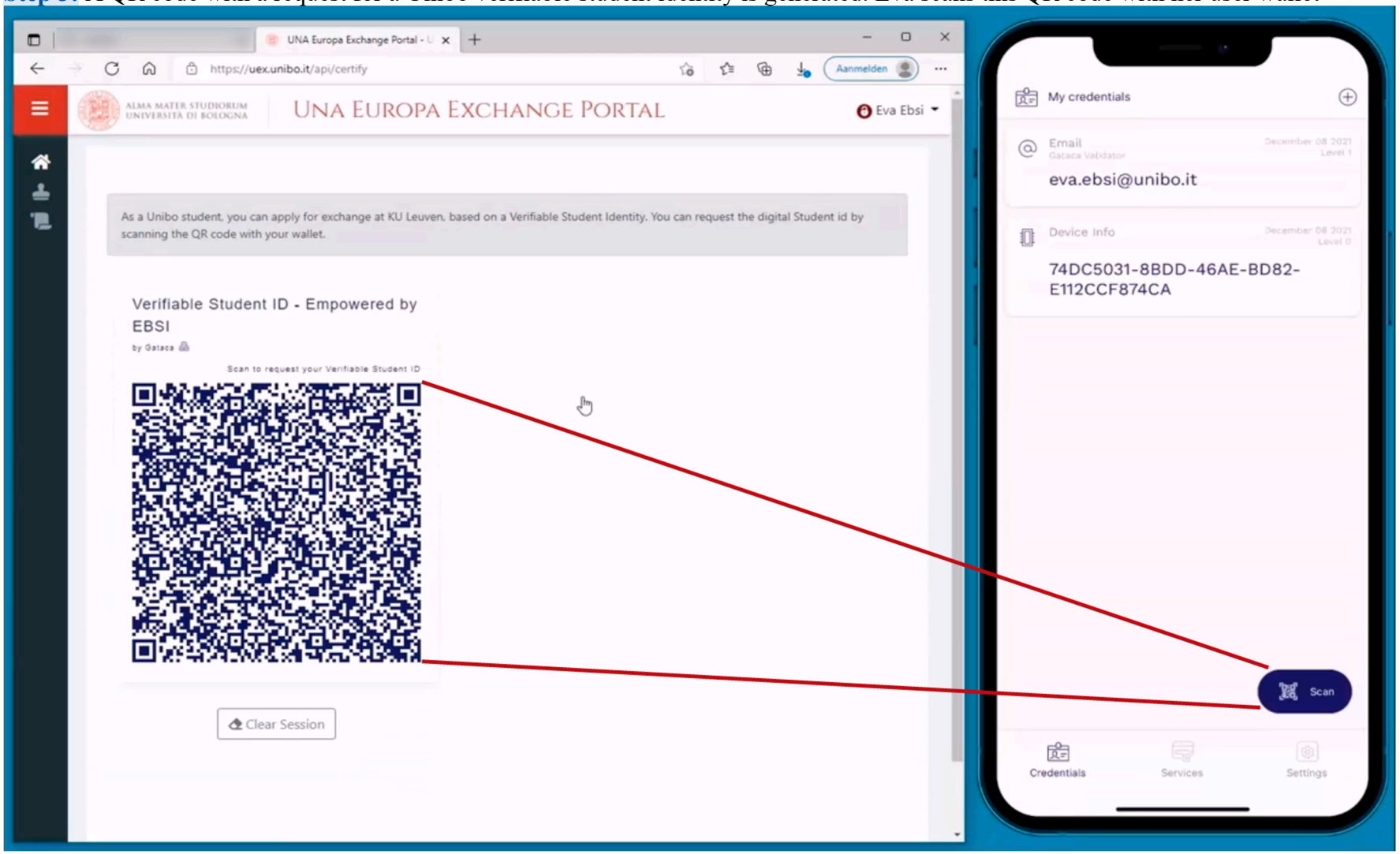
Step 1: Eva opens the Una Europa student exchange website and request a Unibo verifiable student identity



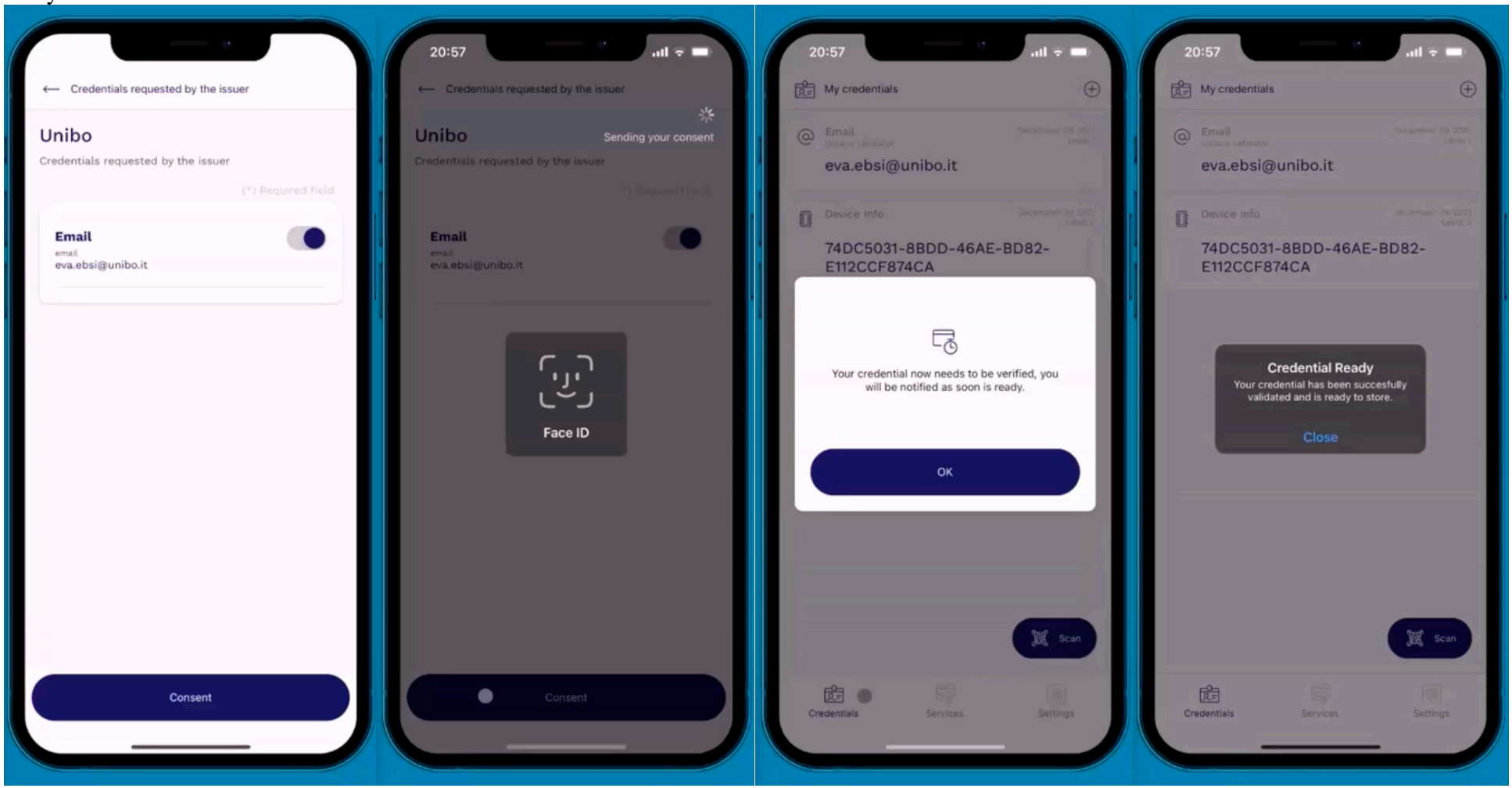
Step2: Eva is redirected to the Unibo student portal to authenticate herself as a Unibo student



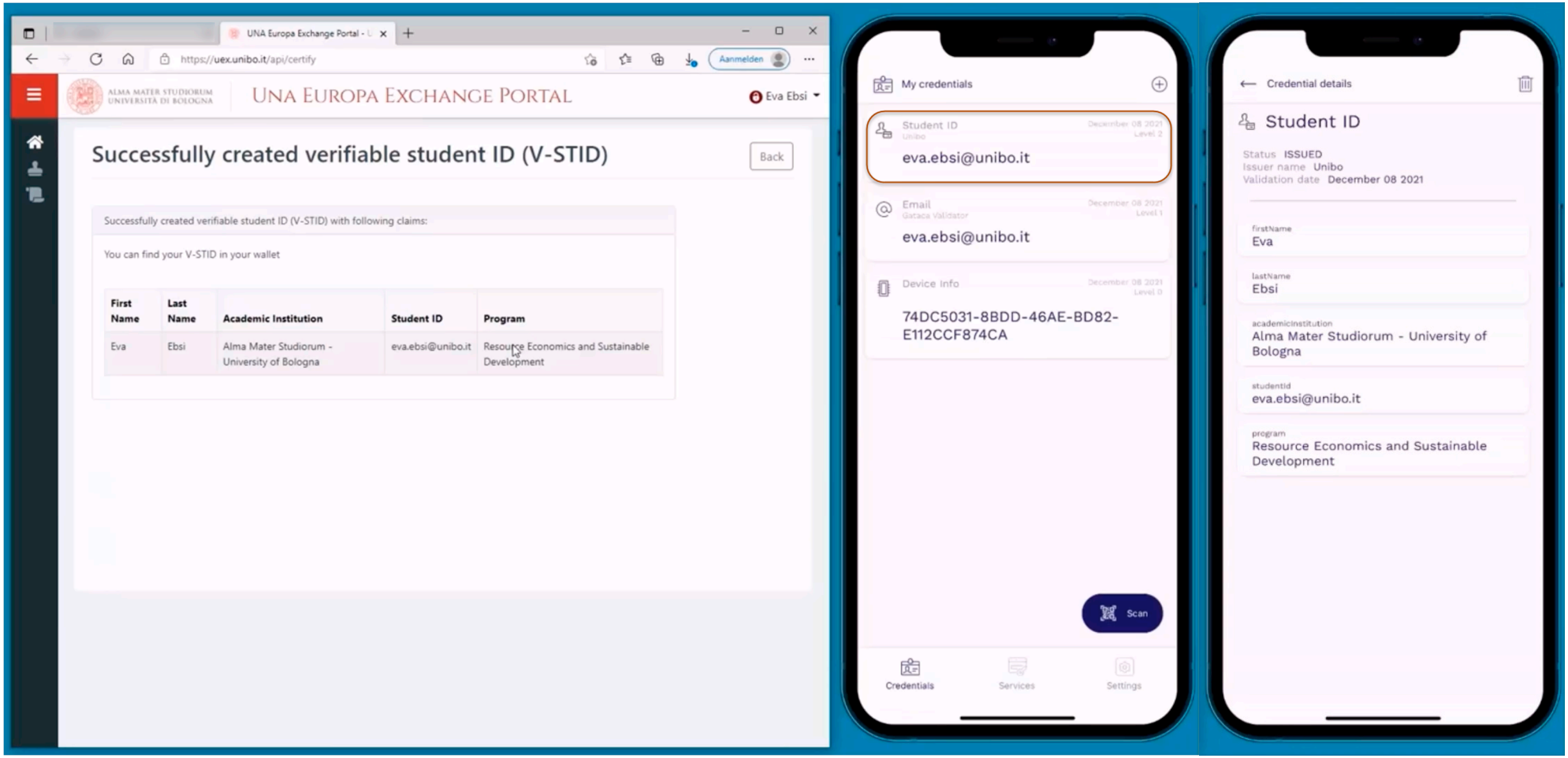
Step 3: A QR code with a request for a Unibo verifiable student identity is generated. Eva scans this QR code with her user wallet



Step 4: (1) Eva is asked to share her student email credential. (2) She gives consent, proves control over the DID and submits the request for a verifiable student identity to Unibo. (3) Eva receives a message in her wallet, saying the credential needs to be verified. She will be notified as soon as the credential is ready. (4) The request is processed by the Unibo backend system where the email credential is automatically checked against the student account. When the request is validated, a verifiable student identity is generated, assigned to the DID of Eva's wallet and signed by Unibo. (5) The student is notified that the credential is ready to be stored in the wallet.

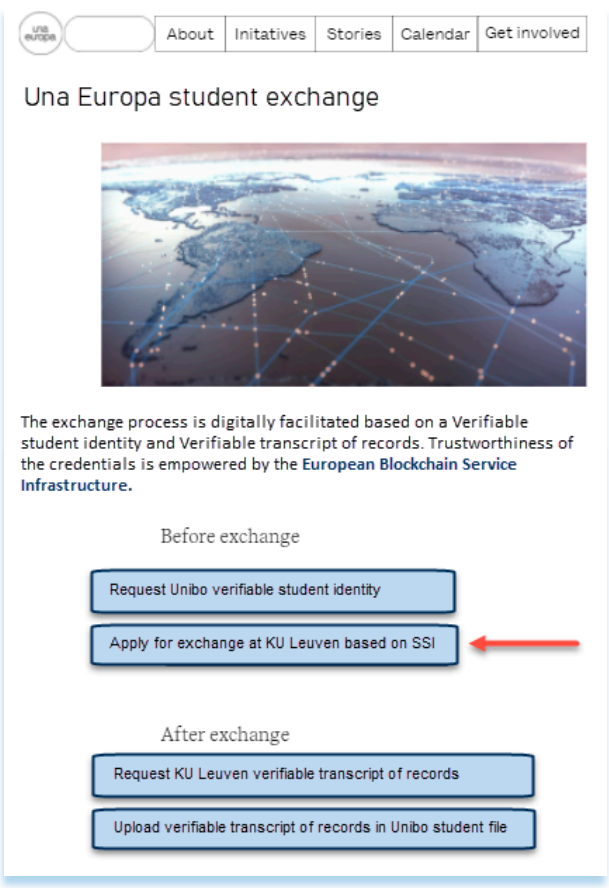


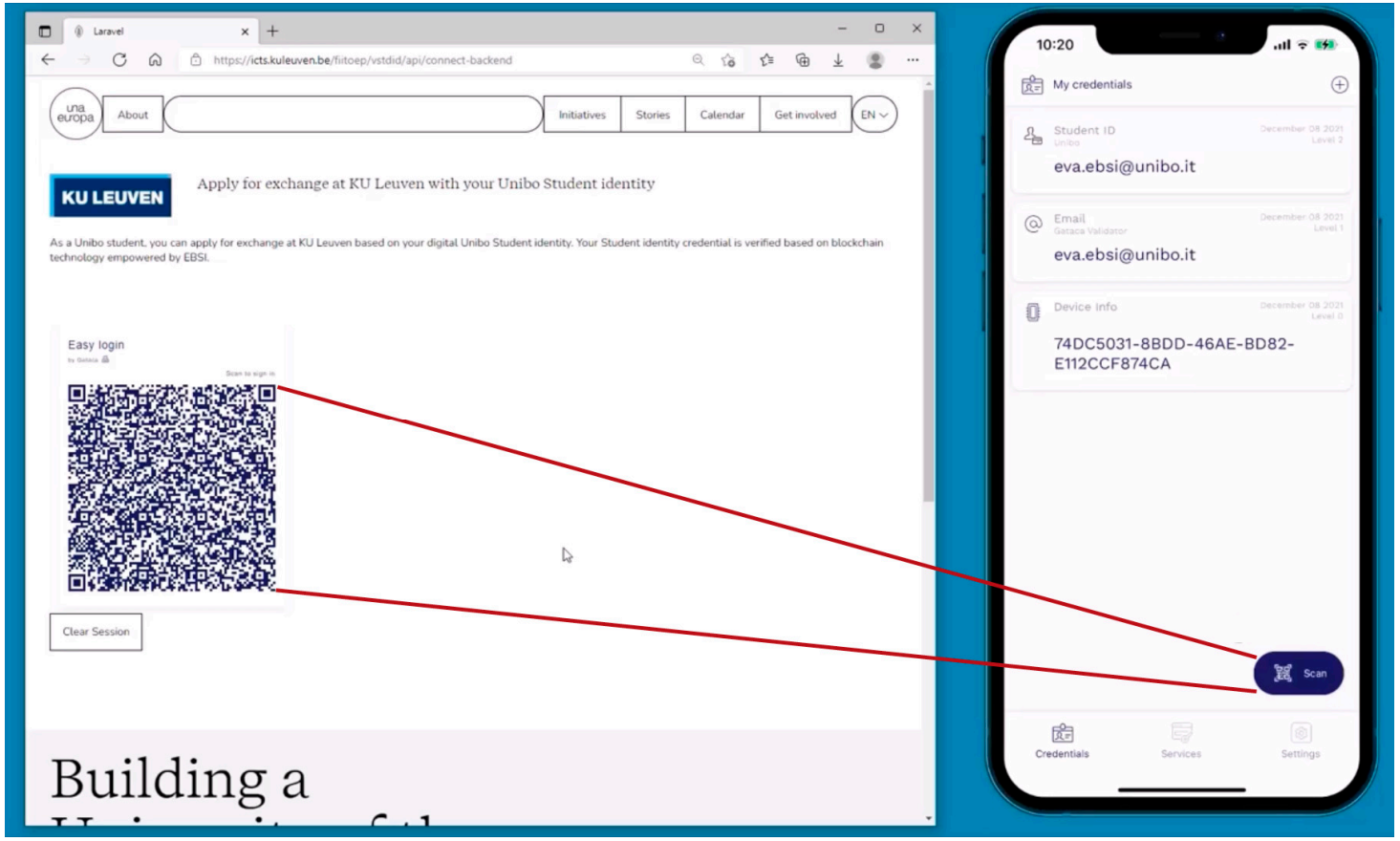
Step 5: (1) The credential is stored in Eva's wallet. (2) Eva can open the credential on her wallet.



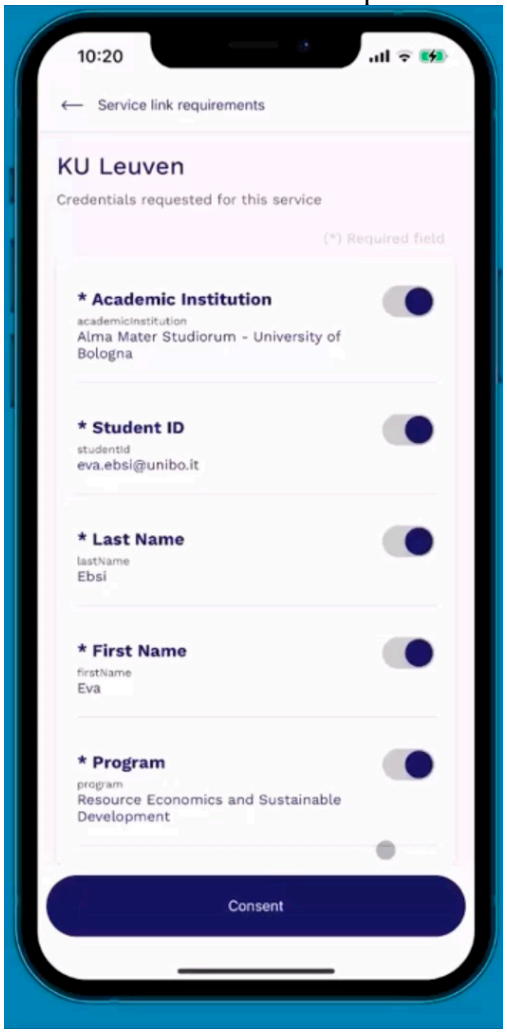
Scenario 2: Presentation and verification of verifiable student identity by KU Leuven (BEL)

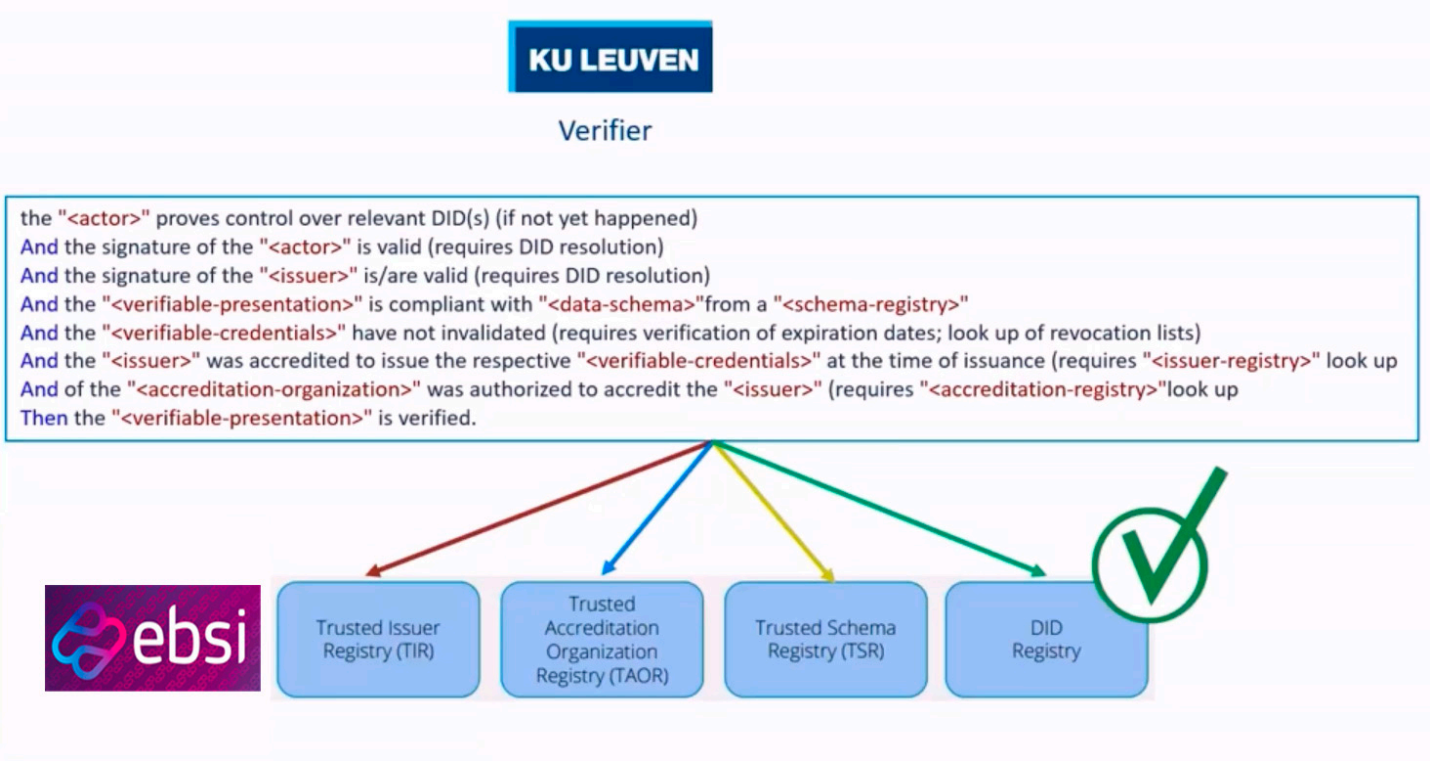
Step 1: (1) Eva wants to apply at KU Leuven as an exchange student. She goes to the Una Europa student exchange website and requests to apply for exchange. (2) A QR code with a request to share the Unibo verifiable student identity is generated. Eva's scan's the code with her user wallet.



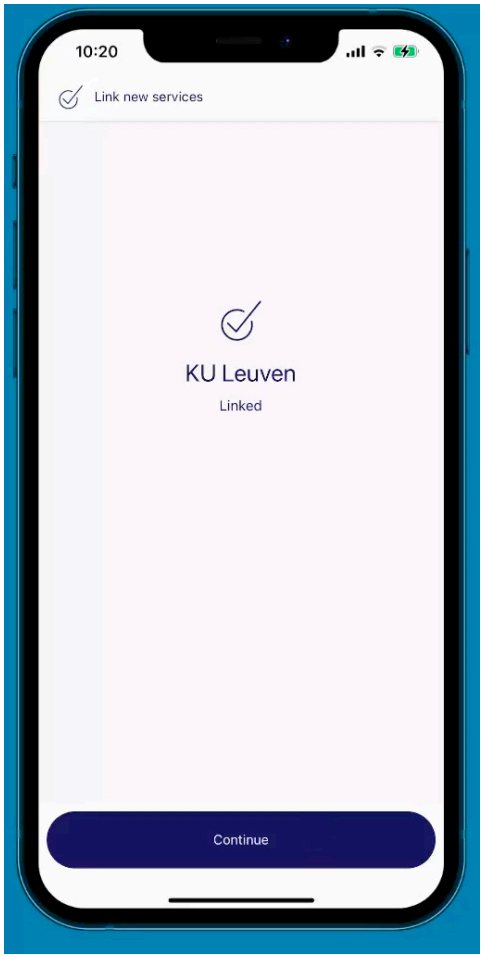


Step 2: (1) Eva is asked to share (a part) of her Unibo student identity with KU Leuven. She gives consent, proves control over the DID and sends the info to KU Leuven. (2) The verifiable student identity is verified by KU Leuven. The trusted registries on the EBSI blockchain are consulted in this verification process.

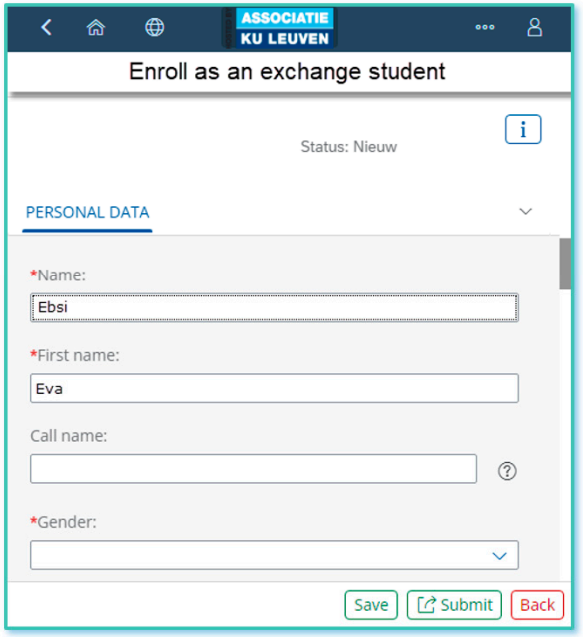




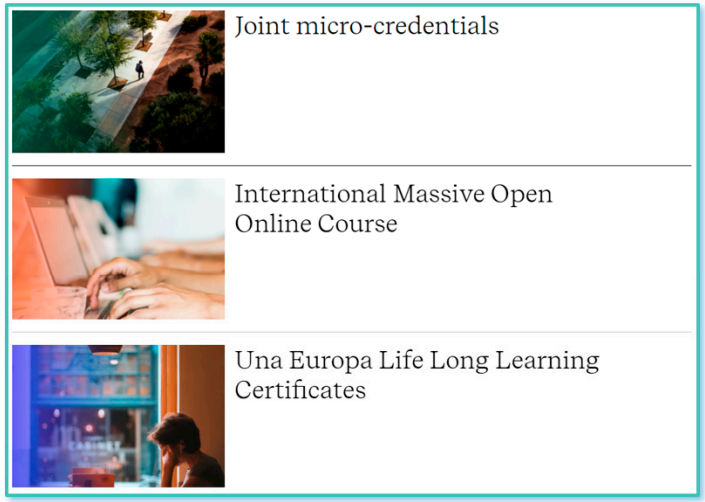
Step 3: After successful authentication based on the Unibo Student identity, the application form can be pre-filled with student info data. The Unibo student identity can also be used during her stay at KU Leuven to subscribe in / login to online courses.



An application form can be prefilled with claims shared by Eva

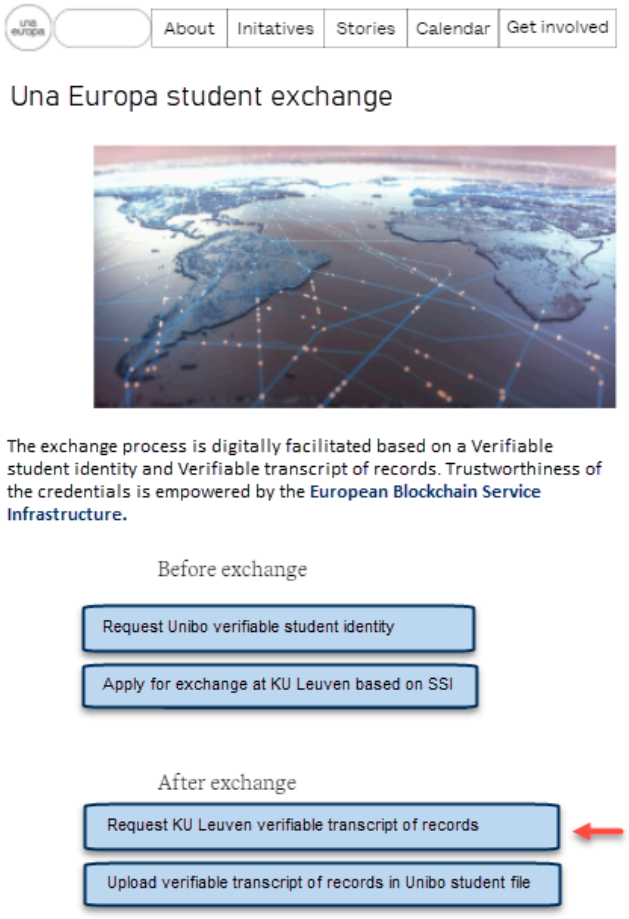


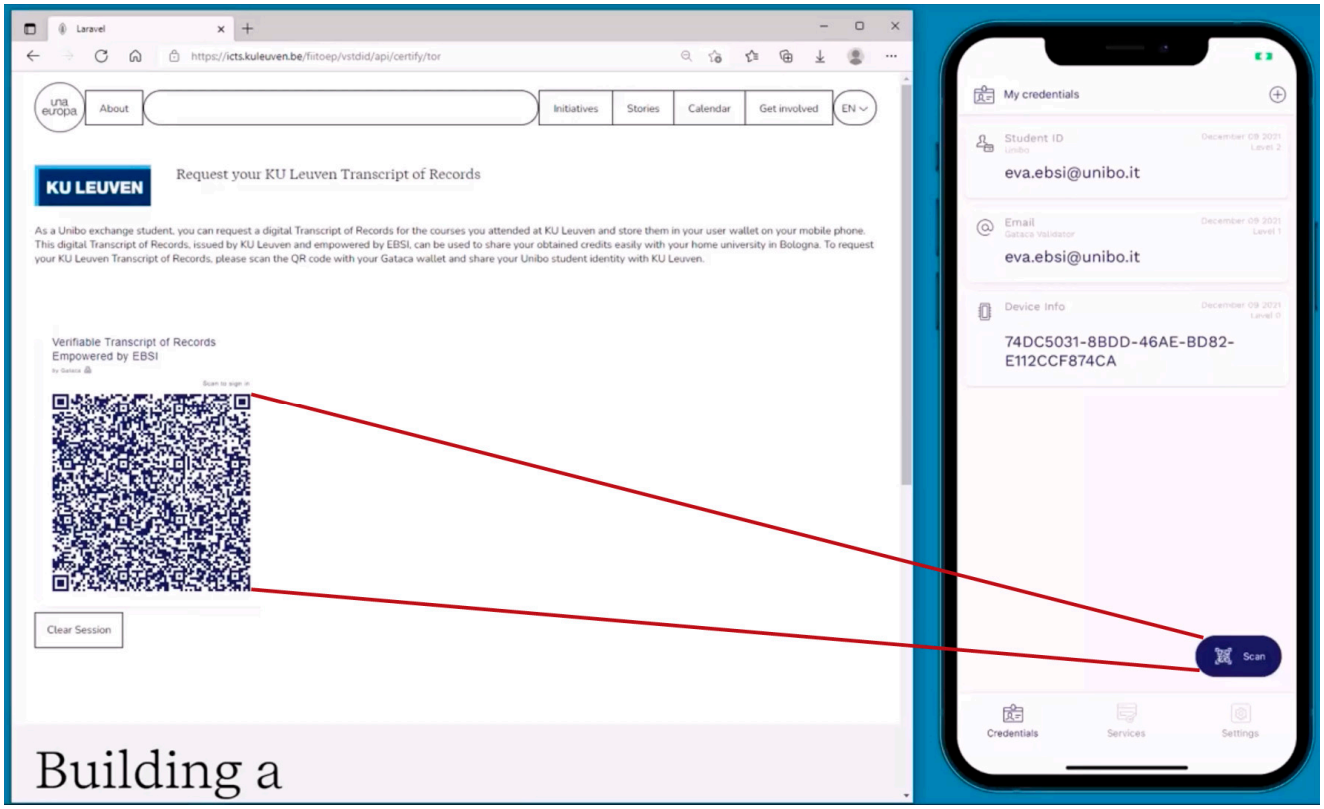
The verifiable student id can be used to subscribe / login to online courses



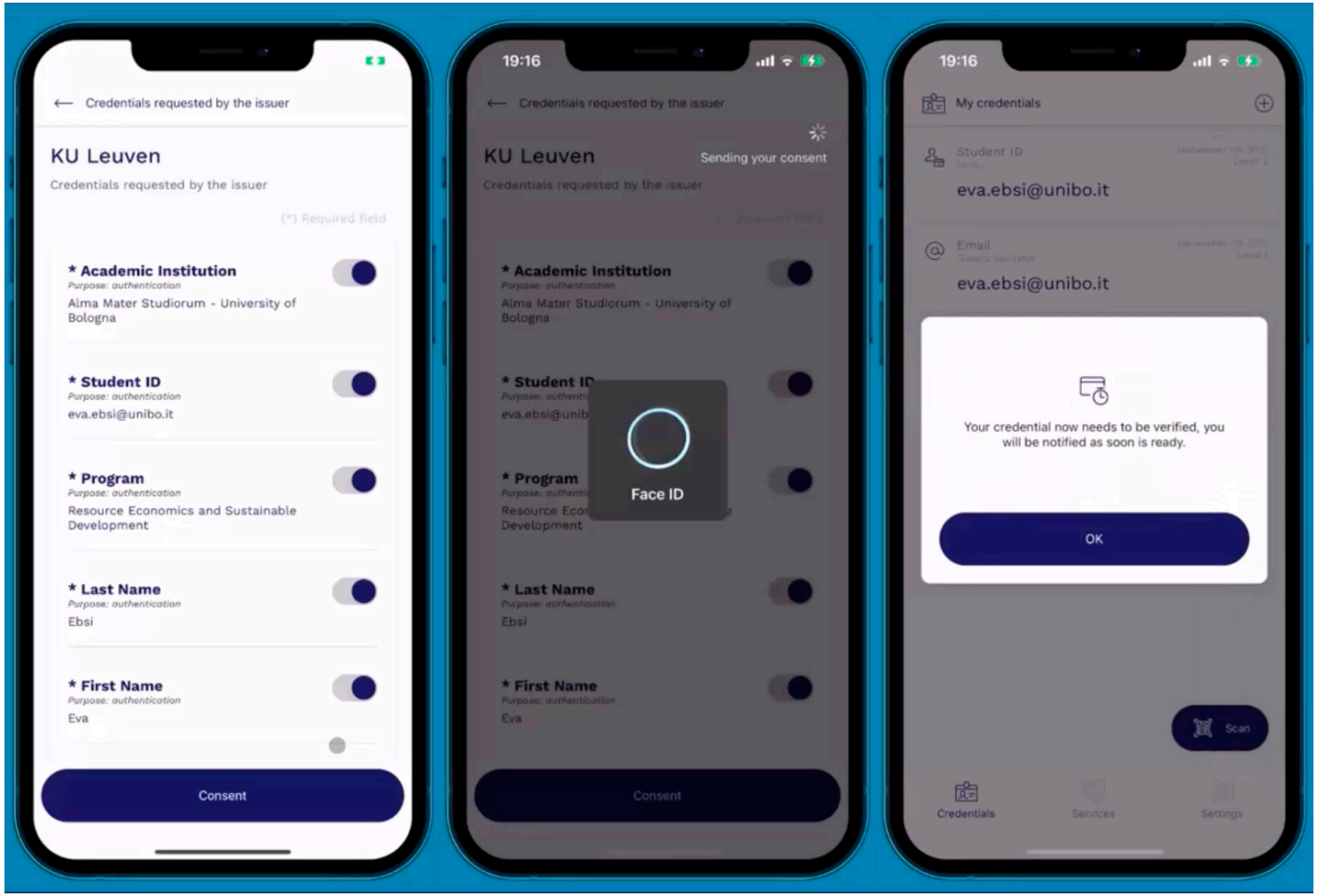
Scenario 3: Issuance and storage of a verifiable transcript of Records (KU Leuven)

Step 1: (1) Eva wants to share the obtained KU Leuven credits with her home university Unibo. She goes to the Una Europa student exchange website and requests a KU Leuven verifiable transcript of records. (2) A QR code is generated with the request to issue the verifiable transcript of records based on the presented Unibo verifiable student identity. Eva scans the QR code with her user wallet.





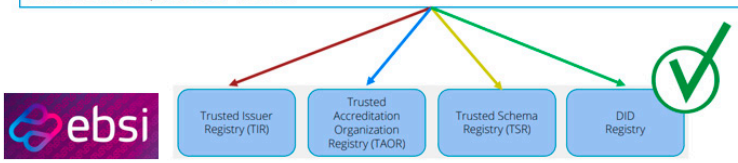
Step 2: (1) Eva is asked to authenticate herself based on (part of) the Unibo verifiable student identity. shares her Unibo student identity with KU Leuven to authenticate herself. (2) She gives consent, proves control over the DID and submits the request for a verifiable transcript of records to KU Leuven. (3) Eva receives a message in her wallet, saying the credential needs to be verified. She will be notified as soon as the credential is ready.



Step 3: The request is processed by the KU Leuven backend system: the verifiable student identity is verified, the corresponding student file is retrieved, the obtained credits are put in the data schema of a verifiable transcript of records, the credential is signed by the KU Leuven and a notification is send to Eva's user wallet.

The shared V-STID is verified by KU Leuven

the "<actor>" proves control over relevant DID(s) (if not yet happened)
And the signature of the "<actor>" is valid (requires DID resolution)
And the signature of the "<issuer>" is/are valid (requires DID resolution)
And the "<verifiable-presentation>" is compliant with "<data-schema>"from a "<schema-registry>"
And the "<verifiable-credentials>" have not invalidated (requires verification of expiration dates; look up of revocation lists)
And the "<issuer>" was accredited to issue the respective "<verifiable-credentials>" at the time of issuance (requires "<issuer-registry>" look up
And of the "<accreditation-organization>" was authorized to accredit the "<issuer>" (requires "<accreditation-registry>"look up
Then the "<verifiable-presentation>" is verified.

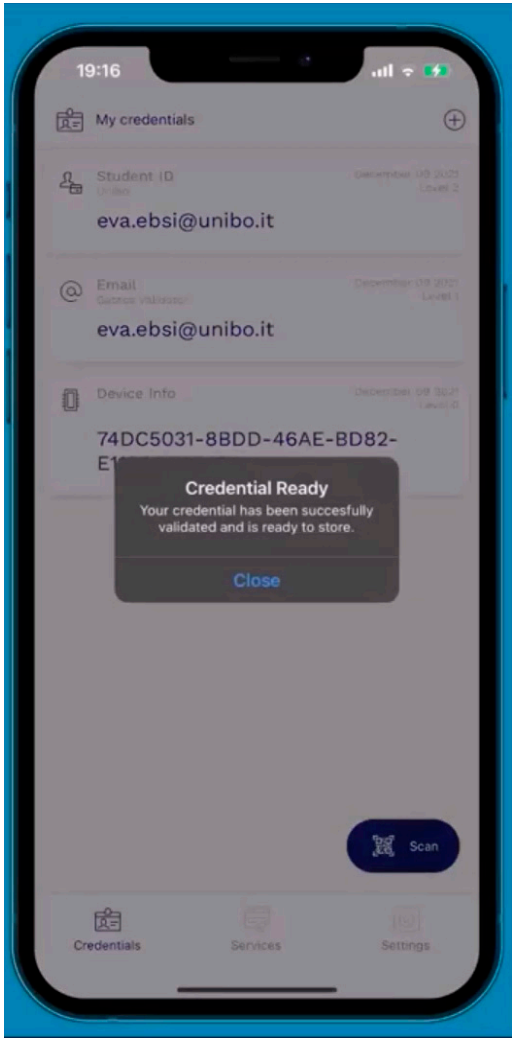


The obtained KU Leuven credits are retrieved from the Student Lifecycle management system

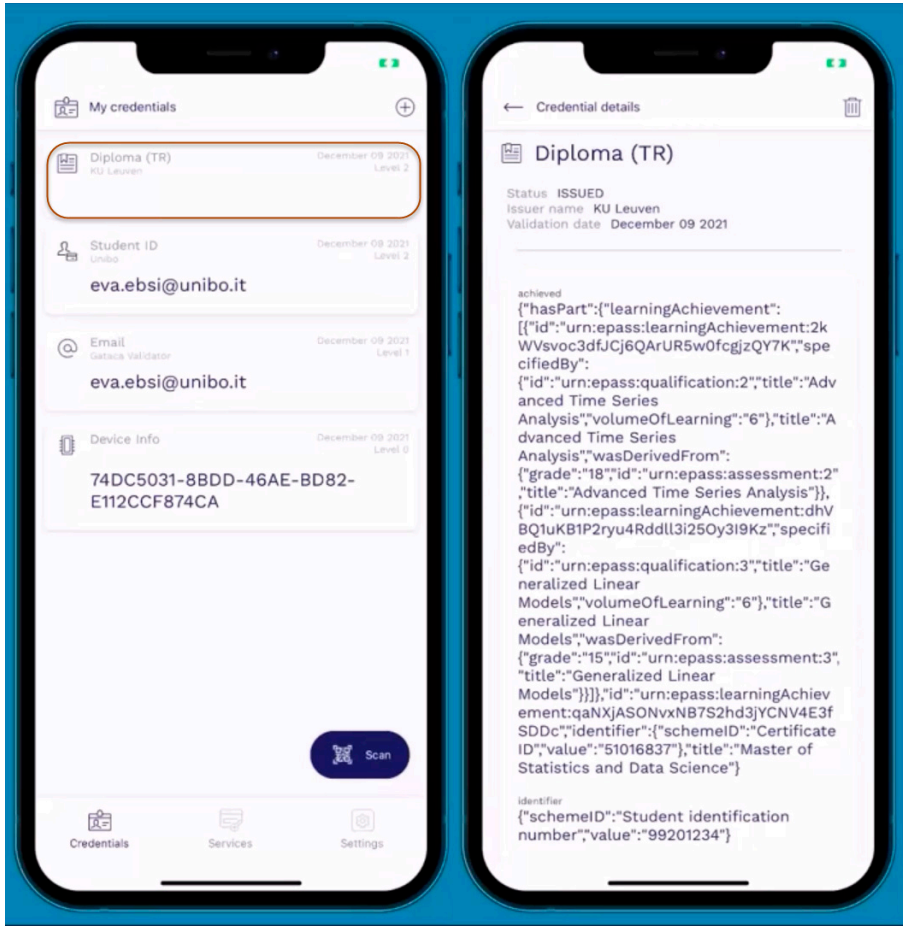
SAP Student Lifecycle Management System

A Verifiable Transcript of Records is issued and sent to Eva's wallet

Gataca Certify

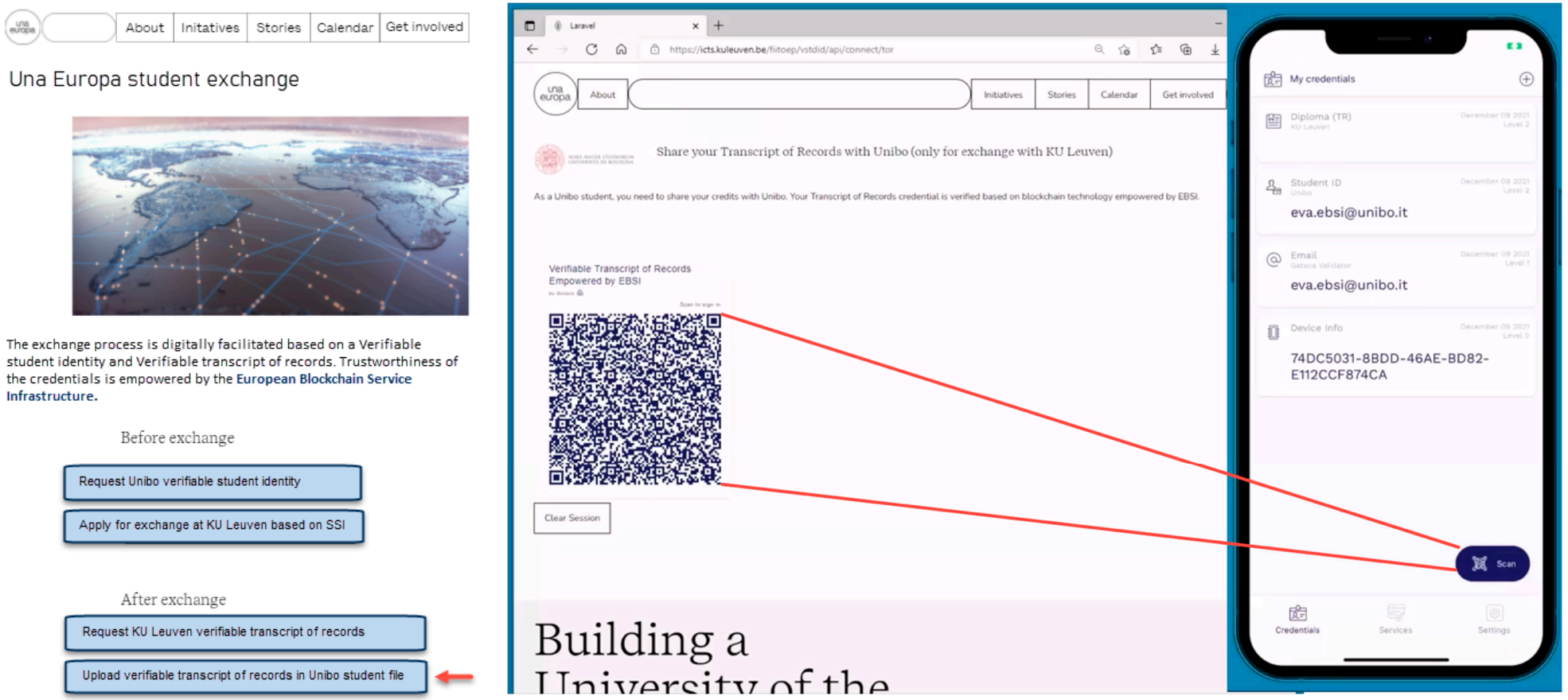


Step 4: (1) The credential is stored in Eva's wallet. (2) Eva can open the credential on her wallet. Since the data schema is more complex for a transcript of records, the data is for the moment displayed in json format. In the future, a user friendly representation of complex data schemes is desirable.

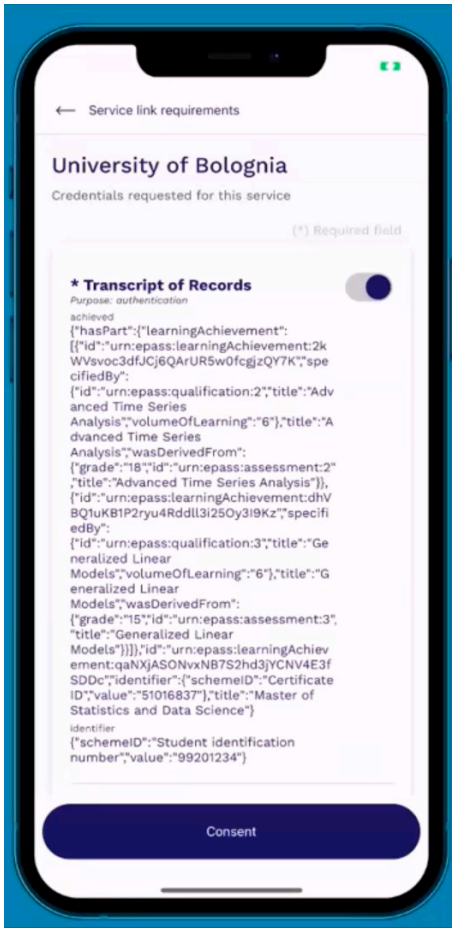


Scenario 4: Presentation and verification of a verifiable transcript of records by Unibo (IT)

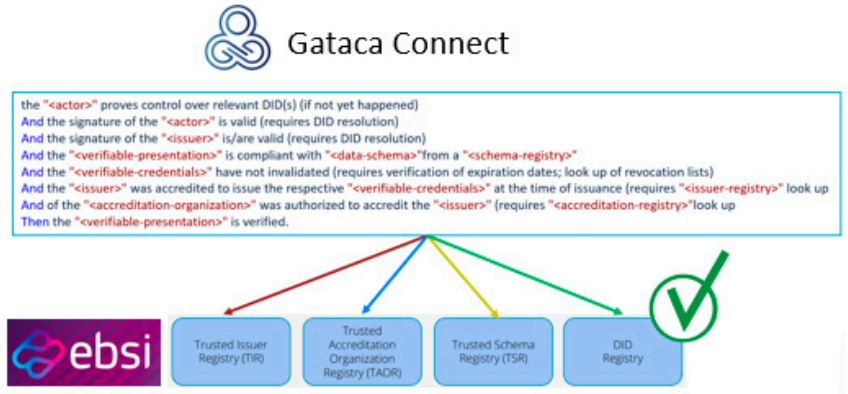
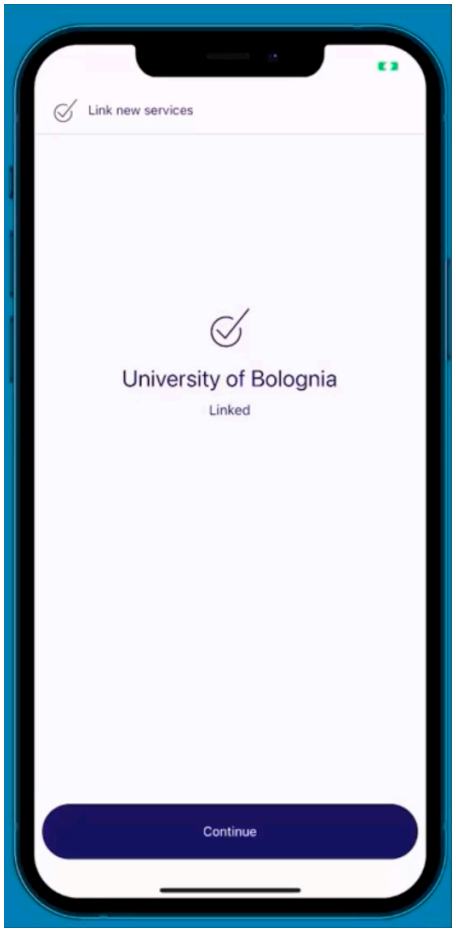
Step 1: (1) Eva wants to share the obtained KU Leuven credits with her home university Unibo. She goes to the Una Europa student exchange website and requests to share her verifiable transcript of records with Unibo. (2) A QR code is generated with the request to share the verifiable transcript of records. Eva scans the QR code with her user wallet.



Step 2: (1) Eva gives consent to share both her Unibo V-STID and her KU Leuven V-ToR and proves control over the DID. The shared credentials are verified by Unibo and the obtained credits are stored in the student file on the Unibo backend system.



The shared V-STID and V-TOR is verified by the Gataca Connect component installed at Unibo



The obtained KU Leuven credits are stored in the Student Lifecycle management system