**<University Governance LIC >**

**For Bangalore Central University**

**Business Requirements Document**

**Document History**

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**Approvals**

Your signature below indicates that this Business requirement document meets its objectives and is acceptable.

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# Purpose

The purpose of the Business Requirements Document (BRD) is to lay the foundation for the design and development of a technical solution through definition of the business’ needs and achieve the goals and objectives of the *University Governance (LIC)* project. The BRD describes the high-level business process and outlines the business needs that will be fulfilled by the successful completion of the project.

The foundation of University Governance project is built upon the quality and thoroughness of the requirements gathering. The BRD establishes the key requirements, objectives, and goals that drive all other subsequent lifecycle phases.

# Glossary and Acronyms

**Table: Terms and Acronyms Used in This Document**

| **Term/Acronym** | **Definition** |
| --- | --- |
| TBA | To be Addressed later |
| LIC | Local Inspection Committee |
| BRD | Business Requirement Document |
| DD | Demand Draft |
| API | Application Program Interface |
| UI | User Interface |
| MEAN stack | Mango DB, Express JS, Angular JS, Node JS |
| JS | Java scripting |
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# Executive Summary

## Background

*The University governance forms and other details were recorded manually on pen and paper and later on stored in files. Today, the details are captured online through computers/desktops as forms and stored in backend Database or servers. This way it is easy to retrieve the existing information and Update these details every year with few additional fields. The payments and due dates can be traced or filtered easily.*

## Objectives

1. *To automate the existing manual procedure.*
2. *The new process is user friendly, paperless office, and time saving mechanism.*
3. *This cloud based software application is faster, easier and safer compared to manual process.*
4. *The University governance and other manual processes are totally automated with the new process.*
5. *Building an Intelligent Web based Application.*
6. *Automated Scoring and Payments Calculation.*
7. *Secure the data by providing role based access to application.*

## In Scope

*The list of features addressed in LIC project is listed below:*

1. *User On-boarding*
2. *College Self Assessment*
3. *Payments*
4. *Committee Inspection*
5. *Scoring*
6. *Reports and Dashboards*
7. *Admissions (Not planned for current release)*

## Out of Scope

*Any information/requirements that is not mentioned or discussed in the business requirement document (BRD) is out of scope of this project.*

# Requirements Elicitation and Gathering

## Approach Overview

*The Key Stakeholders for LIC Project are Bangalore Central University Governance team and various colleges that are governed and come under the Bangalore Central University preview.*

## References/Inputs

### PLATFORM CAPABALITIES

1. Multi-Tenant Application

Master and Serves multiple functional Transactions

1. User Experience

User Experience to handle high number of parameter/fields

Visibility across all the Parts and Section within Parts

1. Intelligent Web Application

Scoring done automatically and no manual interventions

Payment calculated automatically depending on various criteria

Flexible design to handle changes in parameter, fields or addition of one or more modules

CRUD Framework and its flexibility in design handling all type of queries

1. Automated Scoring and Payments Calculation

Scoring done automatically and no manual interventions

Payment calculated automatically depending on various criteria

1. Security

Role based functionality

Channel level encryption for data at motion, Password encryption for data at rest

Cloud based Security options

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| **Modules** | **Key Capabilities** |
| User On-boarding | * On-boarding/Sign up feature for the following roles listed below:   + - 1. College Principal       2. Committee Chairman       3. Members       4. Super Admin/Vice Chancellor,       5. Finance Executive * Feature to Change Password, and Forgot Password * Role based Login screen |
| College Self Assessment | * Form/Client Interface used to Capture various parameter of (400 +) colleges for self-assessment  1. College Infrastructure details such as Land, Classroom, Laboratory, Facilities, Student Support System, Library, Learning resources etc. 2. Course Details such as existing, new, additional intake sought, affiliation sought details etc. 3. Student Performance details 4. Faculty Profile details 5. Maintenance of Register details 6. Changes details such as Name, trust, Address etc. 7. Funding and Other facility details to support additional courses or additional intake of students 8. Recommendations of the Previous Local Inquiry Committee & Compliance  * Uploading Relevant Documents |
| Payment | * To calculate the fee based on data entered by the colleges for the following fields or categories.   1. Continuation of Affiliation   2. Additional Intake Request   3. Fresh Permanent Affiliation   4. Renewal of Permanent Affiliation   5. New Courses additions   6. Miscellaneous changes * Entering details of DD for validation by University |
| Formation of Inspection Committee | * Creation of Committee, Chairman and Members of the Committee * Assigning colleges to a committee for conducting inspection. The colleges are grouped and assigned to a committee based on the location like North Bangalore, East Bangalore and so on. |
| College Inspection | * Committee to conduct Inspection and capture data based on 108 parameters which are based on the following categories   1. Infrastructure Index   2. Faculty Index   3. Process and Management Index   4. Student Performance Index   5. Overall Impression * Ability to provide comments for any discrepancies during the inspection comparing with college provided data |
| Scoring | * Calculate score based on data provided by colleges and inspection committee * Calculate Index-wise scoring * Calculate Weighted scoring for each Index |
| Reports and Dashboards | **Reports**   * College Principal can generate the following report with their login id/Role:   1. College Self-Assessment Report   2. Payment Details Report * LIC Chairman can generate the following report with their login id/Role:   1. Prefilled College Assessment Report and Ability to fill Inspection details report   2. LIC Inspection Report * Super Admin/Vice chancellor can generate the following reports with their login id/Role   1. Scoring Report for both Self-Assessment and LIC Inspection   2. Index-wise Scoring and Weighted Scoring Report   3. Overall Scoring Summary, Recommendations and Remarks based weighted score and other parameter.   **Dashboard**   * College Principal Dashboard will consist of:   1. Self-Assessment form   2. Users can View, Edit/Update, or see the Status of Assessment * LIC Chairman Dashboard will consist of:   1. List of Pending and Completed Inspection   2. Inspection Form can be View, Edit/Update, or see the Status of Assessment * Super Admin/VC Dashboard will consist of:   1. List of Pending and Completed Inspection   2. Scoring for each colleges, overall scoring |
| Admission  (To be added) | * Admission to colleges based on intake and enhancement sought * Report to university on the Admission details |
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### PLATFORM BENEFITS

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| --- | --- |
| Image result for environment friendly save paper | **Environment Friendly**  Avoids a lot of paper being used, with multiple copies…. |
|  | **Enhances Productivity**  Reuse of information from the previous years…. |
|  | **Improves Communication**  Reports, orders, notices & circulars accessible through single login….. |
|  | **Real-time Data**  Easy to search and retrieve information…. |
|  | **Cost Effective**  Reduces costs for the whole process… |
|  | **Ease of use**  User friendly information capture screens…. |

# Business Model

*The current process of governance followed by Bangalore central university is the manual system of capturing data from various colleges using forms and storing them in files. This is very tedious process, as it is time consuming and repetitive year after year. So the existing process is computerized for better efficiency and efficient way of handling the forms.*

## Organizational Profile

*The LIC system will be used by the user roles related to Bangalore central University and their associated colleges. The user roles granted as are College Principal, Committee Chairman and Members, Super Admin/Vice Chancellor, Finance Executive.*

## High Level ‘As-Is’ Process Flow

***TECHNOLOGY:***

* *MEAN Stack*
* *UI: Angular JS, Bootstrap, HTML 5, CSS 3, JS, JSON, jQuery*
* *Platform: Middle Ware & Server (AWS Cloud Platform)*
* *Server Side: Express, Common JS, Node JS, RESTAPI*
* *Database: MySQL DB*
* *File System: Cloud Bucket*
* *Security: HTTPS, Encrypted Password, VPC in AWS*

***MEAN STACK ARCHITECTURE:***

* *Client side makes any data request and this is processed by the AngularJS. AngularJS is a client side language in JavaScript.*
* *Data Request enters NodeJS, which handles/parses the requests. NodeJS is a server side language in JavaScript.*
* *Data Request enters ExpressJS which handles database calls/CRUD APIs.*
* *After that MySQL or File System retrieve the data and return the response to the ExpressJS.*
* *Then ExpressJS return response to the NodeJS and later on NodeJS returns it to the AngularJS to display the result.*

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Figure : LIC Architecture

## High Level ‘To-Be’ Process Flow

*The list of features addressed in LIC project is listed below:*

1. *User On-boarding*
2. *College Self Assessment*
3. *Payments*
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5. *Scoring*
6. *Reports and Dashboards*
7. *Admissions (Not planned for current release)*

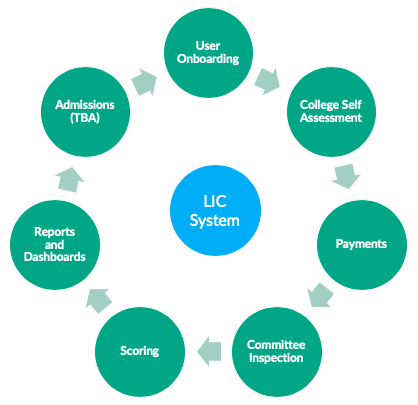


Figure : LIC system’s functional capabilities

## Process Mapping

The LIC software is implemented by breaking down the application into the following sub modules like:

* *User On-boarding*
* *College Self Assessment*
* *Payments*
* *Committee Inspection*
* *Scoring*
* *Reports and Dashboards*
* *Admissions (Not planned for current release)*

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| --- | --- |
| **Module** | **Key Capabilities** |
| User On-boarding | * On-boarding/Sign up feature for the following roles listed below:  1. College Principal 2. Committee Chairman 3. Members 4. 4.Super Admin/Vice Chancellor, 5. Finance Executive  * Feature to Change Password, and Forgot Password. * Role based Login screen |
| College Self Assessment | * Form/Client Interface used to Capture various parameter of (400 +) colleges for self-assessment  1. College Infrastructure details such as Land, Classroom, Laboratory, Facilities, Student Support System, Library, Learning resources etc. 2. Course Details such as existing, new, additional intake sought, affiliation sought details etc. 3. Student Performance details 4. Faculty Profile details 5. Maintenance of Register details 6. Changes details such as Name, trust, Address etc. 7. Funding and Other facility details to support additional courses or additional intake of students 8. Recommendations of the Previous Local Inquiry Committee & Compliance  * Uploading Relevant Documents |
| Payment | * To calculate the fee based on data entered by the colleges for the following fields or categories.  1. Continuation of Affiliation 2. Additional Intake Request 3. Fresh Permanent Affiliation 4. Renewal of Permanent Affiliation 5. New Courses additions 6. Miscellaneous changes  * Entering details of DD for validation by University |
| Formation of Inspection Committee | * Creation of Committee, Chairman and Members of the Committee * Assigning colleges to a committee for conducting inspection. The colleges are grouped and assigned to a committee based on the location like North Bangalore, East Bangalore and so on. |
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| Admission  (To be added) | * Admission to colleges based on intake and enhancement sought * Report to university on the Admission details |
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# Requirements Definition

1. Authentication & Authorization

This module consists of the following features like Signup, Change Password, Forgot Password, Role based Login.

1. College Data Submission

This module consists of the following features like pre-defined set of parameters, uploading required documents.

1. Fee Calculation

This module consists of the following features like New Courses, Continuation of Affiliation, Intake Requests, Permanent Affiliation, Miscellaneous changes, Entering details of DD, Validation by the University.

1. LIC Committee Formation

This module consists of the following features like Committee Creation, Assigning LIC Chairman and Members, Assigning Colleges to Committee.

1. LIC Committee Inspection/Assessment

This module consists of the following features like Assessment on pre-defined set of parameters.

1. Automated Scoring

This module consists of the following features like Automated scoring system based on inputs from College and LIC Committee.

1. Dashboard & Reports

This module consists of the following features like Role based dashboard, Assessment/Inspection Report.

# Appendix