ACKNOWLEDGEMENT

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Finally, we would like to express our deep appreciation to our family and friends who have been a constant source of inspiration. We are eternally grateful to them for always encouraging us wherever and whenever needed.

DECLARATION

We are submitting the assignment for a group project on behalf of all members of the group. It is hereby confirmed that the submission is authorized by all members of the group, and all members of the group are required to sign this declaration.

We declare that:

- the assignment here submitted is original except for source material explicitly acknowledged
- the piece of work, or a part of the piece of work has not been submitted for more than one purpose (e.g. to satisfy the requirements in two different courses) without declaration
- the submitted soft copy with details listed in the <Submission Details> is identical to the hard copy(ies), if any, which has(have) been / is(are) going to be submitted.

We also acknowledge that we are aware of University policy and regulations on honesty in academic work, and of the disciplinary guidelines and procedures applicable to breaches of such policy and regulations, as contained in the University website

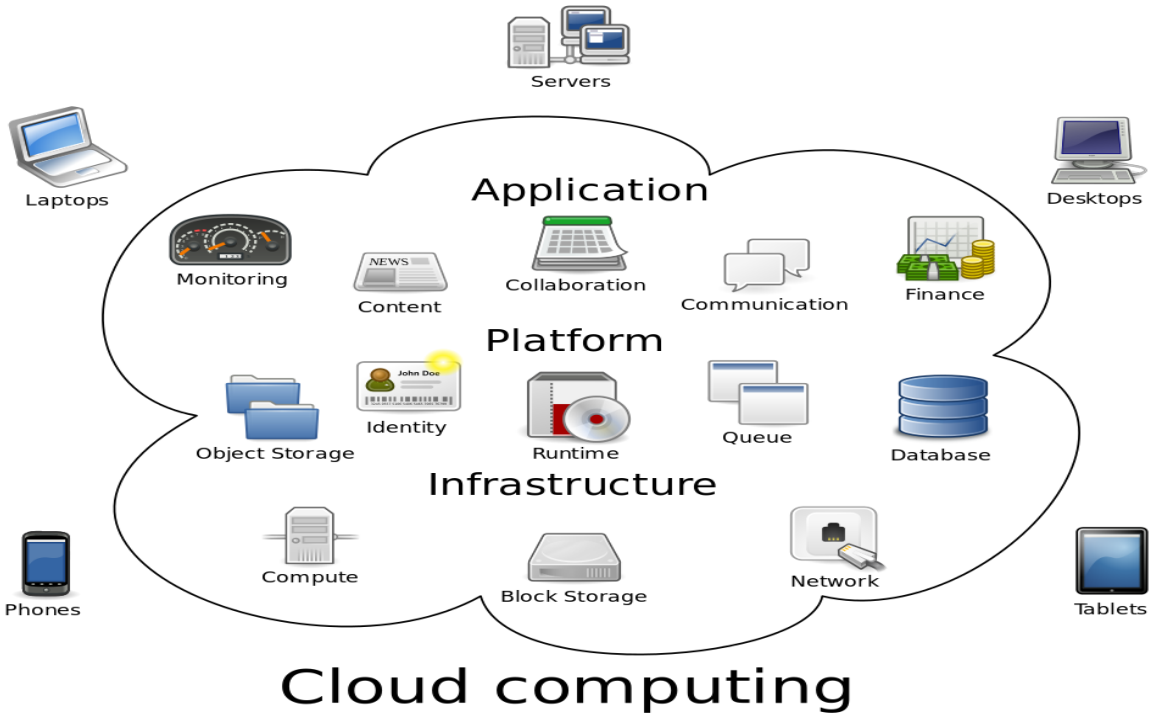
We are aware that each student is responsible and liable to disciplinary actions should there be any plagiarized contents/undeclared multiple submission in the group project, irrespective of whether he/she has signed the declaration and whether he/she has contributed directly or indirectly to the problematic contents.

It is also understood that assignments without a properly signed declaration by the student concerned and in the case of a group project, by all members of the group concerned, will not be graded by the teacher(s).

Signature(s)	Date
Name(s)	Student ID(s)
Course title	

CLOUD COMPUTING

Cloud computing is a type of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources (e.g., computer networks, servers, storage, applications and services), which can be rapidly provisioned and released with minimal management effort. Cloud computing and storage solutions provide users and enterprises with various capabilities to store and process their data in third-party data centers that may be located far from the user–ranging in distance from across a city to across the world. Cloud computing relies on sharing of resources to achieve coherence and economy of scale, similar to a utility (like the electricity grid) over an electricity network.



Characteristics

Cloud computing exhibits the following key characteristics:

- Agility for organizations may be improved, as cloud computing may increase users' flexibility with re-provisioning, adding, or expanding technological infrastructure resources.
- Cost reductions are claimed by cloud providers. A public-cloud delivery model converts capital expenditures (e.g., buying servers) to operational expenditure. This purportedly lowers barriers to entry, as infrastructure is typically provided by a third party and need not be purchased for one-time or infrequent intensive computing tasks. Pricing on a utility computing basis is "fine-grained", with usage-based billing options. As well, less in-house IT skills are required for implementation of projects that use cloud computing.The e-FISCAL project's state-of-the-art repository contains several articles looking into cost aspects in more detail, most of them concluding that costs savings depend on the type of activities supported and the type of infrastructure available in-house.
- Device and location independence enable users to access systems using a web browser regardless of their location or what device they use (e.g., PC, mobile phone). As infrastructure is off-site (typically provided by a third-party) and accessed via the Internet, users can connect to it from anywhere.
- Maintenance of cloud computing applications is easier, because they do not need to be installed on each user's computer and can be accessed from different places (e.g., different work locations, while travelling, etc.).
- Multitenancy enables sharing of resources and costs across a large pool of users thus allowing for:
- Centralization of infrastructure in locations with lower costs (such as real estate, electricity, etc.)
- Peak-load capacity increases (users need not engineer and pay for the resources and equipment to meet their highest possible load-levels)
- Utilisation and efficiency improvements for systems that are often only 10–20% utilised.

- Performance is monitored by IT experts from the service provide, and consistent and loosely coupled architectures are constructed using web services as the system interface.
- Productivity may be increased when multiple users can work on the same data simultaneously, rather than waiting for it to be saved and emailed. Time may be saved as information does not need to be re-entered when fields are matched, nor do users need to install application software upgrades to their computer.
- Reliability improves with the use of multiple redundant sites, which makes well-designed cloud computing suitable for business continuity and disaster recovery.
- Scalability and elasticity via dynamic ("on-demand") provisioning of resources on a fine-grained, self-service basis in near real-time, without users having to engineer for peak loads. This gives the ability to scale up when the usage need increases or down if resources are not being used.
- Security can improve due to centralization of data, increased security-focused resources, etc., but concerns can persist about loss of control over certain sensitive data, and the lack of security for stored kernels. Security is often as good as or better than other traditional systems, in part because service providers are able to devote resources to solving security issues that many customers cannot afford to tackle or which they lack the technical skills to address.However, the complexity of security is greatly increased when data is distributed over a wider area or over a greater number of devices, as well as in multi-tenant systems shared by unrelated users. In addition, user access to security audit logs may be difficult or impossible. Private cloud installations are in part motivated by users' desire to retain control over the infrastructure and avoid losing control of information security.

CRM

Customer relationship management (CRM) is a term that refers to practices, strategies and technologies that companies use to manage and analyze customer interactions and data throughout the customer lifecycle, with the goal of improving business relationships with customers, assisting in customer retention and driving sales growth. CRM systems are designed to compile information on customers across different channels -- or points of contact between the customer and the company -- which could include the company's website, telephone, live chat, direct mail, marketing materials and social media. CRM systems can also give customer-facing staff detailed information on customers' personal information, purchase history, buying preferences and concerns.

Common features of CRM software include:

- **Marketing automation**: CRM tools with marketing automation capabilities can automate repetitive tasks to enhance marketing efforts to customers at different points in the lifecycle. For example, as sales prospects come into the system, the system might automatically send them marketing materials, typically via email or social media, with the goal of turning a sales lead into a full-fledged customer.

- **Sales force automation**: Also known as sales force management, sales force automation is meant to prevent duplicate efforts between a salesperson and a customer. A CRM system can help achieve this by automatically tracking all contact and follow-ups between both sides.
- **Contact center automation**: Designed to reduce tedious aspects of a contact center agent's job, contact center automation might include pre-recorded audio that assists in customer problem-solving and information dissemination. Various software tools that integrate with the agent's desktop tools can handle customer requests in order to cut down the time of calls and simplify customer service processes.

- **Geolocation technology, or location-based services**: Some CRM systems include technology that can create geographic marketing campaigns based on customer's' physical locations, sometimes integrating with popular location-based GPS apps. Geolocation technology can also be used as a networking or contact management tool in order to find sales prospects based on location.

SALESFORCE

Salesforce.com (stylized as **sales*force***) is an American cloud computing company headquartered in San Francisco, California. Though its revenue comes from a customer relationship management (CRM) product, Salesforce also capitalizes on commercial applications of social networking through acquisition. As of early 2016, it is one of the most highly valued American cloud computing companies with a market capitalization above $55 billion,although the company has never turned a GAAP profit in any fiscal year since its inception in 1999.

It is listed on the New York Stock Exchange with the symbol CRM and is a constituent of the S&P 500 Index.

History

The company was founded in 1999 by former Oracle executive Marc Benioff, Parker Harris, Dave Moellenhoff, and Frank Dominguez as a company specializing in software as a service (SaaS).Harris, Moellenhoff and Dominguez, three software developers previously at consulting firm Left Coast Software, were introduced to Benioff through friend and former Oracle colleague Bobby Yazdani. Harris and team wrote the initial sales automation software, which launched to its first customers in the fall of 1999.

In June 2004 the company's initial public offering was listed on the New York Stock Exchange under the stock symbol CRM and raised US$110 million.Early investors include Larry Ellison, Halsey Minor, Stewart Henderson, Mark Iscaro, and Igor Sill of Geneva Venture Partners, as well as Nancy Pelosi.

In October 2014, Salesforce announced the development of its Customer Success Platform to tie together Salesforce's services, including sales, service, marketing, analytics, community, and mobile apps.

Services

Salesforce.com's customer relationship management (CRM) service is broken down into several broad categories: Sales Cloud, Service Cloud, Data Cloud (including Jigsaw), Marketing Cloud, Community Cloud (including Chatter), Analytics Cloud, App Cloud, and IoT with over 100,000 customers.

Salesforce

Salesforce is the primary enterprise offering within the Salesforce1 Platform. It provides companies with an interface for case management and task management, and a system for automatically routing and escalating important events. The Salesforce customer portal provides customers the ability to track their own cases, includes a social networking plugin that enables the user to join the conversation about their company on social networking websites, provides analytical tools and other services including email alert, Google search, and access to customer's entitlement and contracts.

Force.com

Force.com is a platform as a service (PaaS) that allows developers to create multitenant (single instance of software runs on a server and serves multiple tenants) add-on applications that integrate into the main Salesforce.com application. Force.com applications are hosted on Salesforce.com's infrastructure.

Force.com applications are built using Apex (a proprietary Java-like programming language for Force.com) and Visualforce (an XML syntax typically used to generate HTML). The Force.com platform receives three complete releases a year. As the platform is provided as a service to its developers, every single development instance also receives all these updates.

In the Spring 2015 release a new framework for building user interfaces, lightning components, was introduced in beta.Lightning components are built using the open-source Aura Framework but with support for Apex as the server-side language instead of Aura's Javascript dependency. This has been described as an alternative to, not necessarily a replacement for, Visualforce pages.

According to a September, 2009 Gartner Group report, Force.com had over 1,000 customer accounts. As of 2013, the Force.com platform has 1.4 million registered developers.

Salesforce1

Salesforce1 (pronounced as salesforce one) is salesforce's mobile application for Android and iOS.

Work.com

Work.com, previously Rypple, is a social performance management platform that helps managers and employees improve work performance through continuous coaching, real-time feedback, and

recognition. It is marketed as a solution for sales performance, customer service, marketing, and as a service that can be employed by human resource departments.

Data.com

Data.com, previously known as Jigsaw, is a cloud-based automated system for acquiring and managing CRM records within a user's Salesforce.com account.

Data.com is also an online business directory of companies and business professionals that is built, maintained and accessed by a worldwide community of over a million subscribers. A large database allows members to exchange and share the business information of more than 29 million contacts from over 4 million companies. This information consists of what is commonly found on a business card.

Data.com utilizes a user-generated database that's continually updated by its members. Data.com's contacts act as a virtual business card, offering name, title, postal and email addresses and direct-dial phone numbers for individual contacts.

Desk.com

Desk.com, previously known as Assistly, is a cloud-based helpdesk system for interacting with customers and solving customer issues. Desk.com includes the following features:

- Multi-channel capabilities for handling customer requests (portal/knowledgebase, chat, email, Twitter, callback)
- An agent-to-customer communication interface, available as web application and mobile app
- A unified support queue combined with flexible and extensible business rules
- An administrative interface to easily configure the system
- Rich analytics

Do.com

Do.com was a cloud-based task management system for small groups and businesses, introduced in 2011 and discontinued in 2014. Salesforce did not offer any reason for shutting down the service, however it provided an Export tool to save data entered within the Do.com interface. The Do.com domain was sold to a startup in 2014.

Site.com

Site.com is a portal to the Salesforce Lightning App Builder, a technology that allows for rapid application development of cloud-based applications.

Salesforce Ideas

Salesforce Ideas is a suggestion management systems, based on Dell IdeaStorm, that enables registered users to add, promote, demote and comment on ideas. Each idea is represented as an article, and such articles are updated by Salesforce to indicate when an idea is implemented.

AppExchange

Launched in 2005, the Salesforce AppExchange is an online application marketplace for third-party applications that run on the Force.com platform. Applications are available for free, as well as yearly or monthly subscription models. Applications available range from integrations with Sharepoint to mobile approval management. As of February 2015, it features 2,658 applications which have driven a total of over 2.8 million installs.

Configuration

Salesforce users can configure their CRM application. In the system, there are tabs such as "Contacts", "Reports", and "Accounts". Each tab contains associated information. Configuration can be done on each tab by adding user-defined custom fields.

Configuration can also be done at the "platform" level by adding configured applications to a Salesforce instance, that is adding sets of customized / novel tabs for specific vertical- or function-level (Finance, Human Resources, etc.) features.

Web services

In addition to the web interface, Salesforce.com offers a SOAP/REST Web service API that enables integration with other systems.

Sales Performance Accelerator

Salesforce.com launched a new product called Sales Performance Accelerator in July 2013. It combines the CRM with the Work.com performance management application as well as customer lead information from Data.com.

SaaS and PaaS

SaaS

SaaS is the most popular and known form of cloud service for consumers. Some of the popular SaaS products are Salesforce, Google Apps, NetFlix, WebEx, GotoMeeting and DropBox.

The top layer of cloud computing, Software as a Service is typically built on top of a Platform as a Service solution, whether that platform is publicly available or not, and provides software for end-users such as email, word processing, or a business CRM. Software as a Service is typically charged on a per-user and per-month basis, and companies have the flexibility to add or remove users at any time

without additional costs beyond the monthly per-user fee. Some of the most well known SaaS solutions are “Google Apps”, Salesforce.com, and Microsoft’s “Business Productivity Online Suite”

Characteristics:

- Software is hosted on a remote server and is always accessible through a web browser over Internet
- Application is managed from a central location
- Application users don’t need to worry about hardware, software updates and patches
- Any integration with the third party applications are done through APIs

Suitability:

- Applications where the demands spike or reduce significantly – For example: taxation software has high demand during tax filing season, hotel reservations see a spike during holiday season and so on
- Applications which have demand for web as well as mobile access – For example: Sales management software, CRM systems
- Short term projects which require collaboration – the pay-as-you-go model makes it convenient to quickly setup and use
- Start-up businesses which want to quickly launch e commerce sites without worrying about server configurations and software updates

PaaS

PaaS is the similar to SaaS in many ways. Instead of delivering the software over the web, PaaS offers a platform for the creation of software (which is then delivered over the web).Developers work on PaaS platform and concentrate on software application building without having to worry about software updates, operating systems, load balancing, storage, or other details related to infrastructure.

Operating at the layer above raw computing hardware, whether physical or virtual, PaaS provides a method for programming languages to interact with services like databases, web servers, and file storage, without having to deal with lower level requirements like how much space a database needs, whether the data must be protected by making a copy between 3 servers, or distributing the workload across servers that can be spread throughout the world. Typically, applications must be written for a specific PaaS offering to take full advantage of the service, and most platforms only support a limited set of

programming languages. Often, PaaS providers also have a Software as a Service offering, and the platform has been initially built to support that specific software. Some examples of PaaS solutions are the “Google App Engine” system, “Heroku” which operates on top of the Amazon Web Services IaaS system, and “Force.com” built as part of the SalesForce.com Software as a Service offering.

Characteristics:

- Built on top of virtualization technology – you can demand for resources as per your need and scale up/ down as per the requirement
- Provides varying services to facilitate development, testing, deployment and hosting of software applications in integrated development environment
- Multiple users can utilize the same development application
- Integrated web services and databases
- Billing and subscription is managed by tools

Suitability:

- When multiple developers are working on the development or when external parties are involved in the development process, PaaS is a great option to bring in the speed and flexibility to the development process
- For organizations following Agile Methodology for software development, PaaS eases the difficulties associated with rapid development and iteration of application
- When you wish to spread your Capital Investment – by providing the underlying solid infrastructure, PaaS model reduces the organization’s overhead costs
- Large organizations who want to customize applications

PROJECT

Description

In the modern world of technology computers affect our lives in more ways than we probably are aware of. We have Computerized Management Systems maintaining the information of educational institutions, college etc. and this project shows all the working that is adopted by a institution.

It is difficult to prepare the manual work to store the information about a student, staff, workers etc., so this project helps to store those types of information using salesforce .

It is a **Software as a Service (SaaS)** developed for **College Management System** utilising **sales*f*orce** platform for its backend and working. It should work on any system having an active internet connection and a compatible web browser.

Objective

The main Objective/ Aim of this system, is to reduce the Consumption of Time, reducing the Redundancy etc. during maintaining the records of college management. Separate divisions are provided to maintain the records of Faculty, Students, Departments , Workers , Fees , Hiring, Infrastructure, Salary Details.

In Other Words, Our CMS has following objectives :

User interfaces are user friendly and attractive, it takes very less time for the operator to get used with the system.

Scope

This project can replace the current College Management Systems that require a centralised server overhead for the college. It is beneficial for both small scale and large scale users as it can be expanded to cover additional features and users without any hassle of re-programming or downtimes (works just like hot swapping). The interface is self explanatory and hence does not require extensive training on customer's end.

Acronyms

S. No.	Acronym	Explanation
1.	SRS	Software Requirements Specification - A structured collection of information that embodies a requirement of a system
2.	ALMAMATE	AlmaMate Info Tech Private Limited.
3.	DFD	Data Flow Diagrams
4.	ERD	Entity Relationship Diagrams
5.	QoS	Quality of Service

Technology Used

- SALESFORCE TECHNOLOGY , API VERSION 37

  Salesforce is a game changing technology and Customer Relationship Management cloud software addresses all your customer interface concerns.

- HTML 5

  HTML5 is a markup language used for structuring and presenting content on the World Wide Web. It is the fifth and current version of the HTML standard.

- CSS 3

  Cascading Style Sheets (**CSS**) is a style sheet language used for describing the presentation of a document written in a markup language.

- JAVASCRIPT

  JavaScript ("JS" for short) is a full-fledged dynamic programming language that, when applied to an HTML document, can provide dynamic interactivity on websites.

- SYSTEMS

  Computers Running Ubuntu 13.0 Gnome with Intel i5 4670 processors, 4GB RAM and 1TB harddisk. Additional softwares include Google Chrome, Mozilla Firefox and Sublime Text

System Requirement

- An active internet connection with a minimum speed of 1mbps for classic version and 5mbps for lightening version.
- A modern web browser, preferably Chrome 43+/Mozilla Firefox 46+/Safari 5+.
- A system with with windows XP or better, 1GB of ram and dual core processors.

Existing System

In the existing system, the manual process, receiving data from student and staff are done through manual records. These take a long time to process, requiring additional people to input data and maintaining the databases. All the details are stored in separate databases, each requiring additional maintenance costs resulting in a large cost overhead. Secondly, this also leads to data redundancy and can result in inconsistent data.

Even in systems using computerised databases, a large amount of activities are still done manually such as fee receipt generation, result generation, checking for unpaid fees and many more.Additionally, each department requires a large number of members to manage the entire working. There is no to little communication between various departments leading to lapses and unnecessary delays.

Proposed System

In our proposed system we have the provisions for adding the details of the students. Another advantage of the system is that it is very easy to update the details of the students and maintain the other records of staff and others as well. The main advantage of our project is "SECURITY".We have provided various level of security which makes the system more secure and reliable.

Advantages

By developing the system, we can attain the following facilities :

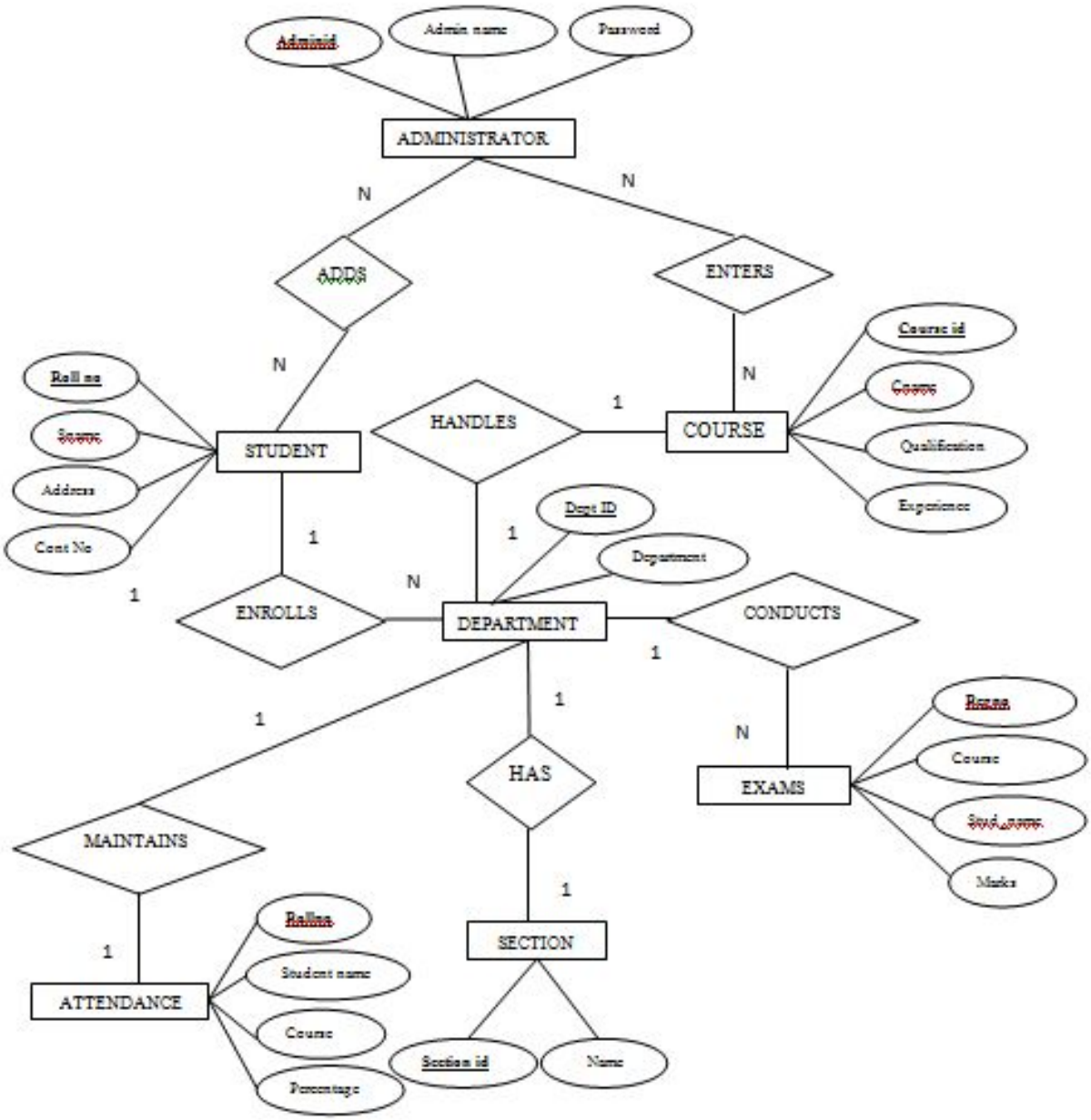
- Easy to handle and feasible
- Easy to Operate
- Fast and Convenient
- Data Security
- Remove Data Redundancy
- More Transparency
- Speed up work
- History of records can be easily traced
- Security Levels according to work hierarchy

Need

- Provide a user-friendly interface.
- Computerizes all the details that are maintained manually.
- Large volumes of data can be stored.
- Maintenance of file is flexible.
- Records stored are updated now and then.
- Stored data and procedures can be easily edited.
- Accurate calculations are made.
- Less manpower required.
- Automatic fee generation.
- Automatic result generation.

ER Diagrams

An entity-relationship diagram (ERD) is a graphical representation of an information system that shows the relationship between people, objects, places, concepts or events within that system. An ERD is a data modeling technique that can help define business processes and can be used as the foundation for a relational database.



Schema

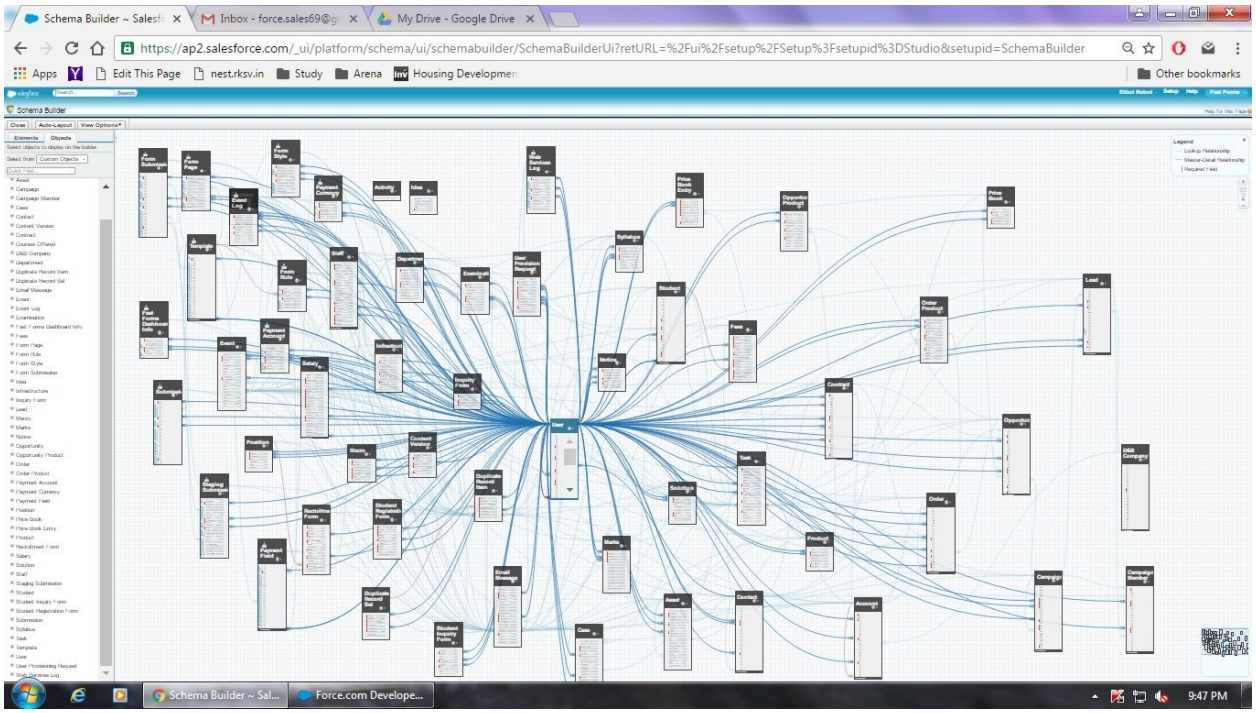


Fig1: Schema describing various relations between objects

Explanation of Working

This is a **College Management System** based on **Salesforce** for **K OS COLLEGE OF HIGHER EDUCATION.**

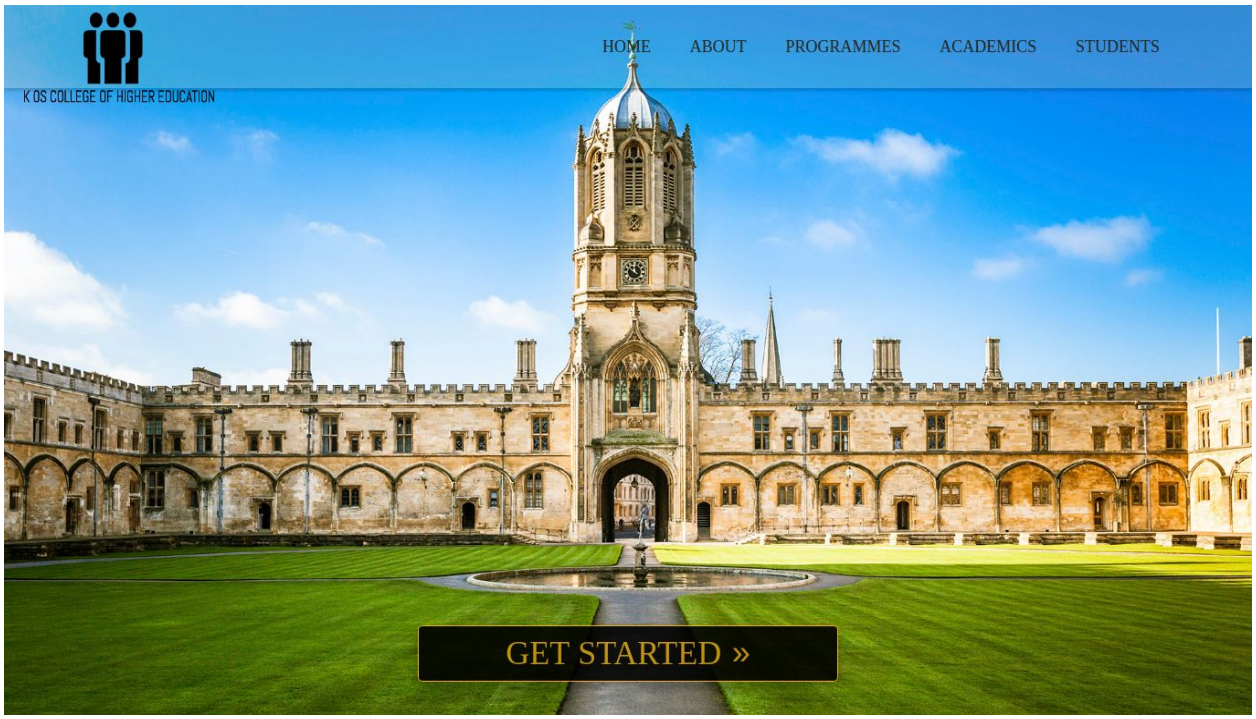


Fig 2: Index Page

This is the homepage of **K OS COLLEGE OF HIGHER EDUCATION.** It can be accessed on a local machine through the path **"%user_dir%"\index.html**

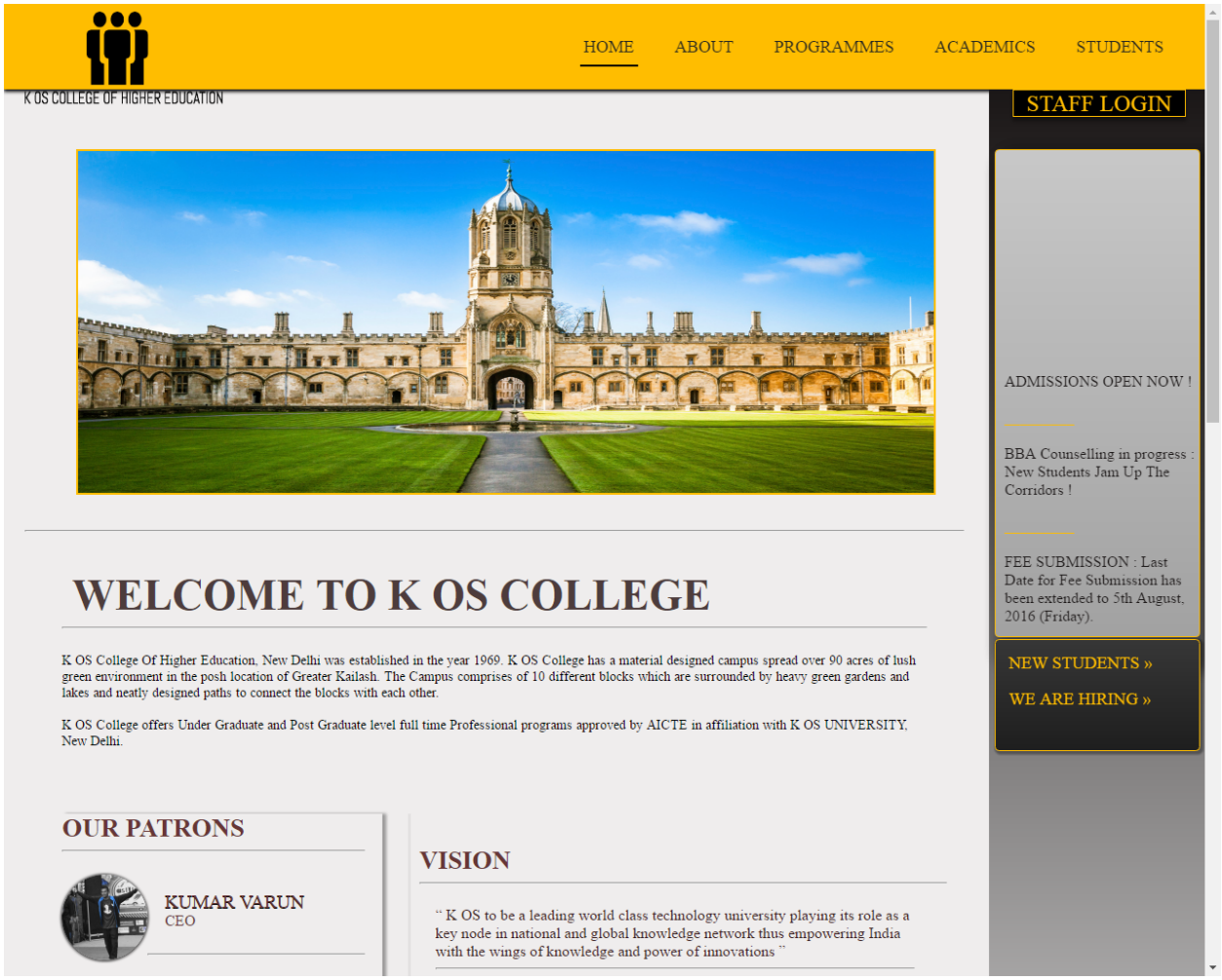


Fig 3: Homepage of college website

This page will lead you to main website of **K OS COLLEGE OF HIGHER EDUCATION** from where the following tasks can be done:

- College Staff can Login to their respective accounts.
- Students can see Notices, etc.
- Visitors can do the following:
    - Browse the entire website
    - Enquire about admission procedures and any other information
    - Apply for admissions
    - Apply for various opening in college

What next?

Staff and Students access the login page from the login button found on the homepage which will lead to the salesforce login screen.

On successful login the user can access the College Application on the Salesforce website.

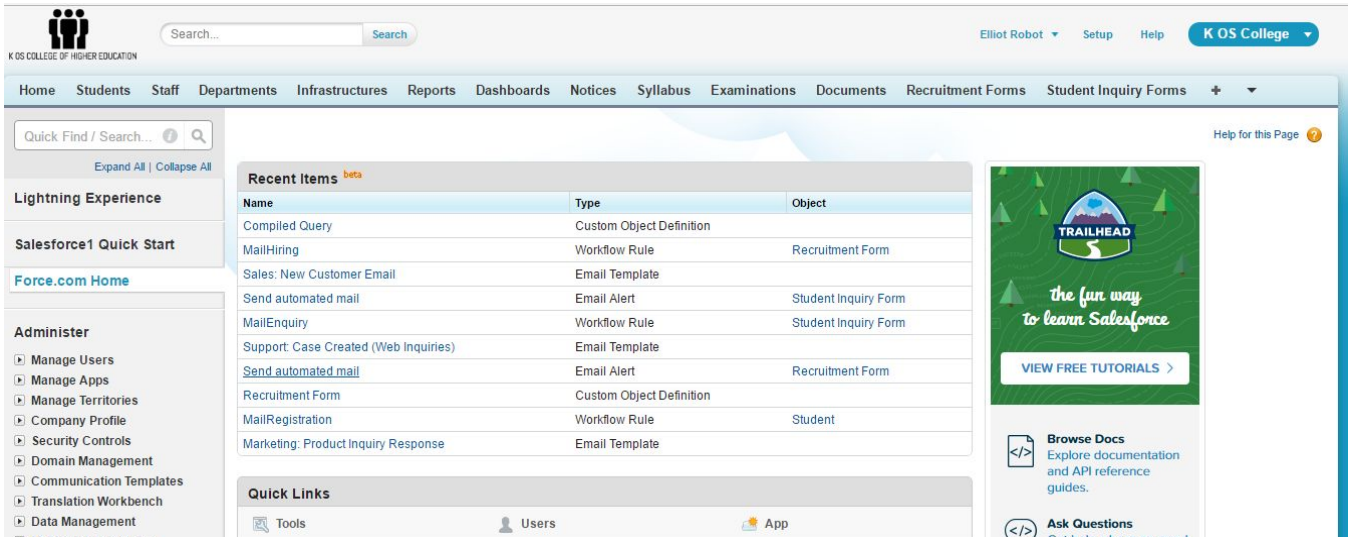
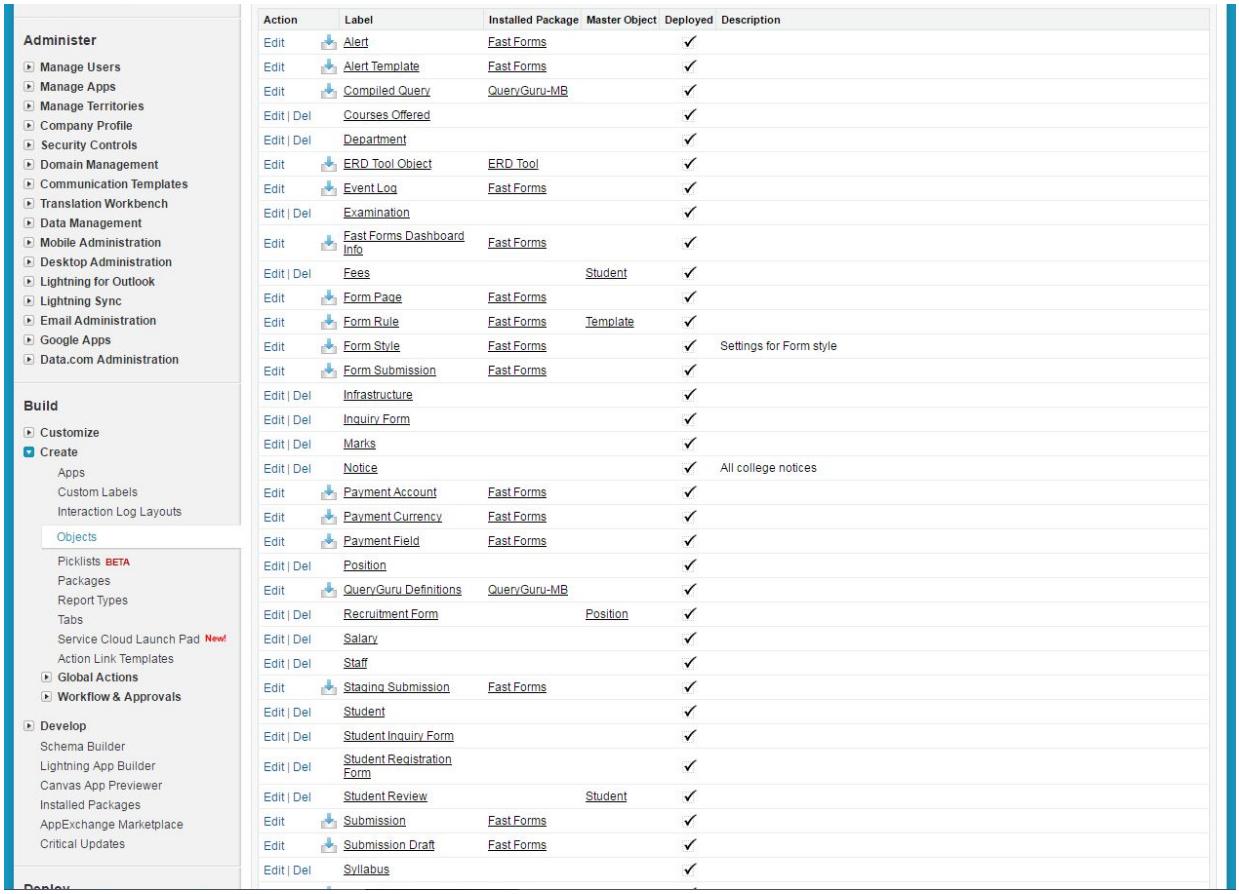


Fig 4:Salesforce Console

Custom Objects

Custom Objects are the modules created by the programmer.

Custom Objects used in this projects are:



Action	Label	Installed Package	Master Object	Deployed	Description
Edit	Alert	Fast Forms		✓	
Edit	Alert Template	Fast Forms		✓	
Edit	Compiled Query	QueryGuru-MB		✓	
Edit | Del	Courses Offered			✓	
Edit | Del	Department			✓	
Edit	ERD Tool Object	ERD Tool		✓	
Edit	Event Log	Fast Forms		✓	
Edit | Del	Examination			✓	
Edit	Fast Forms Dashboard Info	Fast Forms		✓	
Edit | Del	Fees		Student	✓	
Edit	Form Page	Fast Forms		✓	
Edit	Form Rule	Fast Forms	Template	✓	
Edit	Form Style	Fast Forms		✓	Settings for Form style
Edit	Form Submission	Fast Forms		✓	
Edit | Del	Infrastructure			✓	
Edit | Del	Inquiry Form			✓	
Edit | Del	Marks			✓	
Edit | Del	Notice			✓	All college notices
Edit	Payment Account	Fast Forms		✓	
Edit	Payment Currency	Fast Forms		✓	
Edit	Payment Field	Fast Forms		✓	
Edit | Del	Position			✓	
Edit	QueryGuru Definitions	QueryGuru-MB		✓	
Edit | Del	Recruitment Form		Position	✓	
Edit | Del	Salary			✓	
Edit | Del	Staff			✓	
Edit	Staging Submission	Fast Forms		✓	
Edit | Del	Student			✓	
Edit | Del	Student Inquiry Form			✓	
Edit | Del	Student Registration Form			✓	
Edit | Del	Student Review		Student	✓	
Edit	Submission	Fast Forms		✓	
Edit	Submission Draft	Fast Forms		✓	
Edit | Del	Syllabus			✓	

Fig 5: Custom Objects used in this project

Users

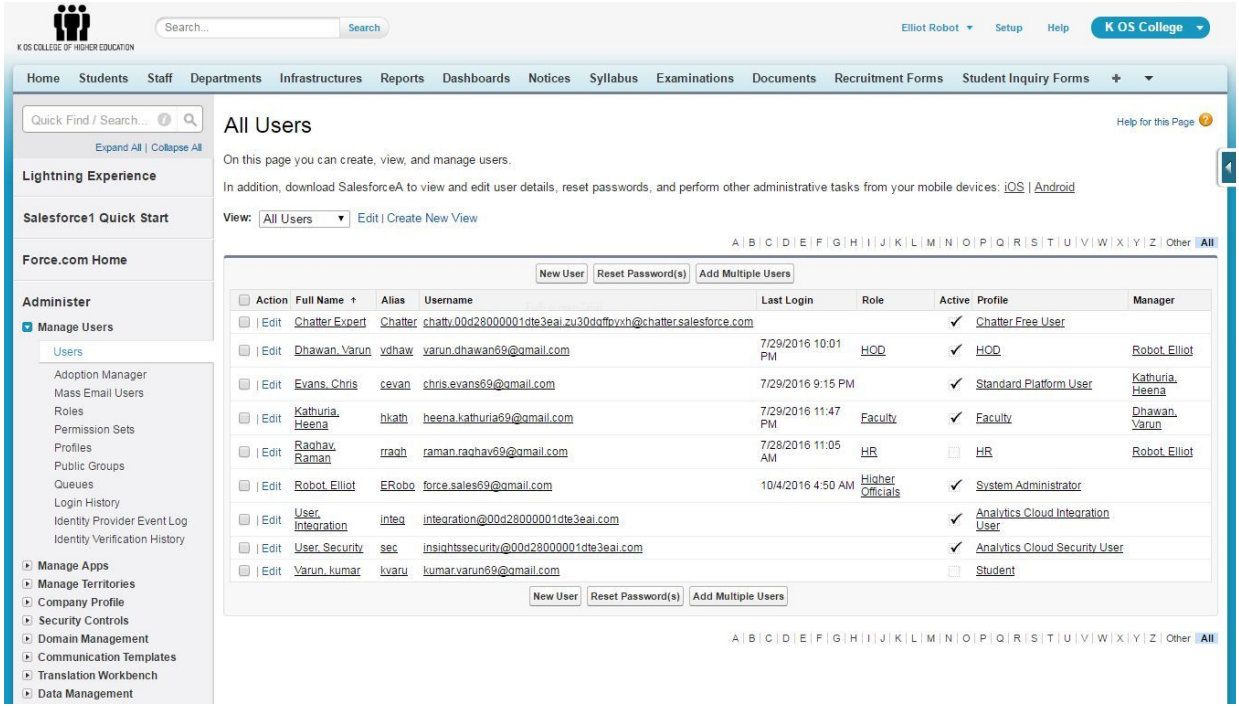


Fig 6: List showing various active users.

- System Administrator

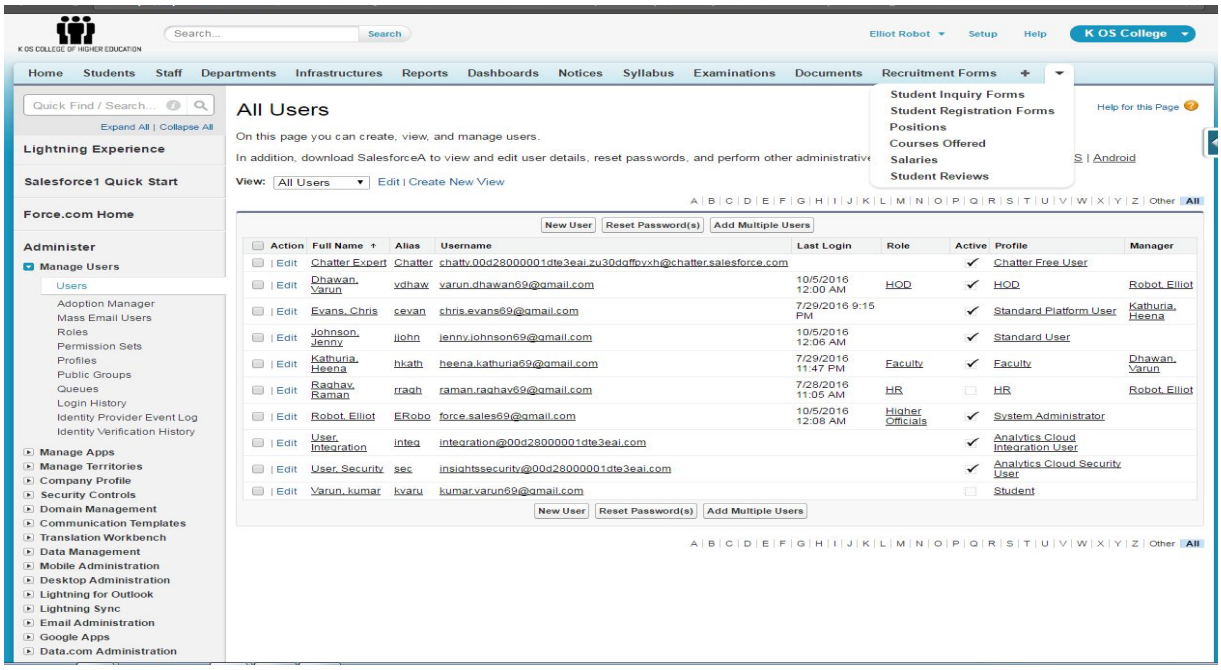


Fig 7: Tabs Accessible to System Administrator

- Head Of Department

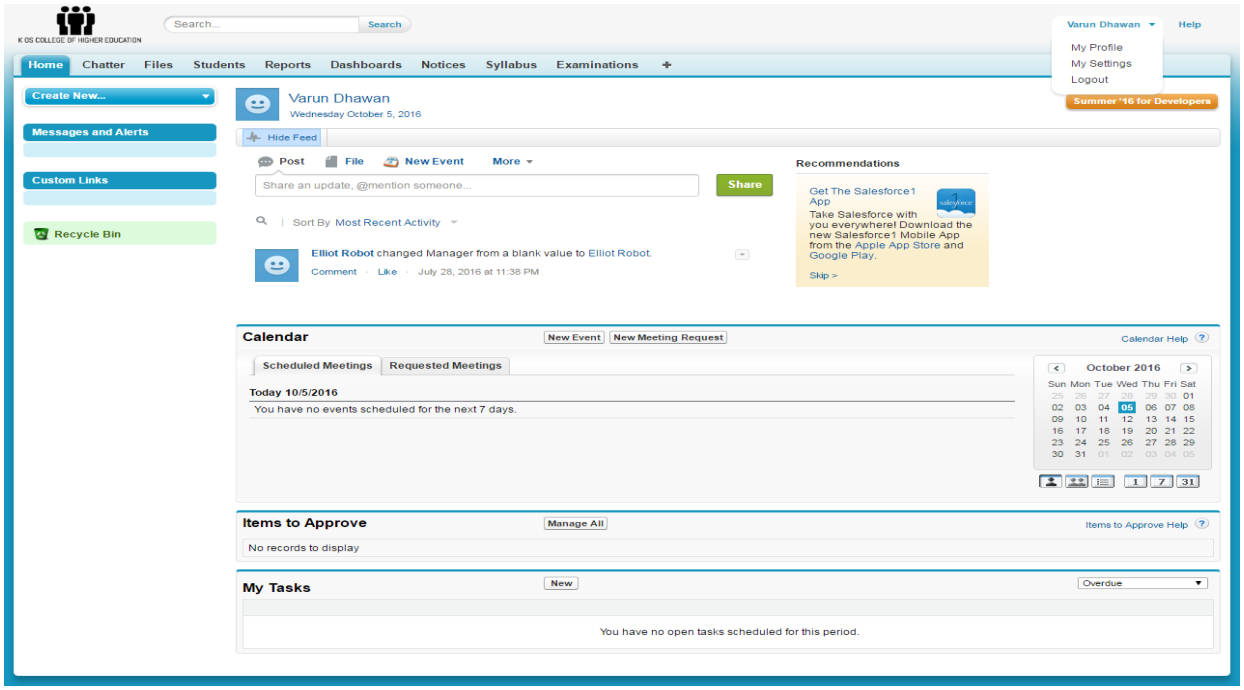


Fig 8: Tabs Accessible to Head of Department

- Faculty

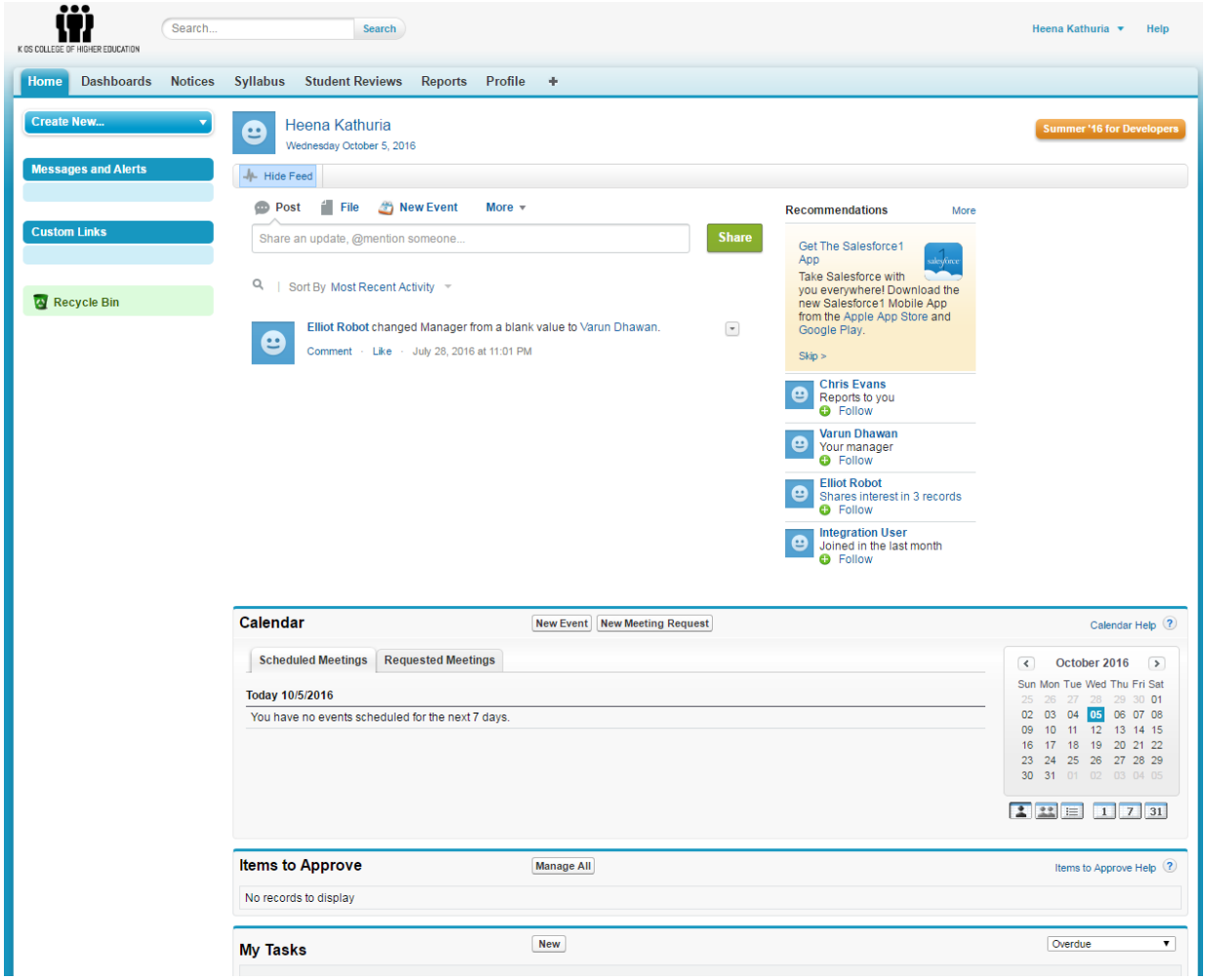


Fig 9: Tabs accessible to faculty of college

Security Controls

System administrator decide what is visible by different users. Security controls have to be set on profile basis which are then applied to all users under the particular profile.

- Security control for HOD

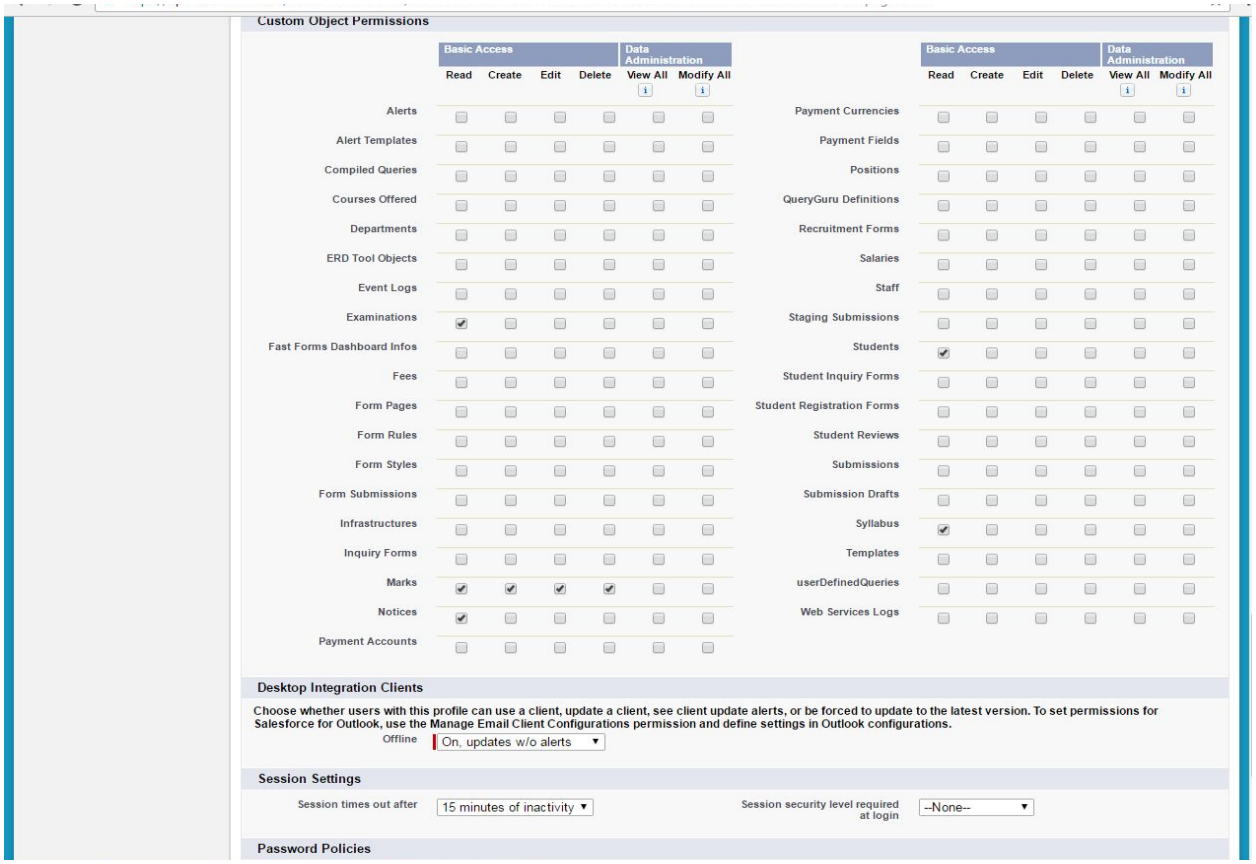
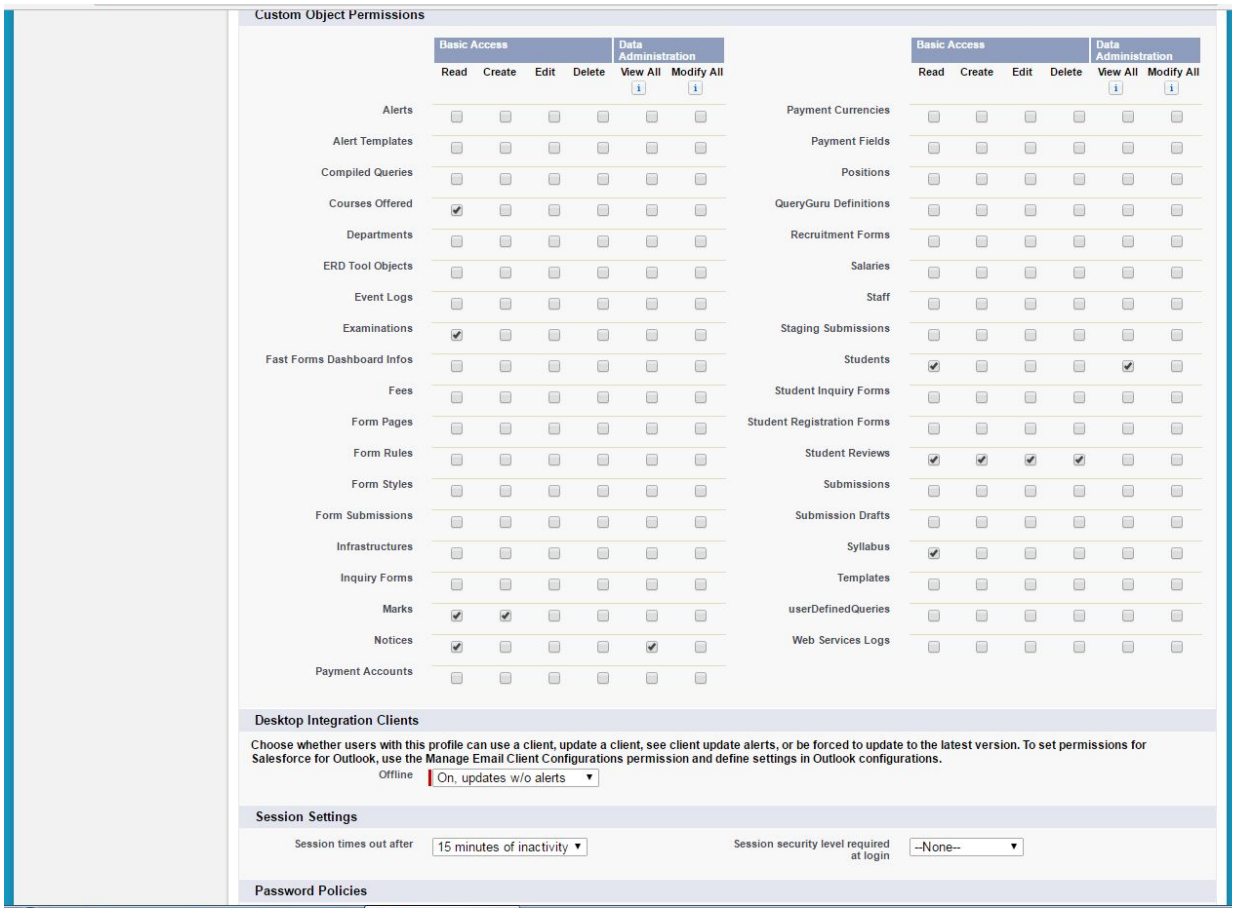


Fig 10: RCDE for HOD

- Security Control for Faculty



Custom Object Permissions

	Basic Access				Data Administration	
	Read	Create	Edit	Delete	View All	Modify All
Alerts	☐	☐	☐	☐	☐	☐
Alert Templates	☐	☐	☐	☐	☐	☐
Compiled Queries	☐	☐	☐	☐	☐	☐
Courses Offered	☑	☐	☐	☐	☐	☐
Departments	☐	☐	☐	☐	☐	☐
ERD Tool Objects	☐	☐	☐	☐	☐	☐
Event Logs	☐	☐	☐	☐	☐	☐
Examinations	☑	☐	☐	☐	☐	☐
Fast Forms Dashboard Infos	☐	☐	☐	☐	☐	☐
Fees	☐	☐	☐	☐	☐	☐
Form Pages	☐	☐	☐	☐	☐	☐
Form Rules	☐	☐	☐	☐	☐	☐
Form Styles	☐	☐	☐	☐	☐	☐
Form Submissions	☐	☐	☐	☐	☐	☐
Infrastructures	☐	☐	☐	☐	☐	☐
Inquiry Forms	☐	☐	☐	☐	☐	☐
Marks	☑	☑	☐	☐	☐	☐
Notices	☑	☐	☐	☐	☑	☐
Payment Accounts	☐	☐	☐	☐	☐	☐

	Basic Access				Data Administration	
	Read	Create	Edit	Delete	View All	Modify All
Payment Currencies	☐	☐	☐	☐	☐	☐
Payment Fields	☐	☐	☐	☐	☐	☐
Positions	☐	☐	☐	☐	☐	☐
QueryGuru Definitions	☐	☐	☐	☐	☐	☐
Recruitment Forms	☐	☐	☐	☐	☐	☐
Salaries	☐	☐	☐	☐	☐	☐
Staff	☐	☐	☐	☐	☐	☐
Staging Submissions	☐	☐	☐	☐	☐	☐
Students	☑	☐	☐	☐	☑	☐
Student Inquiry Forms	☐	☐	☐	☐	☐	☐
Student Registration Forms	☐	☐	☐	☐	☐	☐
Student Reviews	☑	☑	☑	☑	☐	☐
Submissions	☐	☐	☐	☐	☐	☐
Submission Drafts	☐	☐	☐	☐	☐	☐
Syllabus	☑	☐	☐	☐	☐	☐
Templates	☐	☐	☐	☐	☐	☐
userDefinedQueries	☐	☐	☐	☐	☐	☐
Web Services Logs	☐	☐	☐	☐	☐	☐

Desktop Integration Clients

Choose whether users with this profile can use a client, update a client, see client update alerts, or be forced to update to the latest version. To set permissions for Salesforce for Outlook, use the Manage Email Client Configurations permission and define settings in Outlook configurations.

Offline: On, updates w/o alerts

Session Settings

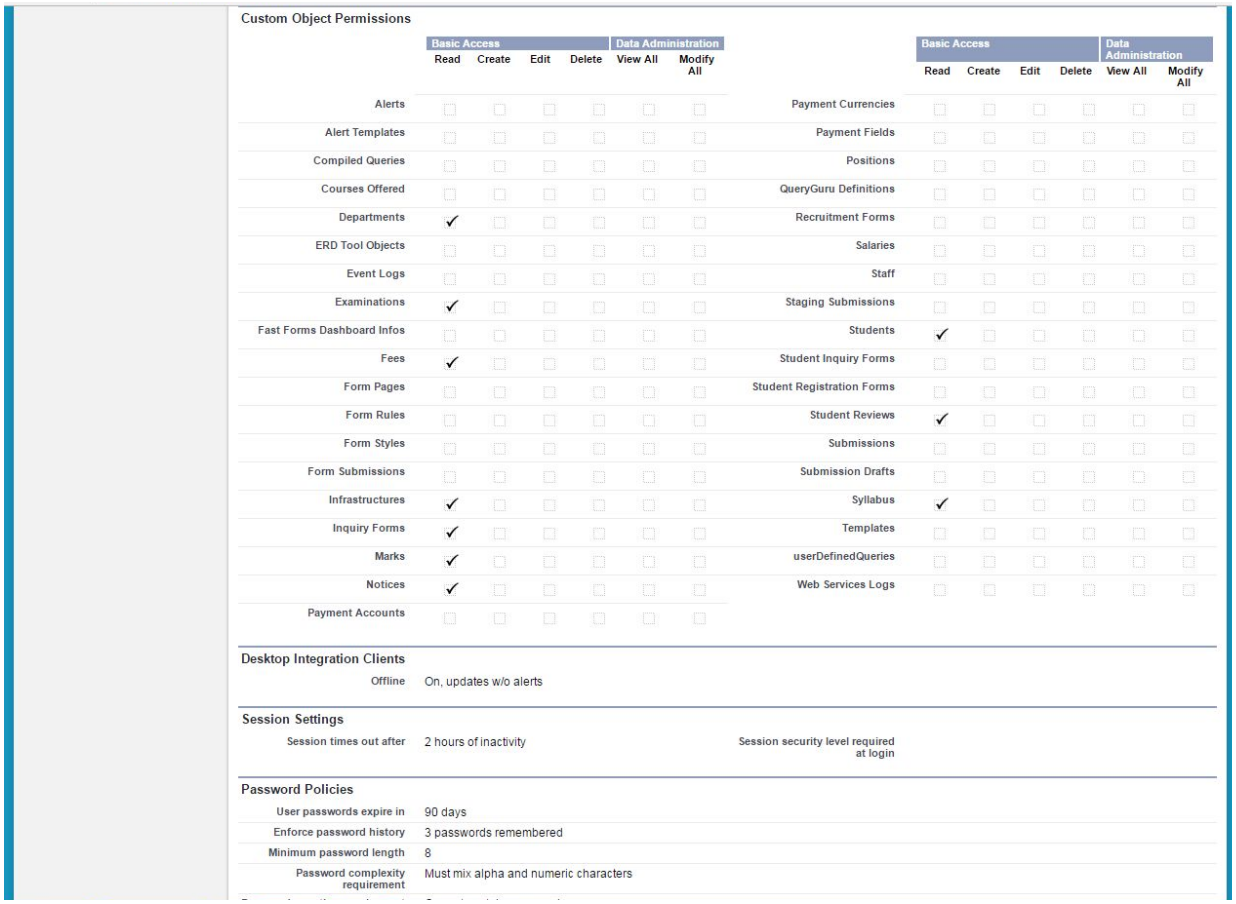
Session times out after: 15 minutes of inactivity

Session security level required at login: --None--

Password Policies

Fig 10: RCDE for Faculty

- Security Control For Student



Custom Object Permissions

	Basic Access				Data Administration	
	Read	Create	Edit	Delete	View All	Modify All
Alerts	☐	☐	☐	☐	☐	☐
Alert Templates	☐	☐	☐	☐	☐	☐
Compiled Queries	☐	☐	☐	☐	☐	☐
Courses Offered	☐	☐	☐	☐	☐	☐
Departments	✓	☐	☐	☐	☐	☐
ERD Tool Objects	☐	☐	☐	☐	☐	☐
Event Logs	☐	☐	☐	☐	☐	☐
Examinations	✓	☐	☐	☐	☐	☐
Fast Forms Dashboard Infos	☐	☐	☐	☐	☐	☐
Fees	✓	☐	☐	☐	☐	☐
Form Pages	☐	☐	☐	☐	☐	☐
Form Rules	☐	☐	☐	☐	☐	☐
Form Styles	☐	☐	☐	☐	☐	☐
Form Submissions	☐	☐	☐	☐	☐	☐
Infrastructures	✓	☐	☐	☐	☐	☐
Inquiry Forms	✓	☐	☐	☐	☐	☐
Marks	✓	☐	☐	☐	☐	☐
Notices	✓	☐	☐	☐	☐	☐
Payment Accounts	☐	☐	☐	☐	☐	☐

	Basic Access				Data Administration	
	Read	Create	Edit	Delete	View All	Modify All
Payment Currencies	☐	☐	☐	☐	☐	☐
Payment Fields	☐	☐	☐	☐	☐	☐
Positions	☐	☐	☐	☐	☐	☐
QueryGuru Definitions	☐	☐	☐	☐	☐	☐
Recruitment Forms	☐	☐	☐	☐	☐	☐
Salaries	☐	☐	☐	☐	☐	☐
Staff	☐	☐	☐	☐	☐	☐
Staging Submissions	☐	☐	☐	☐	☐	☐
Students	✓	☐	☐	☐	☐	☐
Student Inquiry Forms	☐	☐	☐	☐	☐	☐
Student Registration Forms	☐	☐	☐	☐	☐	☐
Student Reviews	✓	☐	☐	☐	☐	☐
Submissions	☐	☐	☐	☐	☐	☐
Submission Drafts	☐	☐	☐	☐	☐	☐
Syllabus	✓	☐	☐	☐	☐	☐
Templates	☐	☐	☐	☐	☐	☐
userDefinedQueries	☐	☐	☐	☐	☐	☐
Web Services Logs	☐	☐	☐	☐	☐	☐

Desktop Integration Clients

Offline	On, updates w/o alerts

Session Settings

Session times out after	2 hours of inactivity	Session security level required at login	

Password Policies

User passwords expire in	90 days
Enforce password history	3 passwords remembered
Minimum password length	8
Password complexity requirement	Must mix alpha and numeric characters

Fig 10: RCDE for Student

Workflow and approvals

Workflow

Workflow automates the following types of actions based on your organization's processes:

- Tasks—Assign a new task to a user, role, or record owner.
- Email Alerts—Send an email to one or more recipients you specify.
- Field Updates—Update the value of a field on a record.
- Outbound Messages—Send a secure, configurable API message (in XML format) to a designated listener.

For example, workflow can:

- Assign follow-up tasks to a support rep one week after a case is updated.
- Send sales management an email alert when a sales rep qualifies a large deal.
- Change the Owner field on a contract three days before it expires.
- Trigger an outbound API message to an external HR system to initiate the reimbursement process for an approved expense report.

Each workflow rule consists of:

- Criteria that cause the workflow rule to run.
- Immediate actions that execute when a record matches the criteria. For example, Salesforce can automatically send an email that notifies the account team when a new high-value opportunity is created.
- Time-dependent actions that queue when a record matches the criteria, and execute according to time triggers. For example, Salesforce can automatically send an email reminder to the account team if a high-value opportunity is still open ten days before the close date.

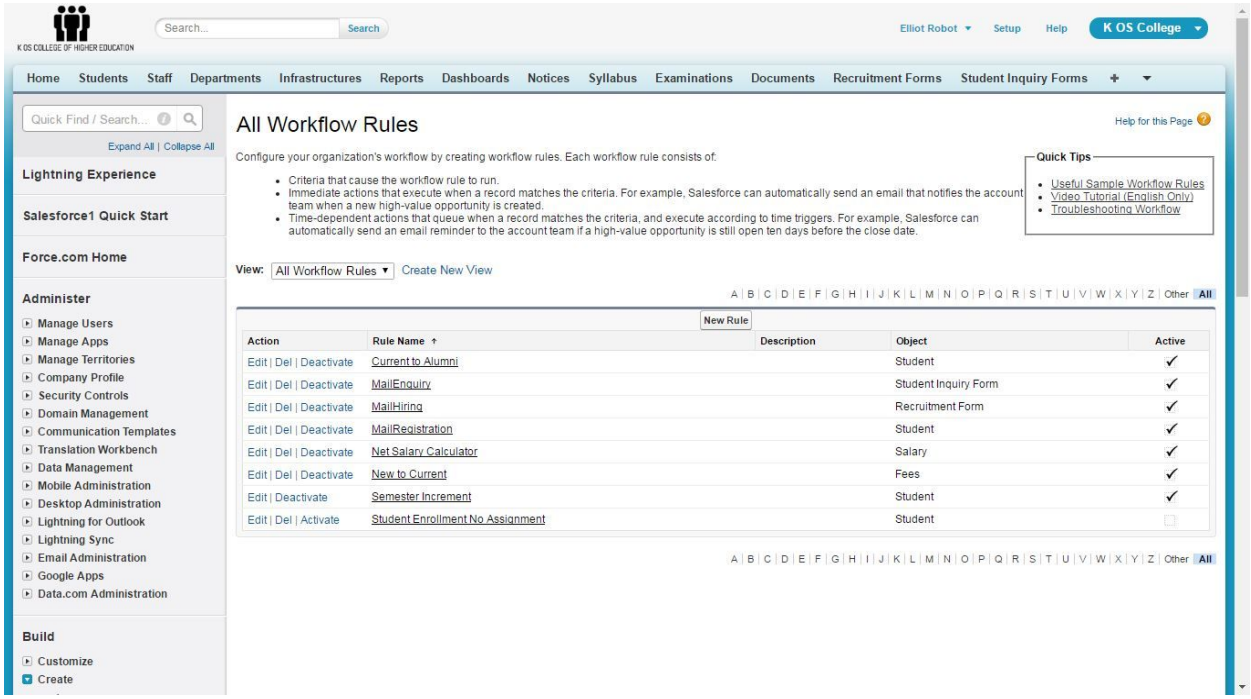


Fig 11: Various workflow Rules

Process Builder

The Process Builder allows you to see and manage all your processes in one place.

To manage a process, from Setup, enter Process Builder in the Quick Find box, then select **Process Builder**.

From the process management page, you can:

- Create a process
- Edit a process
- Delete an inactive process
- See the status of your existing processes
- Sort your processes by name, description, object, last modified date, or status.

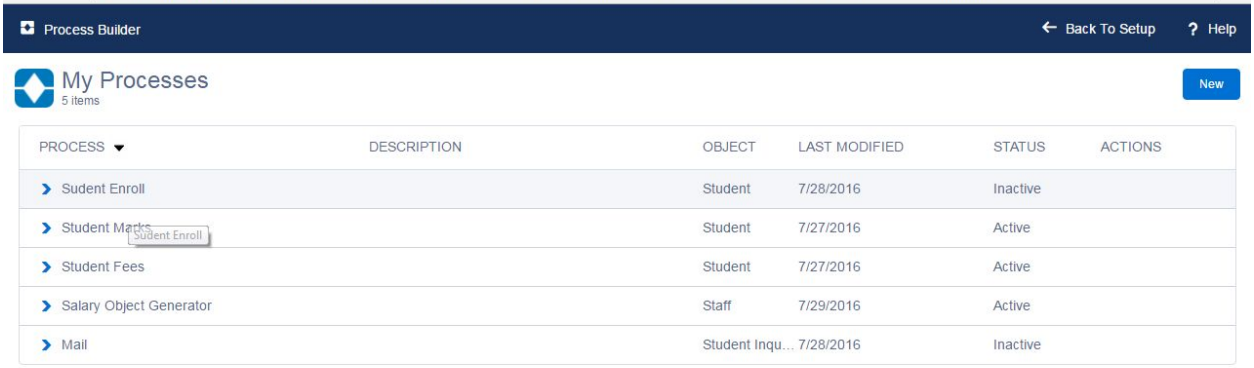


Fig 12: Various Process built using process builder

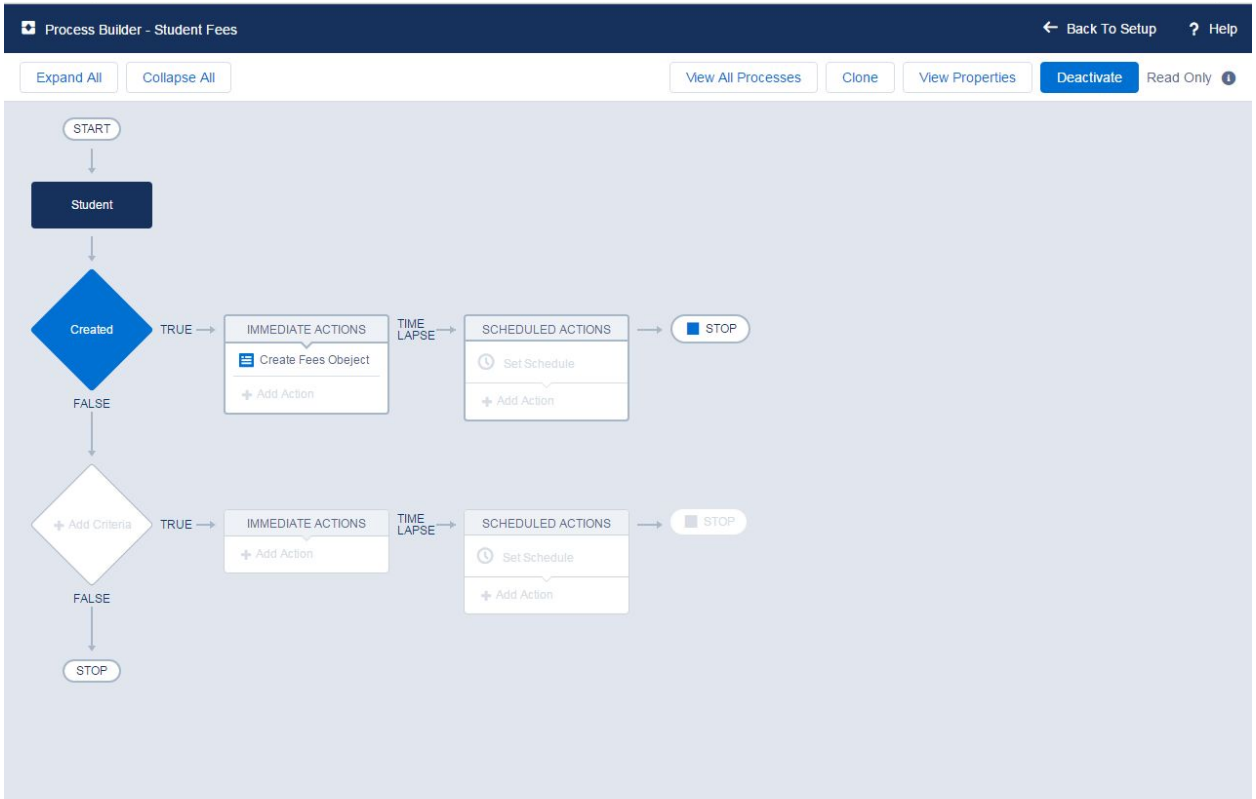


Fig 13: Process Builder Of Student Fees

Permission Sets

On this page you can create, view, and manage permission sets. Permission Sets define the permissions that are available to a particular user.

In addition, you can use the SalesforceA mobile app to assign permission sets to a user.

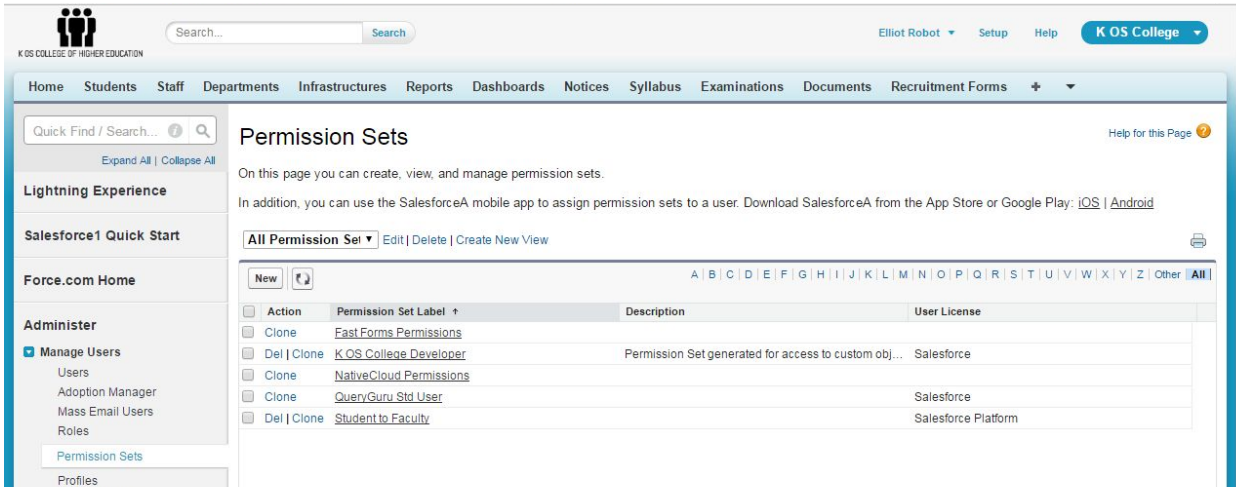


Fig 14: Permission Sets

Apex Classes

In Apex, you can define top-level classes (also called outer classes) as well as inner classes, that is, a class defined within another class. You can only have inner classes one level deep. For example:

```
public class myOuterClass
{
      // Additional myOuterClass code
      Here
      class myInnerClass
      {here
            // myInnerClass code
      }
}
```

To define a class, specify the following:

- Access modifiers:
    - You must use one of the access modifiers (such as public or global) in the declaration of a top-level class.
    - You do not have to use an access modifier in the declaration of an inner class.
- Optional definition modifiers (such as virtual, abstract, and so on)
- Required: The keyword class followed by the name of the class
- Optional extensions and/or implementations

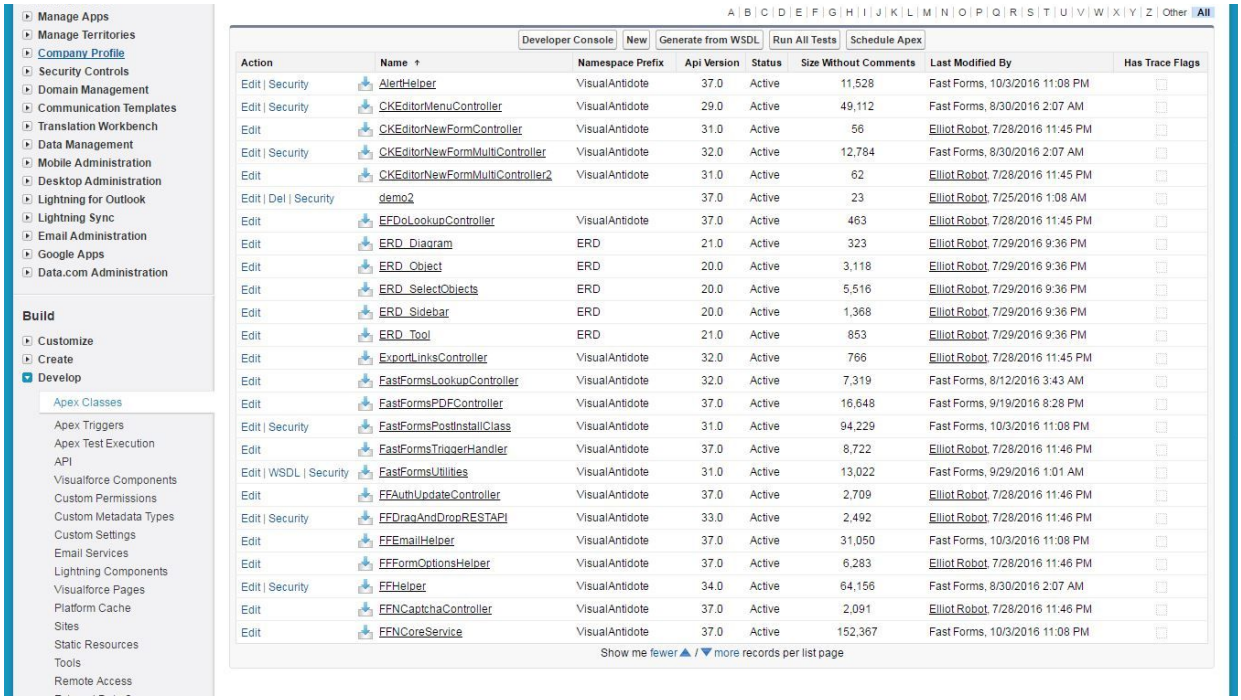


Fig 15: Various Apex Classes

Apex Triggers

Apex can be invoked by using triggers. Apex triggers enable you to perform custom actions before or after changes to Salesforce records, such as insertions, updates, or deletions.

A trigger is Apex code that executes before or after the following types of operations:

- insert
- update
- delete
- merge
- upsert
- Undelete

There are two types of triggers:

- Before triggers are used to update or validate record values before they're saved to the database.
- After triggers are used to access field values that are set by the system (such as a record's Id or LastModifiedDate field), and to affect changes in other records, such as logging into an audit table or firing asynchronous events with a queue. The records that fire the *after trigger* are read-only.

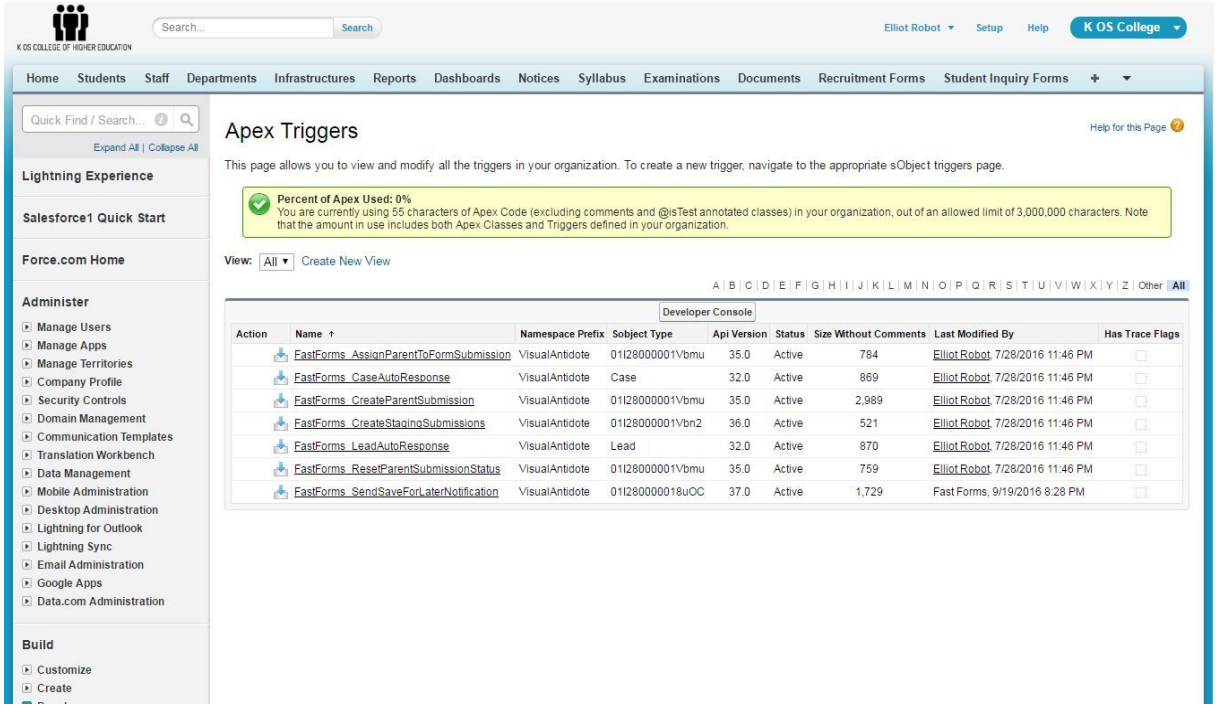


Fig 16: Various Apex Triggers

Enquiry form

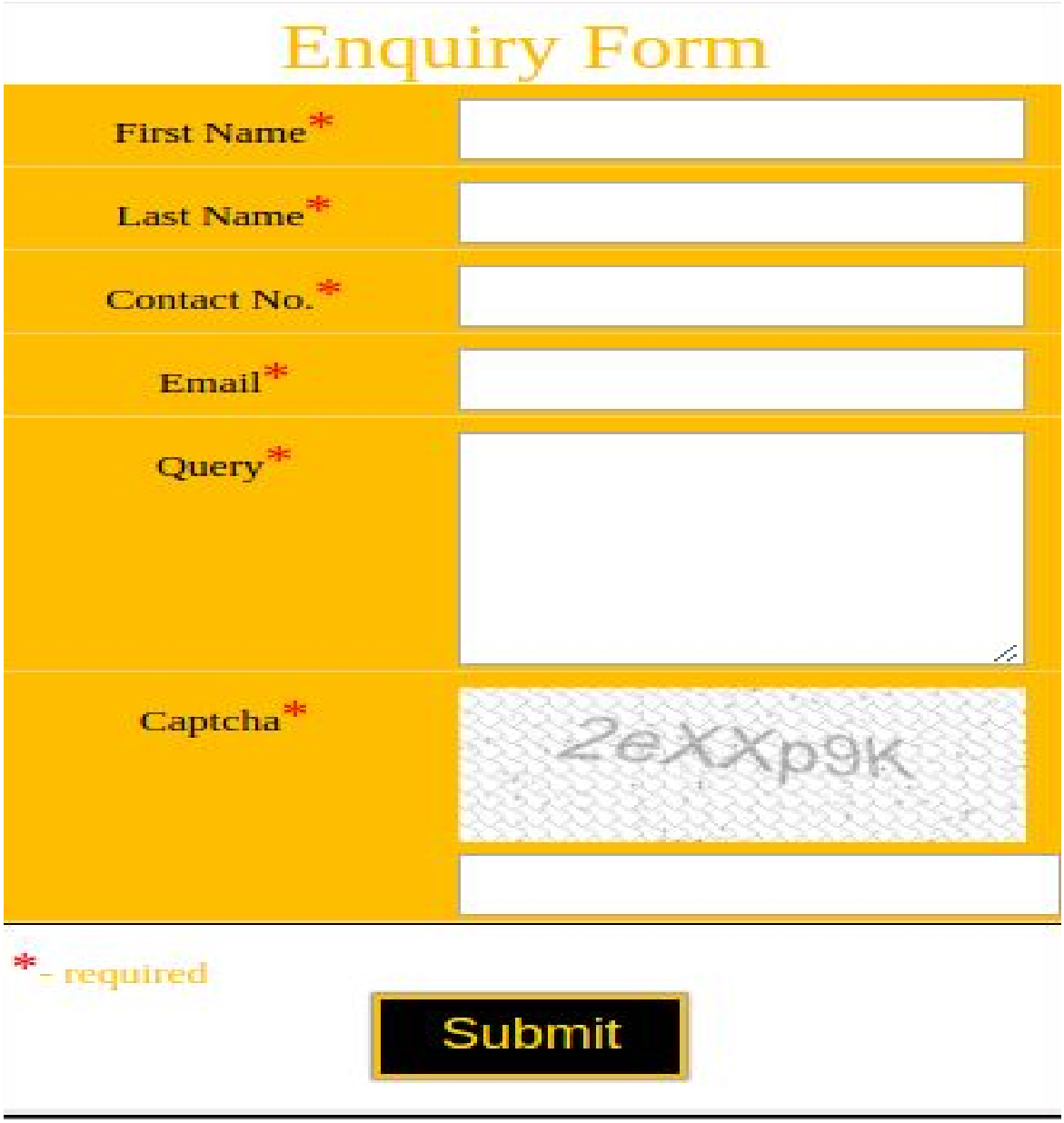
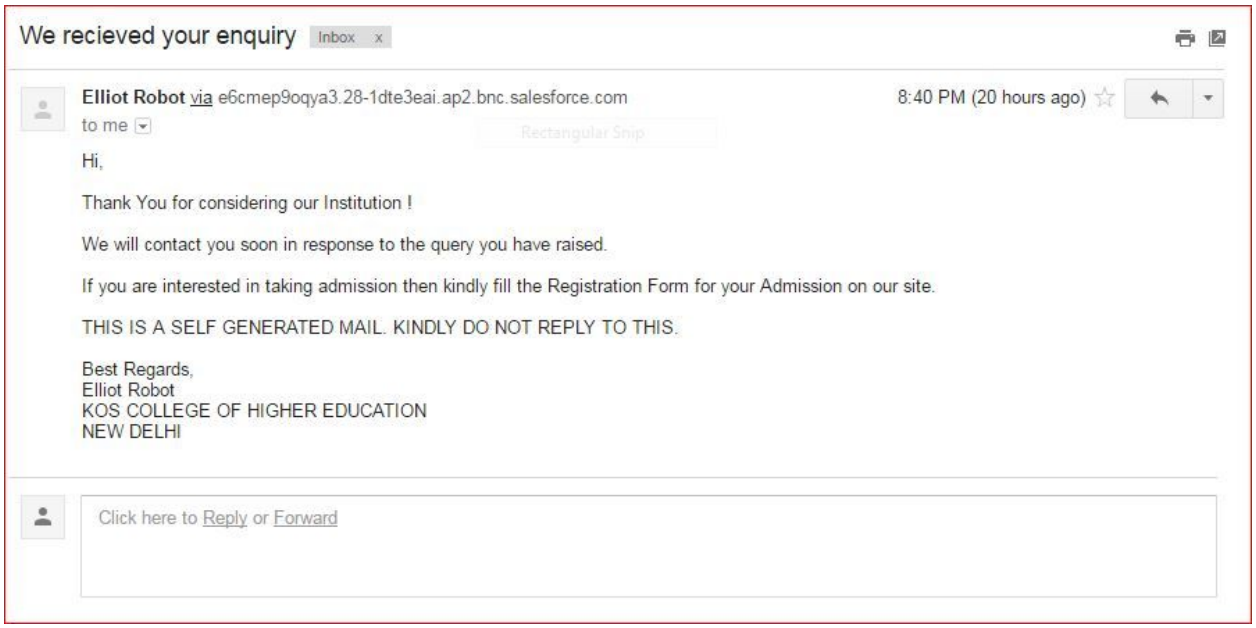


Fig 17: Enquiry Form

After filling the Enquiry Form, the applicant will get a confirmation mail, followed by a response from the college .



We recieved your enquiry Inbox x

Elliot Robot via e6cmep9oqya3.28-1dte3eai.ap2.bnc.salesforce.com 8:40 PM (20 hours ago)

to me

Hi,

Thank You for considering our Institution !

We will contact you soon in response to the query you have raised.

If you are interested in taking admission then kindly fill the Registration Form for your Admission on our site.

THIS IS A SELF GENERATED MAIL. KINDLY DO NOT REPLY TO THIS.

Best Regards,
Elliot Robot
KOS COLLEGE OF HIGHER EDUCATION
NEW DELHI

Click here to Reply or Forward

Fig 18: Response mail on successful filling of enquiry form.

Student Registration Form

New Student can register through the college website as follows:

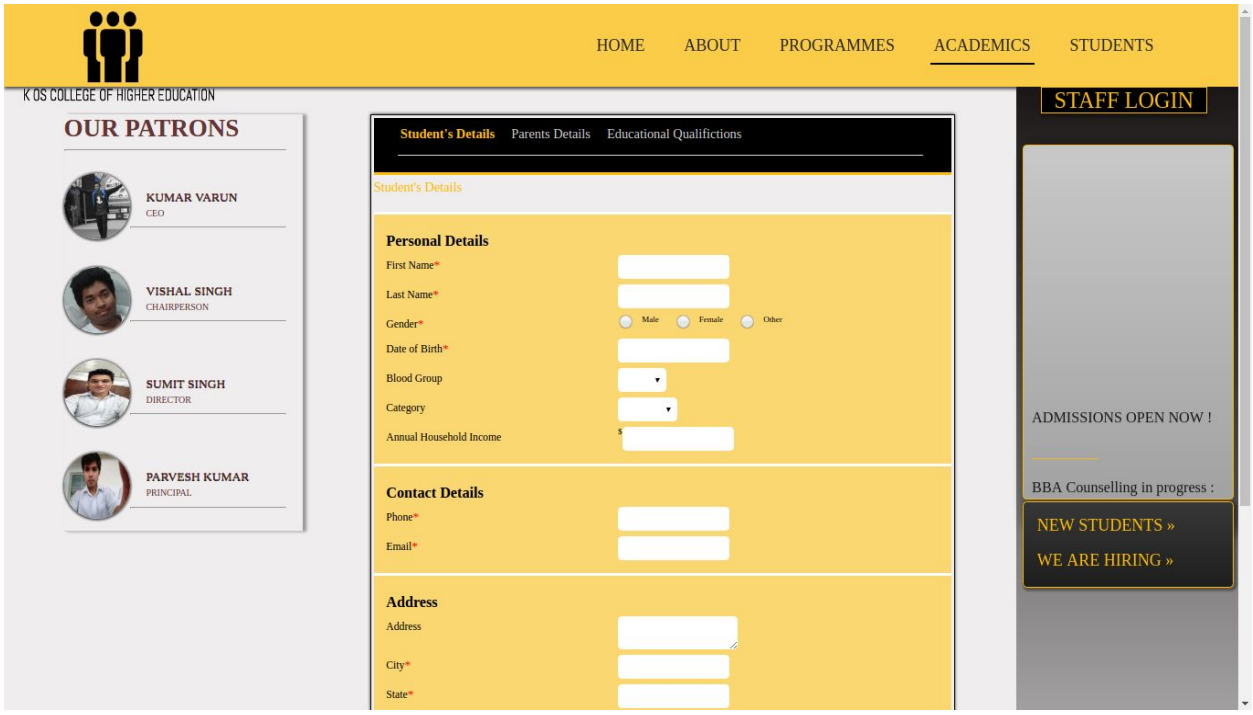


Fig 19: Student Registration Form

Future Scope

We can improve the project further by adding some of the following features:

- Online Fee Payment mode for the Students.
- Better interface for the users.
- Accounts for the current students so they can communicate individually with the faculty.
- Improve the security, so as to make the system more secure.
- Anonymous Feedback
- Features for Alumni

Conclusion :

It was a wonderful and learning experience for us while working on this project. This project took us through the various phases of project development and gave us real insight into the world of software engineering. The joy of working and the thrill involved while tackling the various problems and challenges gave us a feel of developers industry.

It was due to this project we came to know how professional software's are designed.

We enjoyed each and every bit of work we had put into this project.

The project is further expandable.

References

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