



Digital Certificates using Blockchain

By: Alley El-Dorry, Sherif Abdel Khalek,
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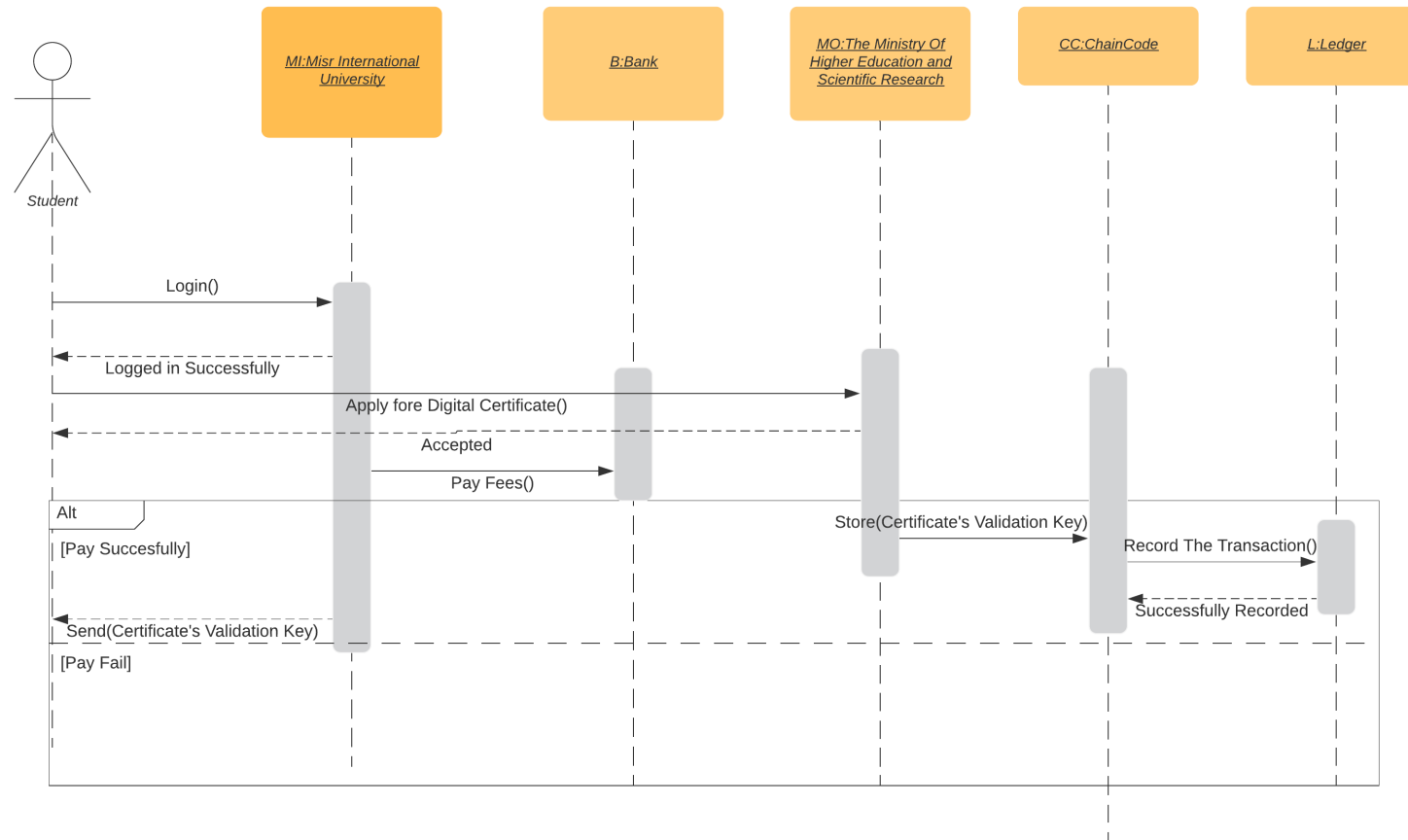
Supervised by: Dr. Ayman Nabil,
Eng. Radwa Samy

Problem Statement

- The problem here is the wide **forgery** of School, Bachelor and Masters Degrees in Egypt which may have disastrous impact on the society and the inconvenience of the process of **requesting** and **issuing** a certificate and the huge waste of time it costs.

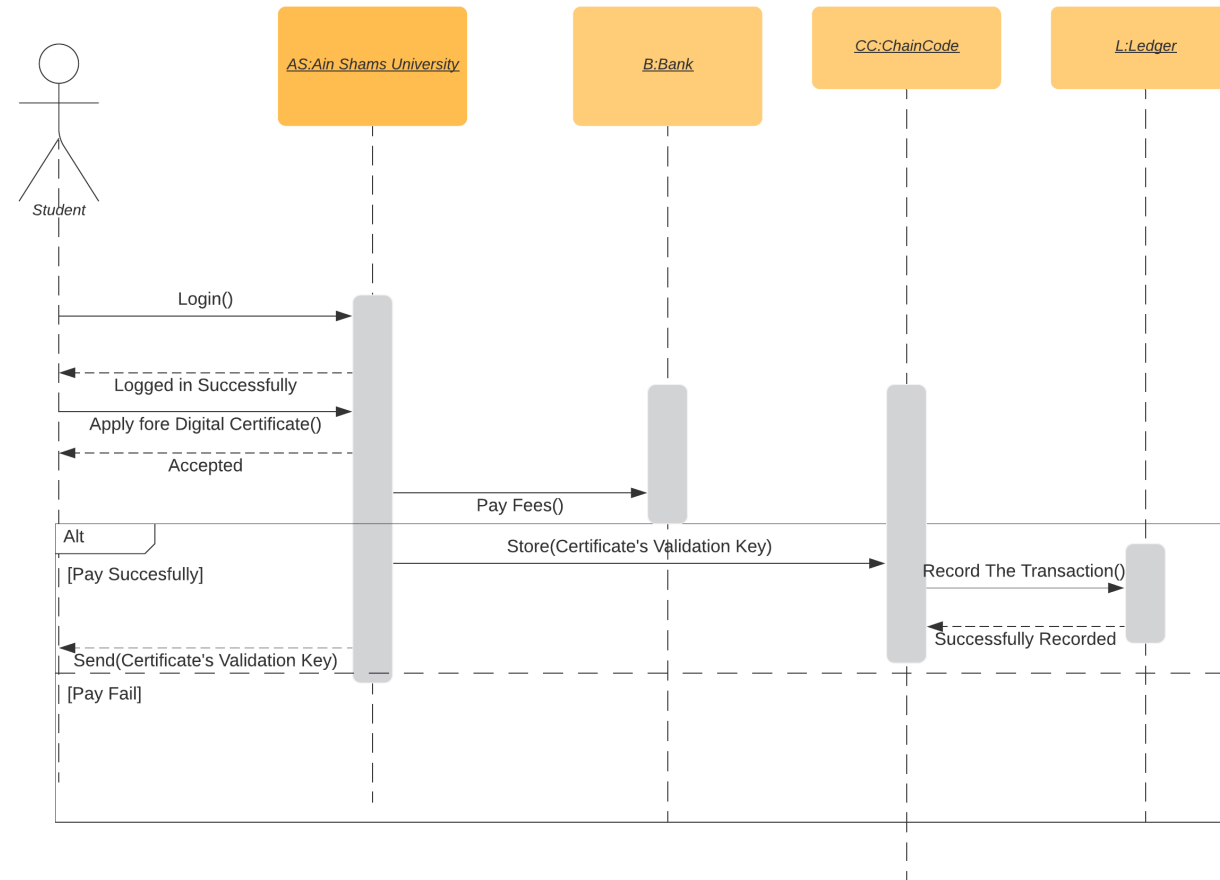
Sequence Diagram (1/3)

Private University Sequence Diagram.



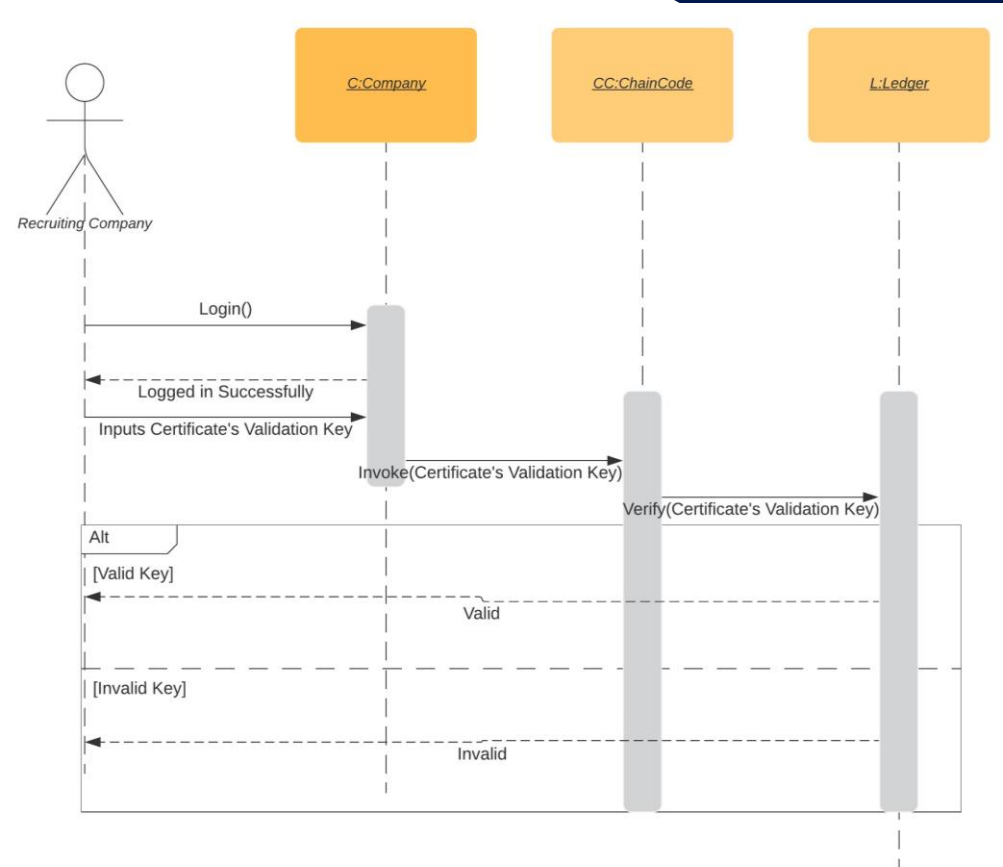
Sequence Diagram (2/3)

Public University Sequence Diagram.

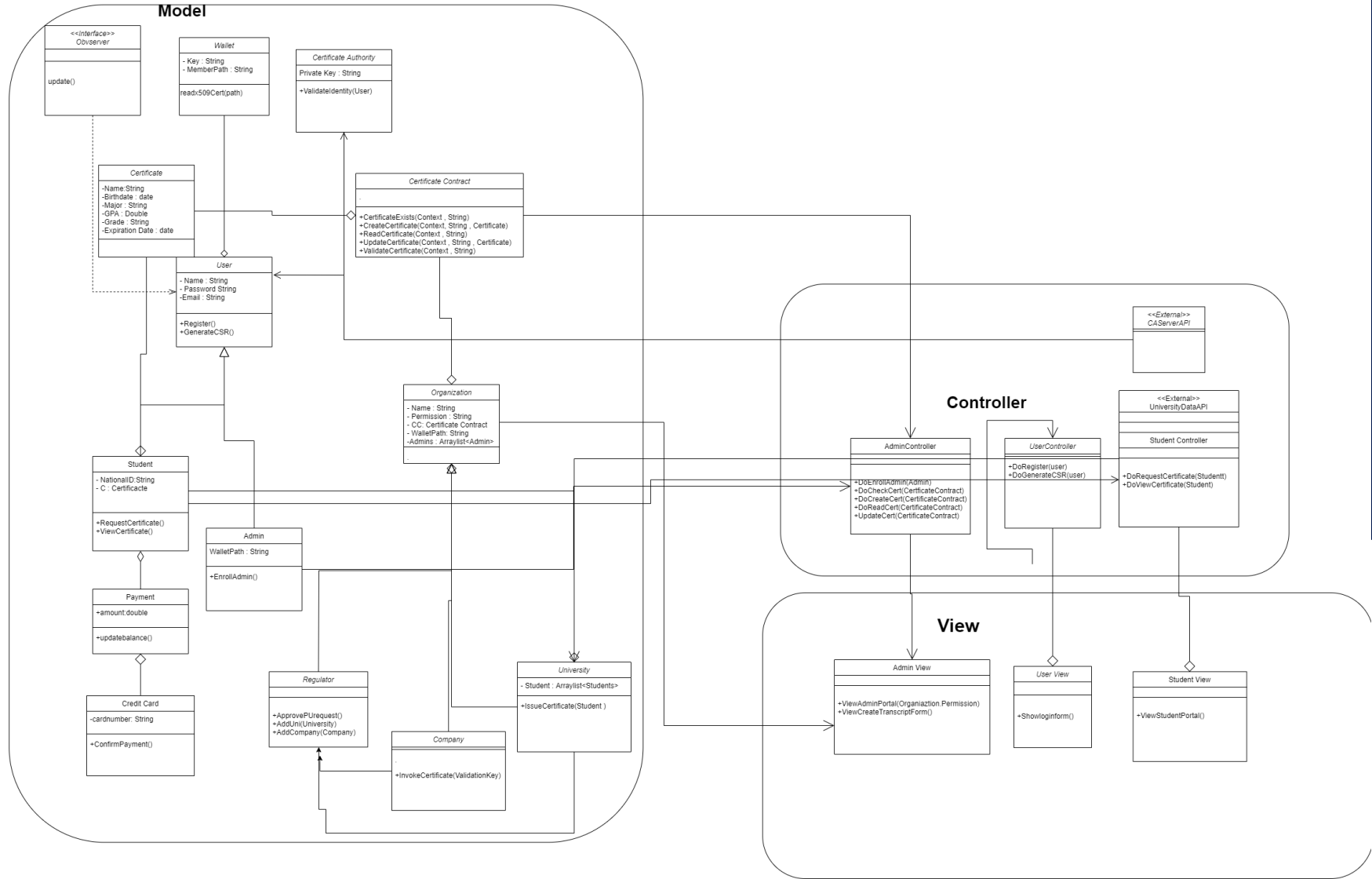


Sequence Diagram (3/3)

Recruiting Company Sequence Diagram.

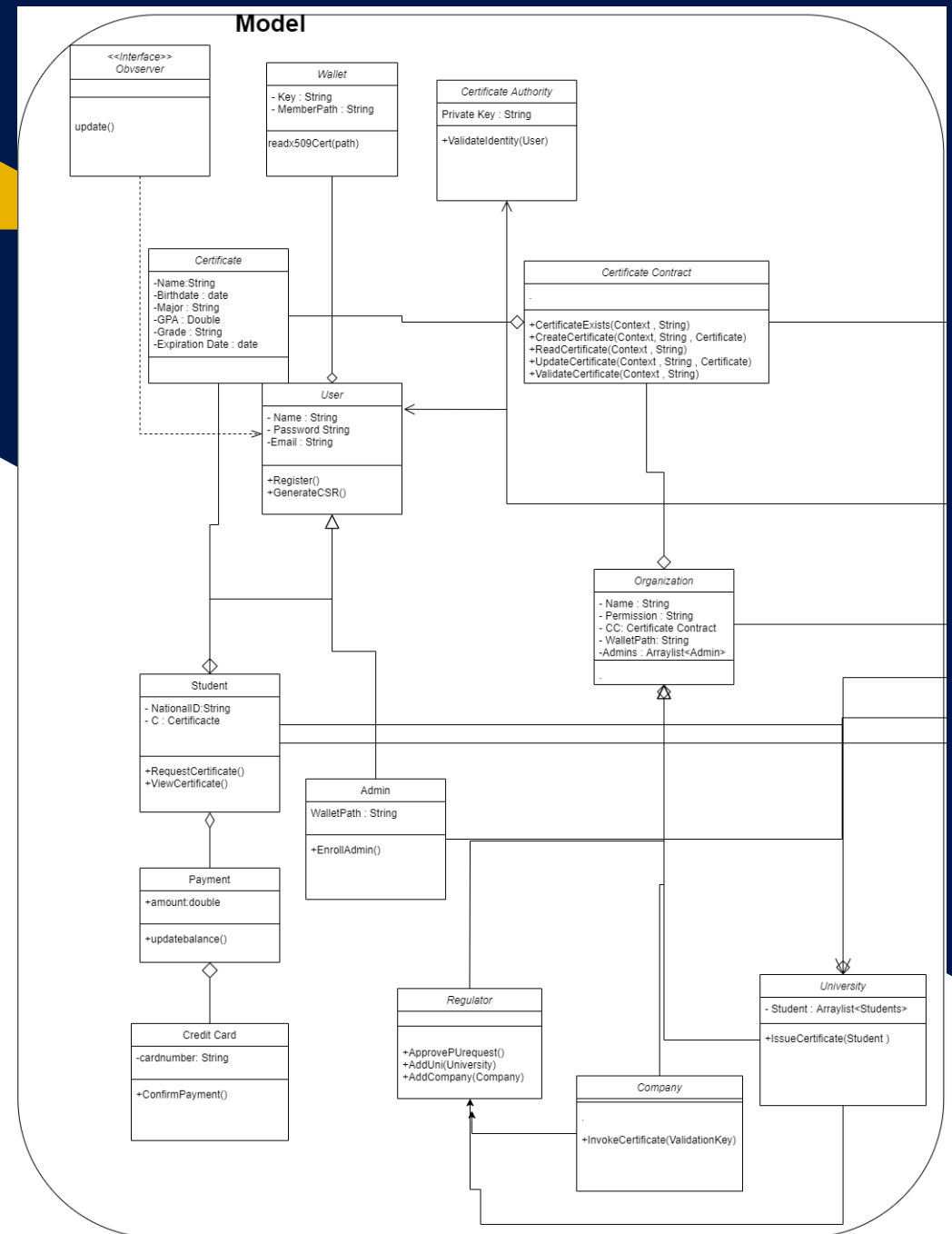


Class Diagram (1/3)



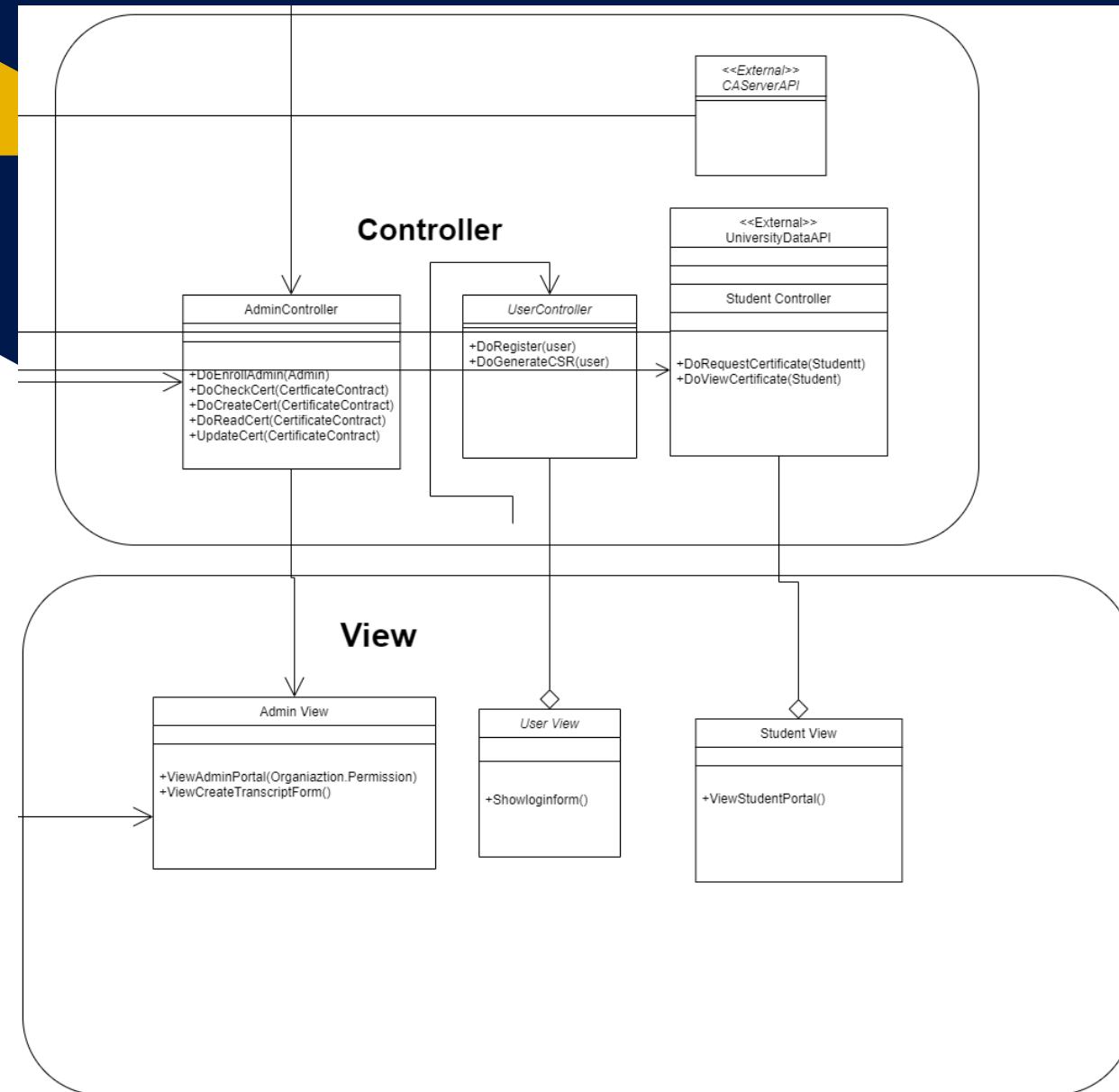
Class Diagram (2/3)

1) Model Overview.

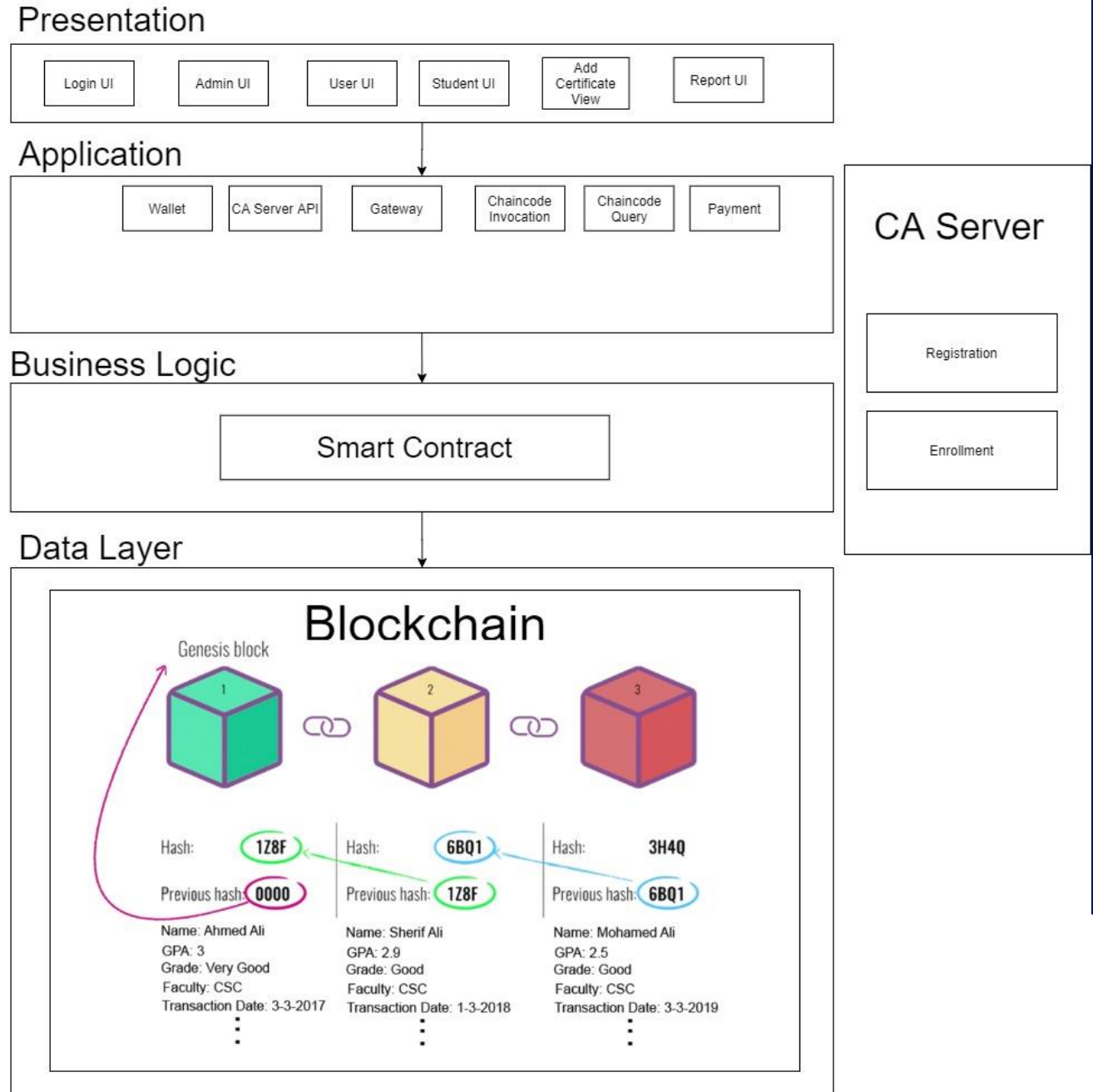


Class Diagram (3/3)

2) Controller and View Overview.



Architecture Design



Data Design

Blocks composed of:

- Values
- Key
- Hash of Previous Block

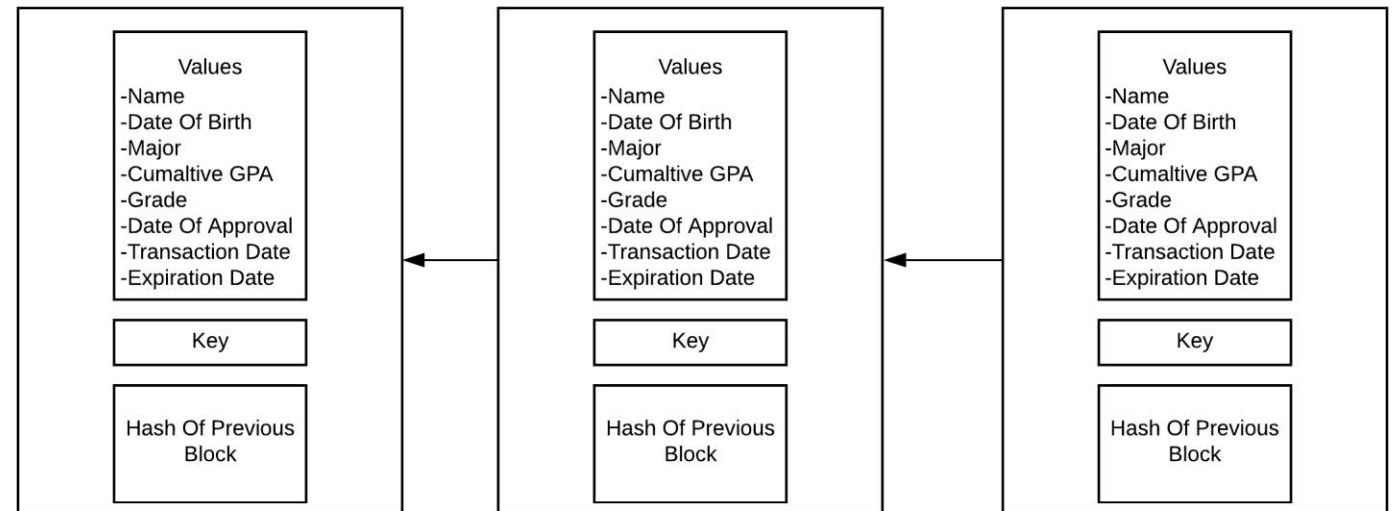


Figure 1: Blocks of data

Design Rationale

Technologies:

- Hyperledger Fabric: **(Used)**
- Hyperledger Indy: **(Not Used)**
- Ethereum Blockchain: **(Not Used)**

	Ethereum	Hyperledger fabric	Hyperledger indy
Purpose	For business and generalized application	General purpose and high flexibility of permissions	built for decentralized identity
Mode of Peer Participation	Permissionless, Public	Permissioned, Private	Permissioned, Public or Private
Consensus Mechanism	Proof-of-Work algorithm	No mining required	No mining required
Smart contract	Smart Contract written in (e.g., Solidity)	Smart Contract written in (e.g., Go, JavaScript (Node.js))	Not supporting any smart contract
Cryptocurrency	Cryptocurrency called ether	No built-in cryptocurrency	No built-in cryptocurrency
Governance	Ethereum developers	Linux Foundation	Linux Foundation

Web UI (1/5)



ادخل بيانات المتخرج

رقم التحقق من صحة الشهادة

تحقق

Figure 11: MOHESR webapp.

Web UI (2/5)



ادخل بياناتك

البريد الإلكتروني

كلمة السر

تسجيل دخول

Figure 11: MOHESR webapp.

Web UI (3/5)



الشهادة الخاصة بك



الاسم: بسنت مصطفى كمال عبد المجيد الدري

تاريخ الميلاد: ١١ / ١٠ / ١٩٩٥

تخصص البكالوريوس: علوم الحاسب

Figure 11: MOHESR webapp.

Web UI (4/5)



تفاصيل الطلب

EGP المبلغ : 30

تأكيد طلب الشهادة

Figure 11: MOHESR webapp.

Web UI (5/5)

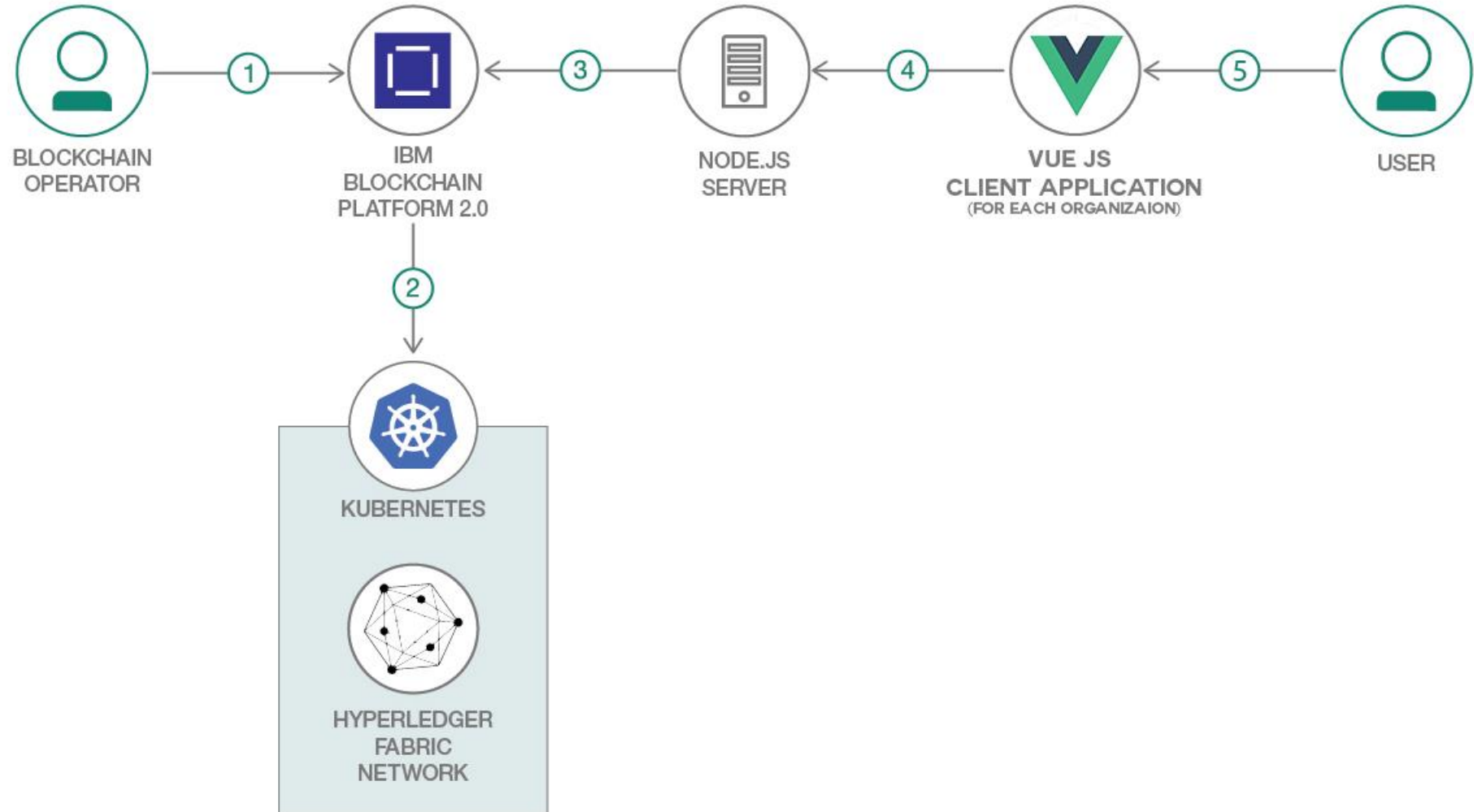


- عرض الشهادة

- طلب الشهادة

Figure 11: MOHESR webapp.

App Architecture



Paper Submission

9th International Conference on Software and Information Engineering (ICSIE 2020)

Notification of Acceptance of ICSIE 2020-E062



icsieconf <icsieconf@163.com>

to alley1602890, mohamed1608694, sherif1611233, shehabEldin1603312, ayman.nabil, Radwa.mohamed ▾

Mar 3, 2020, 11:43 AM (3 days ago) ☆ ↩ ⋮

Dear Alley El-Dorry, Mohamed Reda, Sherif Abd El Khalek, Shehab El-Din Abo El-Rejal, Ayman Nabil and Radwa Mohamed,
Thank you for your waiting.

After reviewing, the reviewer recommend that your paper can be included and published into the following journal. **Journal of Advances in Information Technology (JAIT)**, which will be indexed EBSCO; Google Scholar; CrossRef; etc. If you choose publish your paper in JAIT journal, you can have 100\$ discount during your registration.

But if you don't want to publish the paper in the journal, you can choose include and publish your paper into ICSIE 2020 conference proceeding by International Conference Proceedings Series by ACM (ACM (978-1-4503-7721-8). Which will be indexed by **Ei Compendex** and **Scopus**.

For more information, pelase refer to the attached notification of acceptance.

Demo

The screenshot shows a Google Chrome browser window with the following elements:

- Taskbar:** Displays 'Activities', 'Google Chrome', and the current time 'Sun 02:13'.
- Browser Tabs:** Includes 'client', 'screen recorder for', 'client', and 'New Tab'.
- Address Bar:** Shows the URL 'localhost:8081'.
- Navigation Bar:** Contains icons for 'Apps', 'frontend', '(11) WhatsApp', 'git-flow cheatsh', 'Junior Year - Go', 'How to install X', 'The Biggest Cha', 'Convert Image E', 'Installing the de', 'How to Enable S', and 'Home Page - Sel'.
- Website Header:** Features a banner image of graduates with the text 'وزارة التعليم العالي والبحث العلمي' (Ministry of Higher Education and Scientific Research) and the national emblem. Below the banner are navigation links: 'الرئيسية', 'الوزارة', 'التعليم العالي', 'مؤسسات التعليم العالي', 'البحث العلمي', 'الخدمات', 'مركز المعلومات', 'المركز الاعلامي', and 'استراتيجية الوزارة'.
- Form Section:** Titled 'ادخل البيانات' (Enter the data), it contains four input fields: 'الرقم ايموسى' (Email number), 'الاسم' (Name), 'معزل التراكى' (Track code), and 'التقدير' (Grade). Below these is a link 'Click here to upload image' and a purple 'ادخل' (Submit) button.
- Dialog Box:** A 'Restore pages?' dialog is open, stating 'Chrome didn't shut down correctly.' It offers options to 'Open startup pages' or 'Restore', and includes a checkbox for 'Help make Google Chrome better by sending crash reports and usage statistics to Google'.



Any Questions?
Thank You