

Project Design Phase-II Technology Stack (Architecture & Stack)

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| Date | 13 October 2022 |
| Team ID | PNT2022TMID22400 |
| Project Name | Project - Smart Lender - Applicant Credibility Prediction for Loan Approval |
| Maximum Marks | 4 Marks |

Technical Architecture:

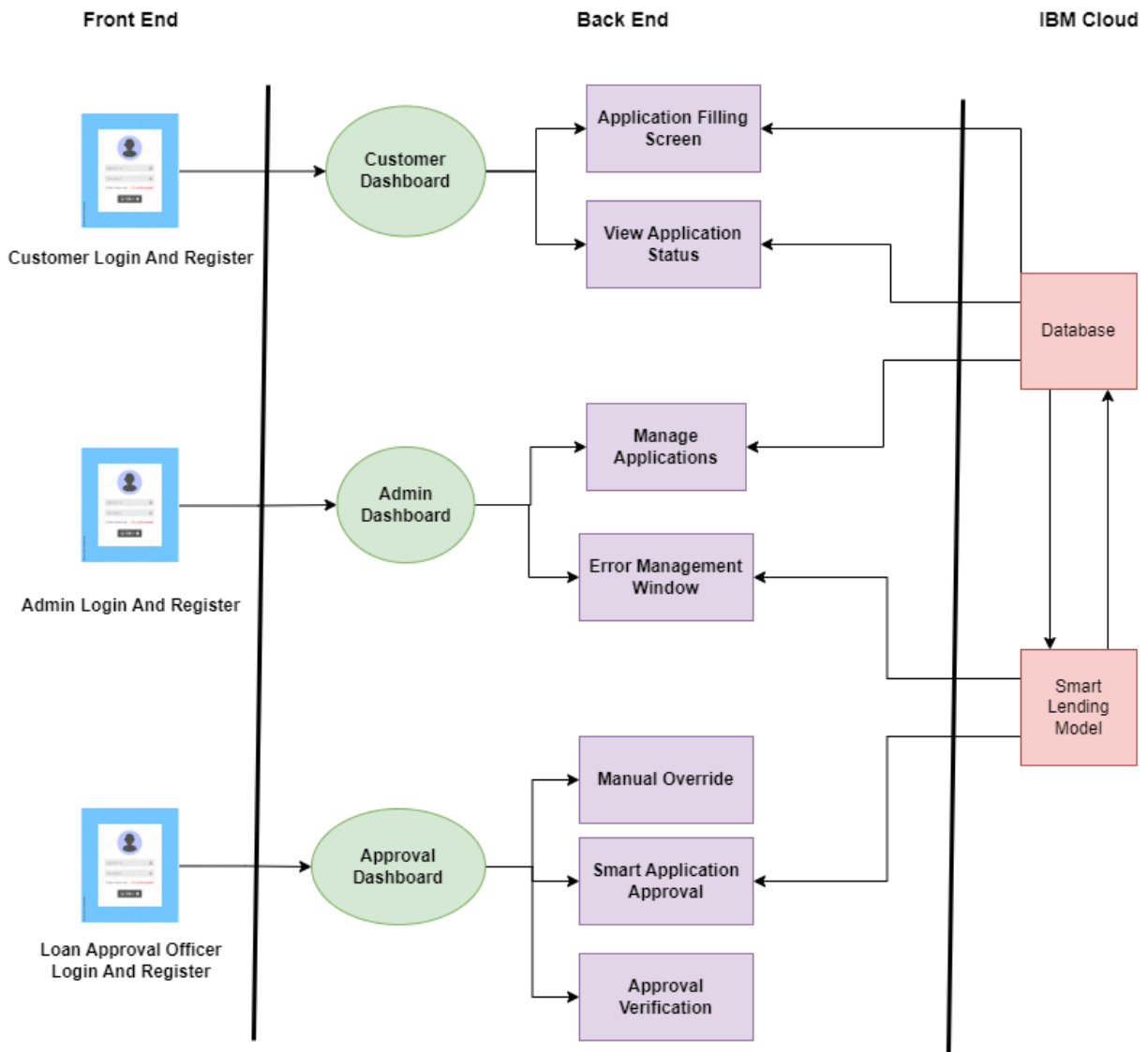


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|----------------------------|--|-----------------------|
| 1. | User Interface | Customer, Admin and Loan Approval Officers will be able to register login and use the functionalities available to them. | HTML, CSS, Javascript |
| 2. | Application Filing | Available to customers only, this screen allows customers to fill details in an online application for loan approval. | Javascript |
| 3. | View Application Status | View pertinent information relevant to the applications. Can be accessed by admin only. | Javascript |
| 4. | Manage Applications | Ability to modify applications as and when needed. Can be accessed by admin only | Javascript |
| 5. | Error Management Window | Ability to rectify or troubleshoot errors. Can be accessed by admin only. | Javascript |
| 6. | Manual Override | Ability to change loan approval decision manually. Available only to loan approval officer. | Javascript |
| 7. | Smart Application Approval | Performs automated loan approval decision and gives details supporting decision | Javascript, Python |
| 8. | Application Verification | Verification of application and documents provided by applicant | Javascript |
| 9. | Cloud Database | Data Types: String, Number, Float, Int, Bool Configuration: abort-slave-event-count 0 allow-suspicious-udfs FALSE archive ON auto-increment-increment 1 auto-increment-offset 1 autocommit TRUE automatic-sp-privileges TRUE avoid-temporal-upgrade FALSE back-log 80 basedir /home/jon/bin/mysql-8.0/ transaction-alloc-block-size 8192 transaction-isolation REPEATABLE-READ transaction-prealloc-size 4096 transaction-read-only FALSE transaction-write-set-extraction XXHASH64 updatable-views-with-limit YES validate-user-plugins TRUE verbose TRUE wait-timeout 28800 | MySQL Online |

Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technologies |
|------|--------------------------|--|------------------|
| 1. | Open-Source Frameworks | Flask is used to host the website. Scikit, numpy and tensorflow are all open source python machine learning frameworks. | Scikit |
| 2. | Security Implementations | OpenSSL is a program and library that supports many different cryptographic operations, including: Symmetric key encryption. Public/private key pair generation. Public key encryption. Hash functions. | OpenSSL |
| 3. | Scalable Architecture | Since the application servers can be deployed on many machines. Also, the database does not make longer connections with every client – it only requires connections from a smaller number of application servers. It improves data integrity. | 3 Tier |
| 4. | Availability | Decentralized storage and distribution along-with web application approach make the service highly available. | IBM Cloud Online |
| 5. | Performance | Long term header expiration. | AJAX |

References:

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<https://www.ibm.com/cloud/architecture>

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