



Integrated Student Services

Strategic ICT & eBusiness Implementation

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Abstract:

In this ICT project our team is been hired by Oxygen.ie to provide integrated student services with our partners on retails, banking, transport, government services, etc. Our main aim of this project is to bring these key services at their finger tip of the International Students and hence reducing the time taken to get adjusted and settled in Ireland. In this project we will use Salesforce and explore the Salesforce ecosystem and how we can deploy complex ERP systems online quickly by reducing development costs.

Introduction:

The number of International students is growing at a rapid pace in Ireland, and the number is expected to rise even more. Statistically, Ireland has the highest English-speaking population (98.37%) in EU which contributes to the growth even further. According to the "Higher Education Authority of Ireland", about 80% of the students studying in Ireland are Non-EU and the number has increased by 10% in the past 5 years. (Higher Edcation Authority, 2018)

There are a lot of difficulties faced by every International student in Ireland in the process of settling down and registering for a multitude of services like GNIB, PPSN, Leap Card, Bank Account, Accommodation etc. The process for registering to each of this system has many redundant parts associated with them like College letter for verification, Basic student details, etc. Each of the above system registrations take considerable amount of time to process, complete and provide service.

Our main goal is to provide an integrated platform to the international students which have solution to the above issue. Our system will work hand in hand with the Government Organisation, Banks, Colleges, Private companies to reduce the extra efforts by an International student and can focus on their academics and journey in Ireland.

Related Work:

1. International Student Identity Card (ISIC) (ISIC Card, 2018)

ISIC cards are a kind of discount card being made available to international student around the world who are studying full time at a school college or university. The card basically provides a wide range of discounts at major shops and attractions. But these cards are only used for the purpose of discounts and not for any kind of official appointments in regards to students GNIB and PPSN.

2. iConnect card (ISSU iConnect Card, 2018)

This card is again a kind of student id card made for the international students to give a huge range of discounts. It also provides access to information and support on school and workplace issue. but again this card doesnt provide any booking facility for official appointments.

3. The European student Card Project (The European Student Card, 2018)

The basic services provided by the project includes:

1. Recognition of student status and identity
2. Access to campus, libraries etc.
3. Payment at restaurants, vending machine and any other service which are required by students.
4. Transfer of student records.
5. Erasmus mobility between institution and for the student through paperless process.

Project Scope:

The project involved integrating many services like banking services, Leap card, Club Cards, etc. After the assessment of the prototype of the project, we have reduced the project requirement and made a full fledge integrated Salesforce application to book GNIB and PPSN via API call with the basic college verification process. Other functionalities like banking services, Leap Card, etc. will be included in the future scope of the project.

Business Requirement:

With Technological advancement, every task is automated and is designed to work more efficiently. The government services mentioned above can be included in the slow and time-consuming domain. we are developing a prototype which will bring services to the customer rather than customer going to them. The customer base which we will get from this system will have a promising future aspect. There are some restrictions for a customer to join the platform which will be part of Sales Process Flow. The essential factors for the Business model are as follows:

1. Hassle free registration process for all the system at one point.
2. One-time verification process for all services.
3. Reduce the fraud for GNIB and PPSN via integrated government services (Apex-API).
4. Analytics on the factual data and can be used to improve the services.
5. The separate outlook for Admin as well as customers.
6. Removing the invalid data from the system for better analytics

Sales Process Flow:

- 1) Student will visit our website and register themselves by creating a profile. ([Fig1](#))
- 2) A mail will be sent with the activation link of the profile. ([Fig2](#))
- 3) User fill all the personal details and accept the disclosure. ([Fig3](#))
- 4) Mail sent suggesting them to visit our nearest Store for offline verification. ([Fig4](#))
- 5) At this stage user cannot opt for any services they need to go through a verification process. ([Fig5](#))
- 6) They will visit our nearest branch for offline verification (Mandatory Document list will be in the mail). ([Fig6](#))
- 7) All the documents will be verified, scanned and will be uploaded to the profile by our team. Mail sent for successful verification of profile. ([Fig7.1](#), [Fig7.2](#))
- 8) If the documents are insufficient to fulfil the needs, then the profile will be deactivated, and a mail will be sent. ([Fig8.1](#), [Fig8.2](#))
- 9) Student can login and opt for the GNIB or PPSN services if needed. ([Fig9](#))
- 10) If any service is opted relevant mail either from respective department of government will be received with confirmation and appointment date. ([Fig10](#))

Why use Salesforce Platform as a Service?:

1. It's a Cloud based platform with universal access that reduces the time for development and deployment of ERP solutions.
2. The user will always use updated system for interaction since it is a Cloud based solution. It does not require any maintenance and updates.
3. It saves us the costs of buying hardware and servers thus we can access the application on any basic hardware configuration.
4. It is very easy to integrate the Salesforce application with other systems through API calls.
5. Most of the services are reliable and mature hence it is impossible to manipulate or hamper with the data which provides an additional security for the application.
6. Salesforce provides real time analytics by which we can get business insights and modify the business model accordingly.
7. The pay as you scale in users scheme helps us save money.
8. Salesforce forums allows us to easily search for answers to questions through Q&A pages and cases. (Open Codez, 2017) (SelectHub, 2017) (Finances Online , 2017)

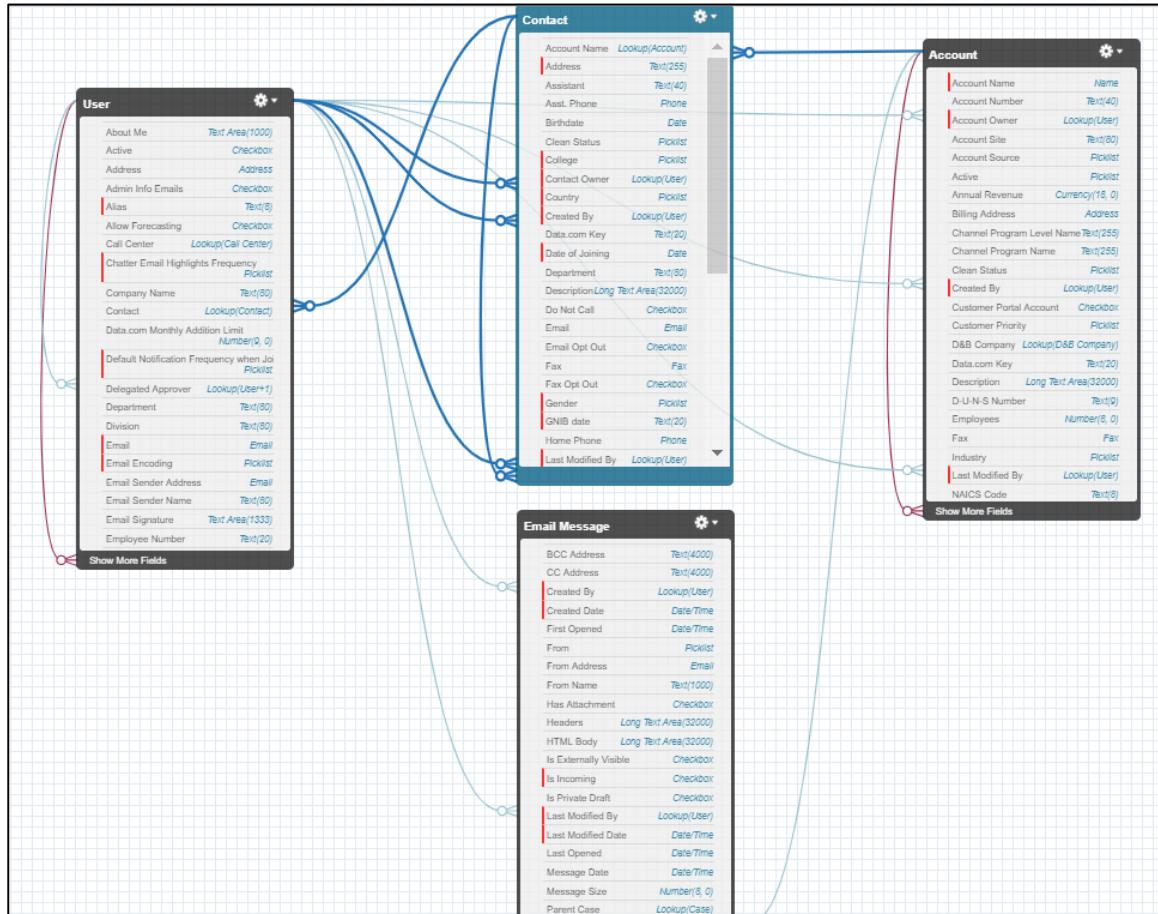
Infrastructure:

We have used Salesforce as a cloud-based platform, PHP for 2 dummy 3rd party API to emulate web services of GNIB and PPSN. Factors effecting are mentioned below:

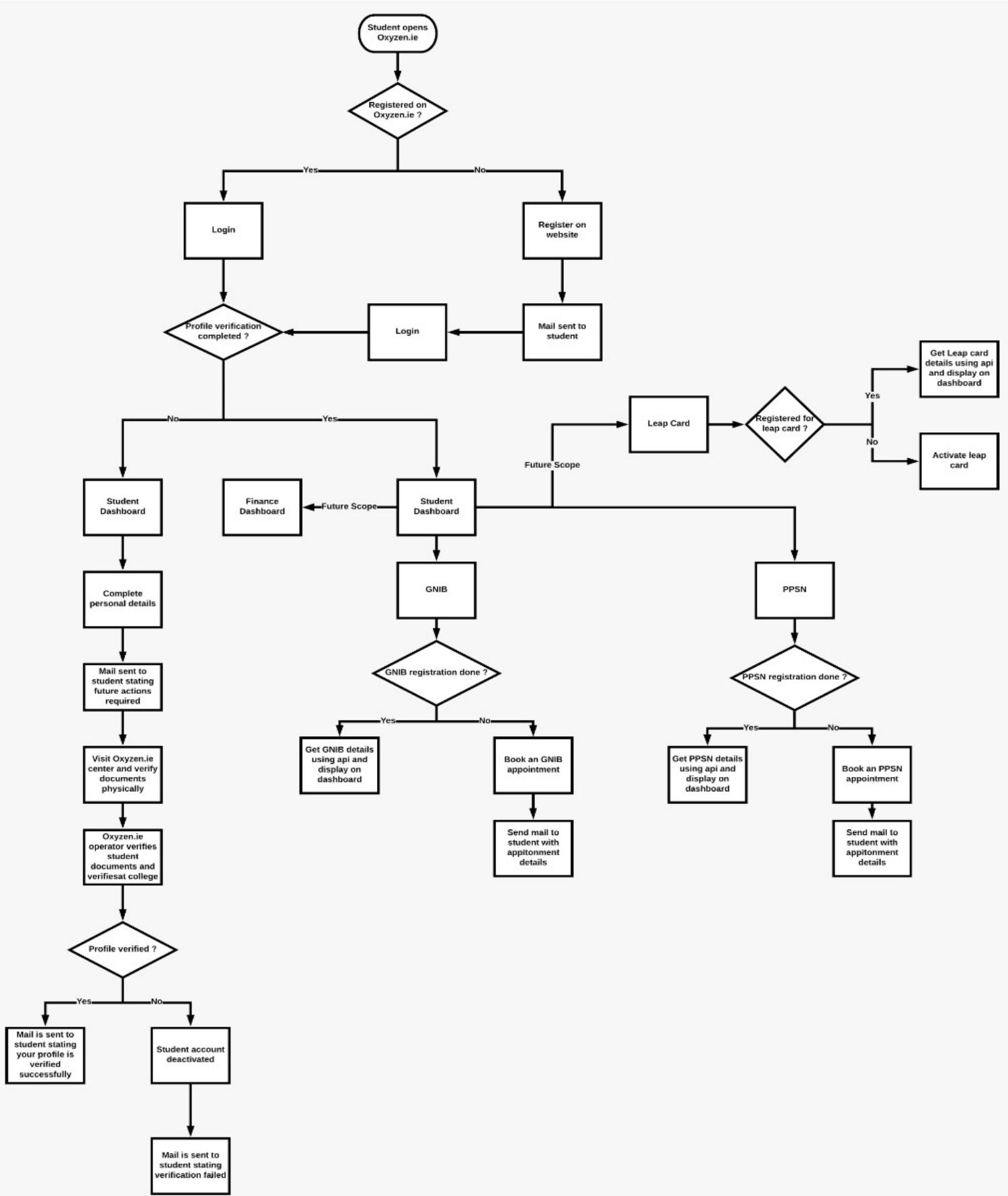
- Strength:
 - 1) The quality and quantity of the data can be maintained and can be easily accessible.
 - 2) Saves a lot of time since everything is organised in a proper manner.
 - 3) Automation are done via process builder example: Email, Interconnection with 3rd party API's.

- **Weakness:**
 1. Training is mandatory which add cost for the organisation.
 2. As it new and deals with sensitive data there might be some resistance to its usage.
- **Opportunities**
 1. This application can prove to be the best among all the other student card providers with the capability which other card providers can't provide.
 2. With its proper use student can save a lot of time and paper work.
- **Threat:**
 1. Very sensitive data and need to handle it carefully taking GDPR regulation into consideration.
 2. Insecure protocol to connect 3rd party API's (get, HTTP, no authentication).
 3. System Break down will lead to loss of data.

Schema Design



Process Flow Diagram:



Implementation:

We have implemented the project using the following:

1. Created a Salesforce community for external users.
2. Created 2 API using PHP, python and MySQL.
3. Integrated the API to Salesforce.
4. Created Custom visual force pages with custom controller.
5. Used process builder and email alerts to send mails.
6. Created dashboards using reports.

We have created a community as a part of our management software system titled Oxyzen which facilitates students to use the software. It involved some steps which have been described sequentially below.

Account Creation:

First step involved the creation of Account with account name as Oxyzen and Account owner named NCI ICT.

The screenshot shows the 'Account Detail' page in Salesforce. The 'Account Name' field is highlighted with a red box and contains the value 'Oxygen [View Hierarchy]'. Other fields visible include 'Parent Account', 'Account Number', 'Account Site', 'Type', 'Industry', 'Annual Revenue', 'Billing Address', 'Customer Priority', 'SLA Expiration Date', 'Number of Locations', 'Active', 'Created By' (set to 'NCI ICT, 08/12/2018 15:36'), 'Description', 'Custom Links' (set to 'Billing'), 'Phone', 'Fax', 'Website', 'Ticker Symbol', 'Ownership', 'Employees', 'SIC Code', 'Shipping Address', 'SLA', 'SLA Serial Number', 'Upsell Opportunity', and 'Last Modified By' (set to 'NCI ICT, 08/12/2018 16:43'). Buttons at the top and bottom of the form include 'Edit', 'Delete', 'Include Offline', 'Manage External Account', and 'Rating'.

User setup:

We have created a user Student with profile as Customer Community Login User and not Customer Community User because we expect to have a large number of users but with infrequent access.

We have selected the Customer Community Login User Profile in the member section in the admin settings.

The screenshot shows the 'User Detail' page for a user named 'Student'. The 'Name' field is highlighted with a red box. Other fields include 'Alias' (student), 'Email' (student@student.com), 'Username' (student@student.com), 'Nickname' (student), 'Title', 'Company', 'Department', 'Address', 'Time Zone' ((GMT+00:00) Irish Summer Time (Europe/Dublin)), 'Locale' (English (Ireland,Euro)), 'Language' (English), 'Delegated Approver', and 'Manager'. On the right side, under the 'Role' section, the 'User License' is set to 'Customer Community Login' and the 'Profile' is highlighted with a red box and set to 'Customer Community Login User'. Other role options like 'Active', 'Partner User', 'Customer Portal User', 'Self-Registered via Customer Portal', 'Contact' (set to 'Student'), 'Knowledge User', 'Mobile Push Registrations' (set to 'View'), 'Data.com User Type' (set to 'Student'), 'Mobile User' (checked), 'Salesforce CRM Content User', and 'Receive Salesforce CRM Content Email Alerts' are also listed.

Profile setup

Here we have set the profile in order to set the permission and access to page layouts. These can only be changed by the Administrator whenever some action is required.

The screenshot shows the 'Profile Detail' section for the 'Student' profile. Key details include:

- Name:** Student (highlighted with a red box)
- User License:** Salesforce
- Description:** (empty)
- Created By:** NCI ICT, 08/12/2018 15:39
- Modified By:** NCI ICT, 09/12/2018 17:43
- Custom Profile:** checked

Console Settings: Console Layout [Edit]

Page Layouts:

Global	Idea	Variety by Record Type
Global Layout [View Assignment]		[View Assignment]
Email Application	Job Tracker	Job Tracker Layout - Winter '16 [View Assignment]
Not Assigned [View Assignment]		

Community Settings

We have selected the Customer Community Login User Profile because we expect to have a large number of users but with infrequent access.

The screenshot shows the 'Members' tab under 'Administration'. The 'Available Profiles' list includes:

- Analytics Cloud Integration User
- Analytics Cloud Security User
- Chatter Free User
- Chatter Moderator User
- Contract Manager
- Cross Org Data Proxy User
- Custom: Marketing Profile
- Custom: Sales Profile
- Custom: Support Profile
- Force.com - App Subscription User
- Force.com - Free User
- Identity User
- Marketing User
- Partner App Subscription User

The 'Selected Profiles' list contains:

- System Administrator
- Customer Community Login User (highlighted with a red box)

Buttons for 'Add' and 'Remove' are visible between the two lists.

Login and Registration Settings

Here we have customized the UI of the Login and registration Page by changing the Logo image and background. We have also changed the button colour.

The screenshot shows the 'Login & Registration' settings page within the Oxyzen community setup. The left sidebar lists various settings like 'Settings', 'Preferences', 'Members', 'Tabs', 'Branding', and 'Login & Registration'. The 'Login & Registration' tab is selected. The main area is titled 'Login & Registration' and contains a section for 'Branding Options'. It includes fields for 'Logo Type' (File), 'Logo File' (Choose file, No file chosen, JPG, GIF or PNG, 100 KB max.), and a preview area showing a logo with a red border and the word 'Oxyzen'. Below this are fields for 'Background Type' (Color) and 'Background' (#FFFFFF). A 'Login Button' color picker is set to #1872A4. Other fields include 'Right Frame URL' and 'Footer Text' (Salesforce.com).

We have set the logout URL and also selected the options to display on the login Page i.e. the type of username and password. We have also checked the checkbox allowing external users to self-register.

The screenshot shows the Oxyzen Administration interface with the following configuration:

- Logout Page URL:** https://ictproject-developer-edition.eu16.force.com
- Password Pages:** Both "Forgot Password" and "Reset Password" are set to "Default Page".
- Registration Page Configuration:**
 - Allow external users to self-register:** Checked
 - Choose a self-registration page to let users join your community:** "Default Page"
 - Assign users to a profile and account:**
 - Profile:** Customer Community Login User
 - Account:** Oxygen
- Note:** If you've enabled person accounts, leave the Account field empty.

At the bottom are "Save" and "Cancel" buttons.

The process flow our application named Oxyzen includes a number of steps which are being explained one by one as follows.

Login Page

Below Image shows the Login page of Oxyzen. Here we have two fields namely username and password with validation as email address for Username and password including 8 characters, 1 number and 1 letter.

In order to sign up as a new user we need to click on the Sign Up option which eventually gets navigated to the registration page as shown in the image followed by login page image.

Username
dineshg1994@gmail.com

Password
.....

Log In

Remember me

[Forgot Your Password?](#) [Sign Up](#)

[oxygen-nci employee? Log In](#)

Registration

Below screenshot shows the registration page which includes field like First Name, last name, Nickname, Email, Password and confirm passwords. The validation for password includes minimum 8 characters, 1 number and 1 letter. User name is being given same as the email id.

Oxyzen

First Name
Last Name
Nickname
Email
Password
Confirm Password

Submit

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Validation Rule: Password must have a mix of letters and numbers

The screenshot shows a Salesforce Oxyzen application interface. At the top, there is a blue header bar with the word "Oxyzen". Below the header, there is a yellow error message box containing a red exclamation mark icon and the text "Error: Your password must have a mix of letters and numbers". Below the error message, there is a form with the following fields:

- First Name: Dinesh
- Last Name: Gauda
- Nickname: Dinesh
- Email: dineshg1994@gmail.com
- Password: (empty field)
- Confirm Password: (empty field)

A "Submit" button is located at the bottom right of the form. At the very bottom of the page, there is a footer with the text "Copyright © 2000-2018 salesforce.com, inc. All rights reserved | Privacy Statement | Security Statement | Terms of Use".

Validation Rule: Password must be at least 8 characters in length.

The screenshot shows a Salesforce Oxyzen application interface. At the top, there is a blue header bar with the word "Oxyzen". Below the header, there is a yellow error message box containing a red exclamation mark icon and the text "Error: Your password must be at least 8 characters long.". Below the error message, there is a form with the following fields:

- First Name: Dinesh
- Last Name: Gauda
- Nickname: Dinesh
- Email: dineshg1994@gmail.com
- Password: "..." (with three dots indicating length)
- Confirm Password: "..." (with three dots indicating length)

A "Submit" button is located at the bottom right of the form. At the very bottom of the page, there is a footer with the text "Copyright © 2000-2018 salesforce.com, inc. All rights reserved | Privacy Statement | Security Statement | Terms of Use".

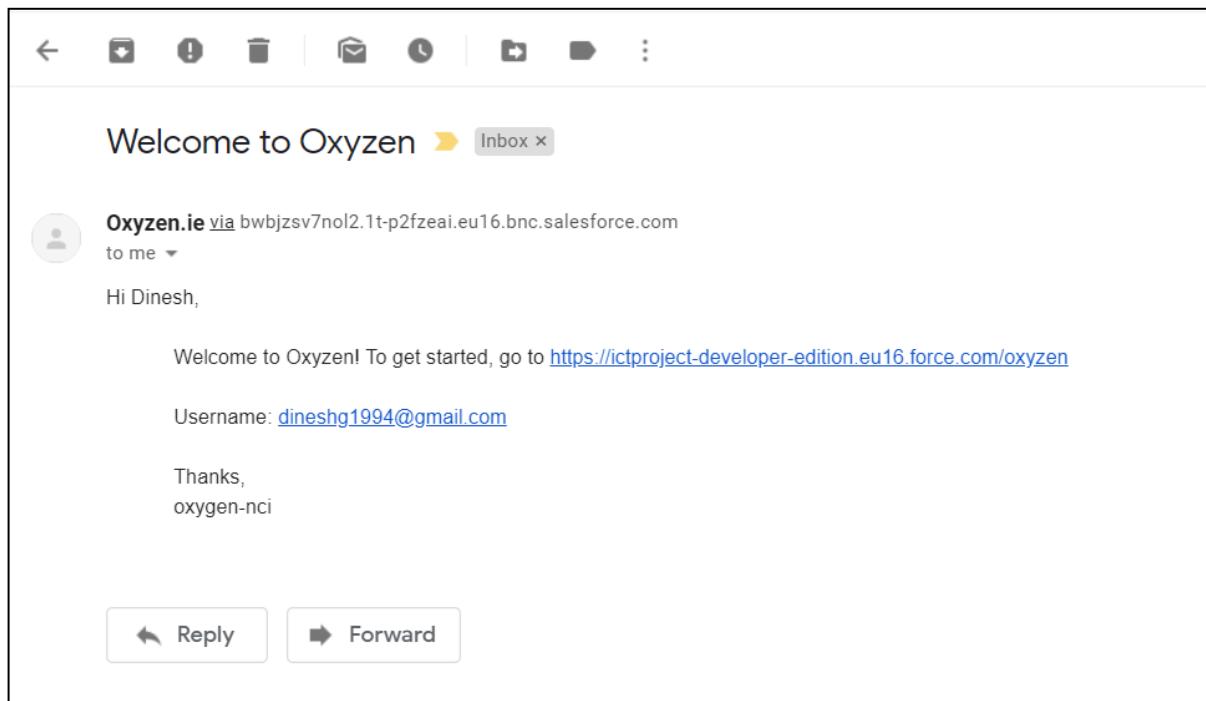
Validation Rule: Nickname already exist, Enter a new one.

The screenshot shows a Salesforce Oxyzen application interface. At the top, there is a blue header bar with the word "Oxyzen". Below the header, there is a yellow error message box containing a red exclamation mark icon and the text "Error: That nickname already exists. Enter a unique nickname.". Below the error message, there is a form with the following fields:

- First Name: Dinesh
- Last Name: Gauda
- Nickname: Dinesh
- Email: dineshg1994@gmail.com
- Password: (empty field)
- Confirm Password: (empty field)

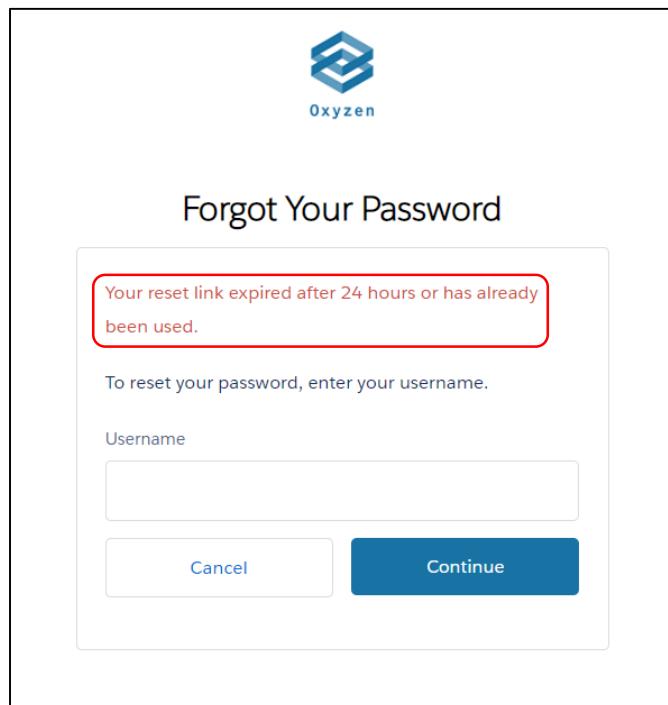
A "Submit" button is located at the bottom right of the form. At the very bottom of the page, there is a footer with the text "Copyright © 2000-2018 salesforce.com, inc. All rights reserved | Privacy Statement | Security Statement | Terms of Use".

A welcome mail is being received by the particular user every time a user registers to Oxyzen.

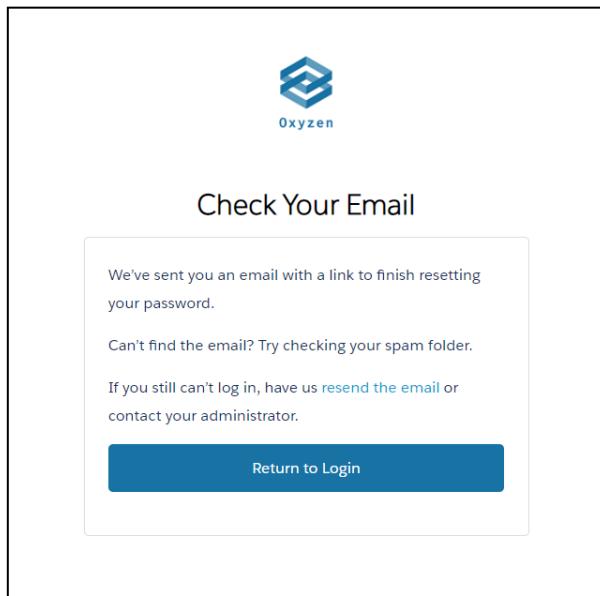


Reset password/Forgot password

In case a user forgets his/her password he needs to click on the forget password which navigates to this below screen. Here the user need to enter the user name i.e. the email address to which the reset link is to be sent. The link is valid for a period of 24 hours thereafter which it expires and you need to create a new request for the same.



Thereafter a new password link is being sent to that particular user by mail. He needs to click on that particular link in order to reset the password and enter the new password accordingly.



The email which the user receives is being shown as below:

A screenshot of an email inbox. The subject line is 'Your new Oxyzen password' with a small yellow envelope icon. The recipient is 'Oxyzen.ie via a6addggviro6fcz.1t-p2fzeai.eu16.bnc.salesforce.com' with a 'to me' dropdown arrow. The timestamp is '12:21 AM (1 hour ago)'. To the right are icons for reply, forward, and more. The email body starts with 'Hi Dinesh,' followed by 'Your password has been reset for Oxyzen. Go to:' and a redacted URL. The URL is: https://ictproject1-developer-edition.eu16.force.com/oxyzen/secur/forgotpassword.jsp?r=00D110000000p2Fz00511000001cVoXeyJlbmMiQjBMjU2R0NNliwiYXVkjjoIMDBEMXQwMDAwMDBwMkZ6liwia2lkjoie1widFwiOlwiMDBEMXQwMDAwMDBwMkZ6XClsXCJ2XCl6XClwMkcxjdDAwMDAwMERPeThclixclmFcjlpcImZvcmdvdHBlhc3N3bJkxNlcnRyYW5zaWVuY3J5chRclixclnVcjpcljAwNTF0MDAwMDAxY1ZvWFwfSIsImNyaXQiOlsiaWF0I0slmhC16MTU0NDU3NDA5MjI3NSwiZXhwIjowfQ%3D%3D...TLBZfgumK3E_BM7hEv8_J-0t4Kukb1ohkygZ9xIKShjwEznvNdyyYi1j3KBkJlciWVan7ypip7XKkc9_Jr_crk8BSGWQ4g2w%3D%3D CRwlQog2E12PL_RSSxkBTfw%3D%3D&display=page&fpot=6f64ff97-e8ad-4802-be91-148789e250d6dfad6728-4769-458f-ab8a-d4197160f012. The message ends with 'Thanks,
oxygen-nci'.

After clicking on the link above the below screen appears where the user needs to enter new the password with the validation mentioned earlier.



Change Your Password

Enter a new password for dineshg1994@gmail.com.
Your password must have at least:

- 8 characters
- 1 letter
- 1 number

* New Password

.....Good

* Confirm New Password

.....Match

Change Password

Password was last changed on 12/12/2018 00:21.

Validation Rule: The user cannot use the old password.



Change Your Password

Enter a new password for dineshg1994@gmail.com.
Your password must have at least:

- 8 characters
- 1 letter
- 1 number

* New Password

* Confirm New Password

You cannot reuse this old password

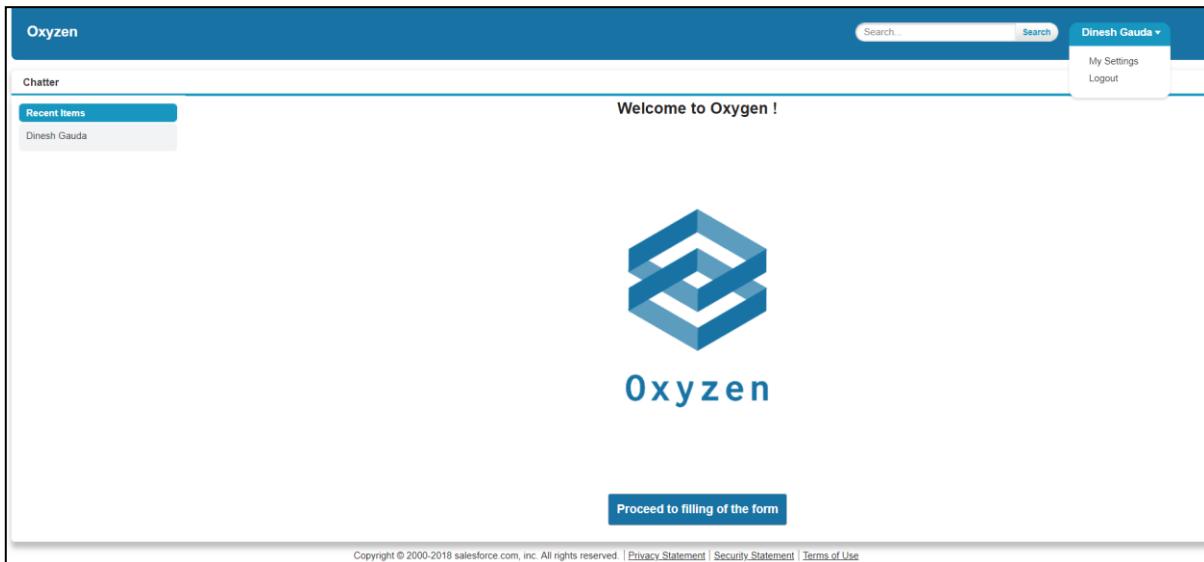
Change Password

Password was last changed on 12/12/2018 23:09.

Welcome Page

The below screenshot shows the Welcome page of Oxyzen application. In order to proceed to the Home screen the user needs to click on the button “Proceed to filling of form”.

The screen also has an option to logout.



Code for Welcome page

We have designed the Welcome page using Apex code and in order to navigate from Welcome page to Home page we have written a controller with a method called “openHomePage” which on the click of the button redirects or navigates to the Home screen.

Screenshot of Apex Codes.

A screenshot of the Salesforce Apex code editor. The file is named 'welcomepage.vfp'. The code is as follows:

```
1 <apex:page standardController="Contact" extensions="openHomePage">
2 <style>
3 .myFormStyle {
4 background-color: white;
5 text-align:center;
6 }
7 </style>
8 <apex:form styleClass="myFormStyle">
9 <div style="font-size: 20px;">
10 <B> Welcome to Oxygen ! </B>
11 </div>
12 <p> <apex:image id="theImage" value="{!$Resource.OxygenWelcomeImage}" width="450" height="450" alt="Welcome to Oxygen"/> <p>
13 <div align="center" draggable="false" >
14 <apex:commandButton style="text-align:center; font-size:15px; color: white; padding:10px; background:#1872A4;
15 padding:2px;" styleClass="buttonStyle" action="{!!openHomePage}" value="Proceed to filling of the form"/>
16 </div>
17 |
18 </apex:form>
19 </apex:page>
```

Controller code

```
public class openHomePage {  
    public openHomePage(ApexPages.StandardController controller) {  
    }  
    public PageReference openHomePage(){  
        String userID = UserInfo.getUserId();  
        List<User> lstUser = [Select u.ContactId from User u where u.Id = :userID];  
        PageReference demoPage = new pagereference('https://ictproject-developer-edition.eu16.force.com/oxyzen/apex/homepage?id=' + lstUser[0].ContactId);  
        demoPage.setRedirect(true);  
        return demoPage;  
    }  
}
```

Homepage

Upon navigation the Home page is being displayed as shown below. Initially for a new user some fields are prefilled namely First name, Last Name and email address.

Over here the Edit button is enabled at the moment in order to edit the information.

The status is also being prefilled as New. Once the information is being filled by the user it gets changed to pending state. And once the documents are being approved the status changes to Approved state.

The screenshot shows the Oxyzen application interface. At the top, there's a blue header bar with the 'Oxyzen' logo, a search bar, and a user profile dropdown for 'Tomrock Dsouza'. Below the header is a 'Chatter' sidebar on the left containing a 'Recent Items' section with a single item: 'Tomrock Dsouza'. The main content area has a title 'Personal Details' with an 'Edit' button. Under 'Personal Details', there are several fields with placeholder values: First Name (Tomrock), Last Name (Dsouza), Student ID, Gender, Address, Mobile, College, Email (omkar.mande18@gmail.com), Date of Joining, Country, and Passport Number. The 'Status' field contains 'New' and has a red rectangular box around it. Below this is another 'Edit' button, also highlighted with a red box. Further down, there are sections for 'GNIB' (with a 'Get GNIB' button) and 'PPSN' (with a 'Get PPSN' button).

Edit Page

Edit Page have the below mentioned mandatory fields to be filled by the user which are being highlighted in red color.

The screenshot shows the 'Personal Details' section of the edit page. The following fields are highlighted in red:

- Last Name: Gauda
- Student ID: X17169836
- Gender: Male
- Address: 29c, Gateway student villa
- Mobile: 9167746442
- Email: dineshg1994@gmail.com
- Date of Joining: 10/09/2018 [10/12/2018]
- Country: INDIA
- Passport Number: R5556020
- College: National College of Ireland Dublin

Apex Code for Edit Info Page

```
editpage.vfp.htm homepage.vfp.htm
Preview API Version: 44
1 <apex:page standardController="Contact" extensions="saveController">
2   <apex:form>
3     <apex:pageBlock title="Personal Details">
4       <apex:pageBlockSection columns="1">
5         <apex:inputField value=" {! Contact.FirstName } "/>
6         <apex:inputField value=" {! Contact.LastName } "/>
7         <apex:inputField value=" {! Contact.Student_ID_c } "/>
8         <apex:inputField value=" {! Contact.Gender_c } "/>
9         <apex:inputField value=" {! Contact.Address_c } "/>
10        <apex:inputField value=" {! Contact.MobilePhone } "/>
11        <apex:inputField value=" {! Contact.Email } " html-disabled="True"/>
12        <apex:inputField value=" {! Contact.DOB_c } "/>
13        <apex:inputField value=" {! Contact.Country_c } "/>
14        <apex:inputField value=" {! Contact.Passport_Number_c } "/>
15        <apex:inputField value=" {! Contact.College_c } "/>
16
17   </apex:pageBlockSection>
18   <apex:pageBlockButtons >
19     <apex:commandButton style="text-align:center; font-size:12px; color: white; background:#1872A4; padding-left: 10px; padding-right: 10px;" action=" {! saveContact } " value="Save" />
20   </apex:pageBlockButtons>
21 </apex:pageBlock>
22 </apex:form>
23 </apex:page>
```

Controller Code

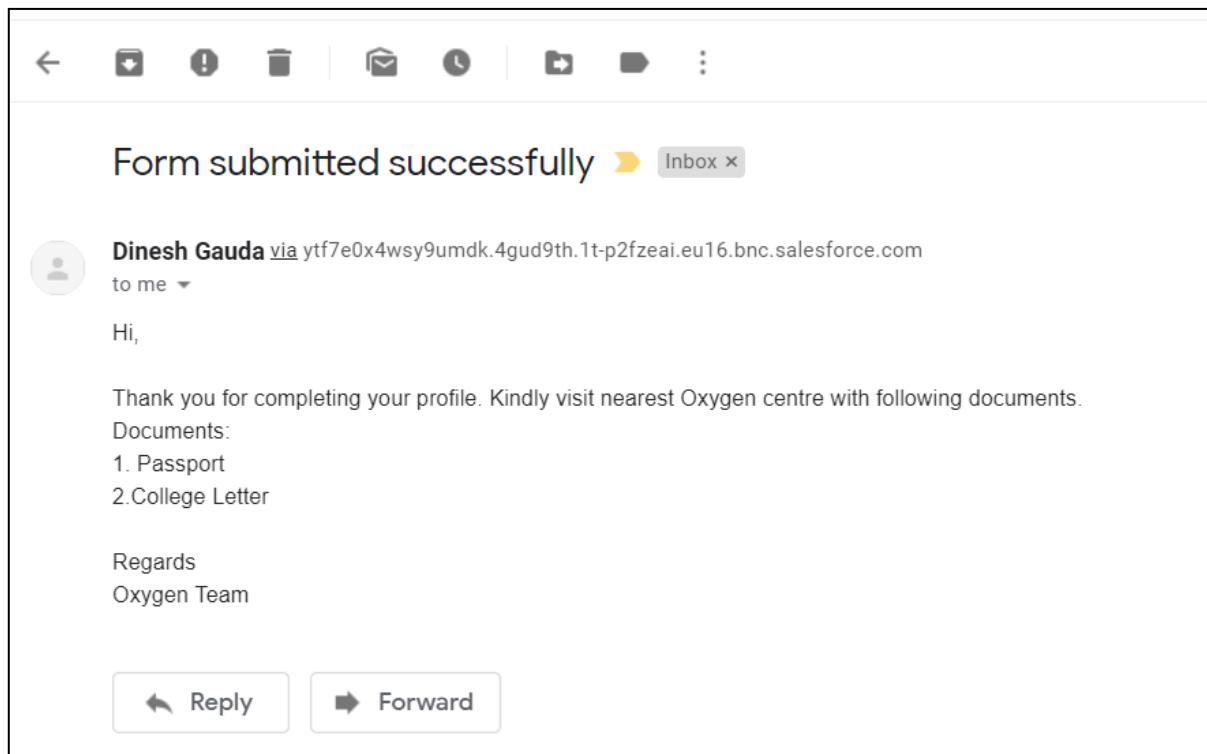
```
OpenEditPageController.apxc.htm getGmailDatesController.apxc.htm getPageReferenceController.apxc.htm saveController.apxc.htm
Code Coverage: None API Version: 44
1 public class saveController {
2   Contact contact;
3   public string emailId{get;set;}
4
5   public saveController(ApexPages.StandardController controller) {
6     this.contact = (Contact)controller.getRecord();
7   }
8
9   public PageReference saveContact(){
10    contact.Status__c='Pending';
11    update contact;
12    String userID = UserInfo.getUserId();
13    List<User> lstUser = [Select u.ContactId from User u where u.Id = :userID];
14    PageReference demoPage = new pagereference('https://ictproject-developer-edition.eu16.force.com/oxyzen/apex/homepage?id=' + lstUser[0].ContactId);
15    demoPage.setRedirect(true);
16
17    //Send Mail
18    emailId = contact.Email;
19    Messaging.SingleEmailMessage message = new Messaging.SingleEmailMessage();
20    message.toAddresses = new String[] {emailId};
21    message.optOutPolicy = 'FILTER';
22    message.setSenderDisplayName('Oxyzen.ie');
23    message.subject = 'Form submitted successfully';
```

Controller code for Successful form submission

```
//Send Mail
emailId = contact.Email;
Messaging.SingleEmailMessage message = new Messaging.SingleEmailMessage();
message.toAddresses = new String[] {emailId};
message.optOutPolicy = 'FILTER';
message.setSenderDisplayName('Oxyzen.ie');
message.subject = 'Form submitted successfully';
message.setHtmlBody('Hi, <br/> <br/> Thank you for completing your profile. Kindly visit nearest Oxyzen centre with following documents.<br/> Documents');
Messaging.SingleEmailMessage[] messages = new List<Messaging.SingleEmailMessage> {message};
Messaging.SendEmailResult[] results = Messaging.sendEmail(messages);

return demoPage;
}
```

Mail notifying Form submitted successfully.



Home Page after editing the form

Once the user has edited the form with his required details the status changes to pending and edit button is being disabled as shown in the below screenshot.

Chatter

Recent Items

Dinesh Gauda

Personal Details

First Name Dinesh
Last Name Gauda
Student ID X17169836
Gender Male
Address 29c, Gateway student village, ballymun road, Dublin 9
Mobile 9167746442
College National College of Ireland Dublin
Email dineshg1994@gmail.com
Date of Joining 10/09/2018
Country INDIA
Passport Number R5556020

Status Pending

Edit

GNIB

Get GNIB

PPSN

Get PPSN

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Till the time the status is in pending state Get GNIB button will be disabled. Once the status changes to Approved the user can book an appointment.

Chatter

Recent Items

Dinesh Gauda

Personal Details

First Name Dinesh
Last Name Gauda
Student ID X17169836
Gender Male
Address 29c, Gateway student village, ballymun road, Dublin 9
Mobile 9167746442
College National College of Ireland Dublin
Email dineshg1994@gmail.com
Date of Joining 10/09/2018
Country INDIA
Passport Number R5556020

Status Pending

Edit

GNIB

Get GNIB

PPSN

Get PPSN

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Till the time the status is in pending state Get PPSN button will be disabled. Once the status changes to Approved the user can book an appointment.

Apex code for the Home page

```

editpage.vfp : homepage.vfp
Preview API Version: 44
1 <apex:page standardController="Contact" extensions="openEditPageController">
2   <apex:form>
3     <apex:pageBlock title="Personal Details">
4       <apex:pageBlockSection columns="1">
5         <apex:outputField value="{! Contact.FirstName }"/>
6         <apex:outputField value="{! Contact.LastName }"/>
7         <apex:outputField value="{! Contact.Student_ID_c }"/>
8         <apex:outputField value="{! Contact.Gender__c }"/>
9         <apex:outputField value="{! Contact.Address__c }"/>
10        <apex:outputField value="{! Contact.MobilePhone }"/>
11        <apex:outputField value="{! Contact.College__c }"/>
12        <apex:outputField value="{! Contact.Email }"/>
13        <apex:outputField value="{! Contact.DOB__c }"/>
14        <apex:outputField value="{! Contact.Country__c }"/>
15        <apex:outputField value="{! Contact.Passport_Number__c }" />
16        <apex:outputField value="{! Contact.Status__c }" />
17      </apex:pageBlockSection>
18      <apex:pageBlockButtons>
19        <apex:commandButton action="{!openEditPage}" style="text-align:center; font-size:12px; color: white; background:#1872A4; padding-left: 10px; padding-right: 10px;" value="Get Edit Page" disabled="disabled" />
20      </apex:pageBlockButtons>
21    </apex:pageBlock>
22  </apex:form>
23
24  <apex:form>
25    <apex:pageBlock title="GNIB">
26      <apex:pageBlockSection columns="1">
27        <apex:outputField style="text-align:left" value="{! Contact.GNIB_date__c }" rendered="={! Contact.GNIB_date__c != 'Not yet selected'}" />
28      </apex:pageBlockSection>
29      <apex:commandButton action="{!getGnib}" style="text-align:center; font-size:12px; color: white; background:#1872A4; padding-left: 10px; padding-right: 10px;" value="Get GNIB" disabled="disabled" />
30    </apex:pageBlock>
31
32    <apex:form>
33      <apex:pageBlock title="PPSN">
34        <apex:pageBlockSection columns="1">
35          <apex:outputField value="{! Contact.PPSN_date__c }" rendered="={! Contact.PPSN_date__c != 'Not yet selected'}" />
36        </apex:pageBlockSection>
37        <apex:commandButton action="{!getPsn}" style="text-align:center; font-size:12px; color: white; background:#1872A4; padding-left: 10px; padding-right: 10px;" value="Get PPSN" disabled="disabled" />
38      </apex:pageBlock>
39    </apex:form>
40
41  </apex:page>

```

Controller code for Get GNIB and Get PPSN

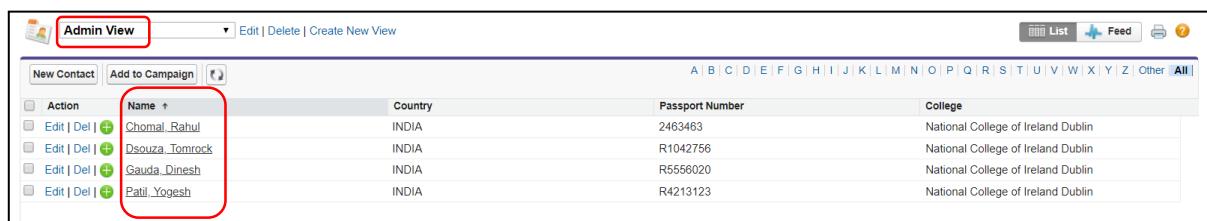
```
public class openEditPageController {  
    public openEditPageController(ApexPages.StandardController controller) {  
    }  
    public PageReference openEditPage(){  
        String userID = UserInfo.getUserId();  
        List<User> lstUser = [Select u.ContactId from User u where u.Id = :userID];  
        PageReference demoPage = new pagerefERENCE('https://ictproject-developer-edition.eu16.force.com/oxyzen/apex/editpage?id='+lstUser[0].ContactId);  
        demoPage.setRedirect(true);  
        return demoPage;  
    }  
    public PageReference getGnib(){  
        String userID = UserInfo.getUserId();  
        List<User> lstUser = [Select u.ContactId from User u where u.Id = :userID];  
        PageReference demoPage = new pagerefERENCE('https://ictproject-developer-edition.eu16.force.com/oxyzen/apex/gnibpage?id='+lstUser[0].ContactId);  
        demoPage.setRedirect(true);  
        return demoPage;  
    }  
    public PageReference getPpsn(){  
        String userID = UserInfo.getUserId();  
        List<User> lstUser = [Select u.ContactId from User u where u.Id = :userID];  
        PageReference demoPage = new pagerefERENCE('https://ictproject-developer-edition.eu16.force.com/oxyzen/apex/ppsnpage?id='+lstUser[0].ContactId);  
        demoPage.setRedirect(true);  
        return demoPage;  
    }  
}
```

In order to activate the Get GNIB and Get PPSN button the admin has to approve the application request of the user. Admin needs to change the status to Approved once all documents are being checked.

Admin view

The below screenshot shows the admin view which consist of a list of user whose application is in pending state. Once the admin checks all the documents and these fulfil the requirements then he approves the application request as follows:

As in the image below there are 4 users whose application request is in pending state.



The screenshot shows a Salesforce admin view page titled "Admin View". The page displays a list of users with their names, countries, passport numbers, and colleges. The "Action" column contains links for "Edit | Del" and a green circular icon. A red box highlights the "Name" column header, and another red box highlights the row for "Chomai, Rahul".

Action	Name	Country	Passport Number	College
Edit Del	Chomai, Rahul	INDIA	2463463	National College of Ireland Dublin
Edit Del	Dsouza, Tomrock	INDIA	R1042756	National College of Ireland Dublin
Edit Del	Gauda, Dinesh	INDIA	R5556020	National College of Ireland Dublin
Edit Del	Patil, Yogesh	INDIA	R4213123	National College of Ireland Dublin

Admin Opens the user account and changes the status from pending to approve once all documents have been verified. In order to do so the admin has to upload the scan copies of the documents submitted by the user at the oxyzen centre in the notes and attachment. This is being shown as below.

Status is pending

Contact Edit
Dinesh Gauda

Contacts not associated with accounts are private and cannot be viewed by other users or included in reports.

Contact Edit

Contact Information

Contact Owner: NCI ICT
Salutation: -None-
First Name: Dinesh
Last Name: Gauda
Account Name: Oxygen
Title:
Department:
Birthdate:
Reports To:
Lead Source: -None-
Date of Joining: 10/09/2018 [10/12/2018]
Gender: Male
Student ID: X17169836
Country: INDIA
Passport Number: R5556020
College: National College of Ireland Dublin
Status: Pending Pending
Address: 29c, Gateway student villa
GNIB date: Not_yet_selected
PPSN date: Not_yet_selected

Phone:
Home Phone:
Mobile: 9167746442
Other Phone:
Fax:
Email: dineshg1994@gmail.com
Assistant:
Asst. Phone:

No records in Notes and attachments

Country: INDIA
Passport Number: R5556020
College: National College of Ireland Dublin
Status: Pending Pending
Address: 29c, Gateway student village, ballymun road, Dublin 9
GNIB date: Not_yet_selected
PPSN date: Not_yet_selected
Mailing Address:
Created By: Oxyzen Site Guest User, 08/12/2018 15:57
Description: Other Address: Last Modified By: NCLICT, 12/12/2018 23:18

Edit Delete Clone Manage External User ▾

Opportunities New Opportunity Opportunities Help ?

No records to display

Cases New Case Cases Help ?

No records to display

Open Activities New Task New Event Open Activities Help ?

No records to display

Activity History Log a Call Mail Merge Send an Email Activity History Help ?

No records to display

Campaign History Add to Campaign Campaign History Help ?

No records to display

Notes & Attachments New Note Attach File Notes & Attachments Help ?

No records to display

The admin needs to attach new documents into the Notes and Attachment section. The steps which the admin needs to follow are being mentioned below in the screenshots

Attach File to Contact Dinesh Gauda

1. Select the File
Type the path of the file or click the Browse button to find the file.
 Passport photo page.pdf

2. Click the "Attach File" button.
Repeat steps 1 and 2 to attach multiple files.
(When the upload is complete the file information will appear below.)

3. Click the Done button to return to the previous page.
(This will cancel an in-progress upload.)

Passport Photo is being uploaded by the admin.

Attach File

1. Select the File
Type the path of the file or click the Browse button to find the file.
 No file chosen

2. Click the "Attach File" button.
Repeat steps 1 and 2 to attach multiple files.
(When the upload is complete the file information will appear below.)

3. Click the Done button to return to the previous page.
(This will cancel an in-progress upload.)

You have just uploaded the following file

File Name	Passport photo page.pdf
Size	207KB

So now that the admin has attached a passport photo it's been shown in the admin view.

The screenshot shows the Admin View interface with several sections:

- Opportunities:** New Opportunity, Opportunities Help ?
- Cases:** New Case, Cases Help ?
- Open Activities:** New Task, New Event, Open Activities Help ?
- Activity History:** Log a Call, Mail Merge, Send an Email, Activity History Help ?
- Campaign History:** Add to Campaign, Campaign History Help ?
- Notes & Attachments:** New Note, Attach File, View All, Notes & Attachments Help ?
- Action:** Edit | View | Del | Attachment
- Type:** Title
- Title:** Passport photo page.pdf
- Last Modified:** 12/12/2018 23:22
- Created By:** NCI ICT

A red box highlights the attachment entry for "Passport photo page.pdf".

Once the uploading of the documents is being done by the admin he changes the status to Approved.

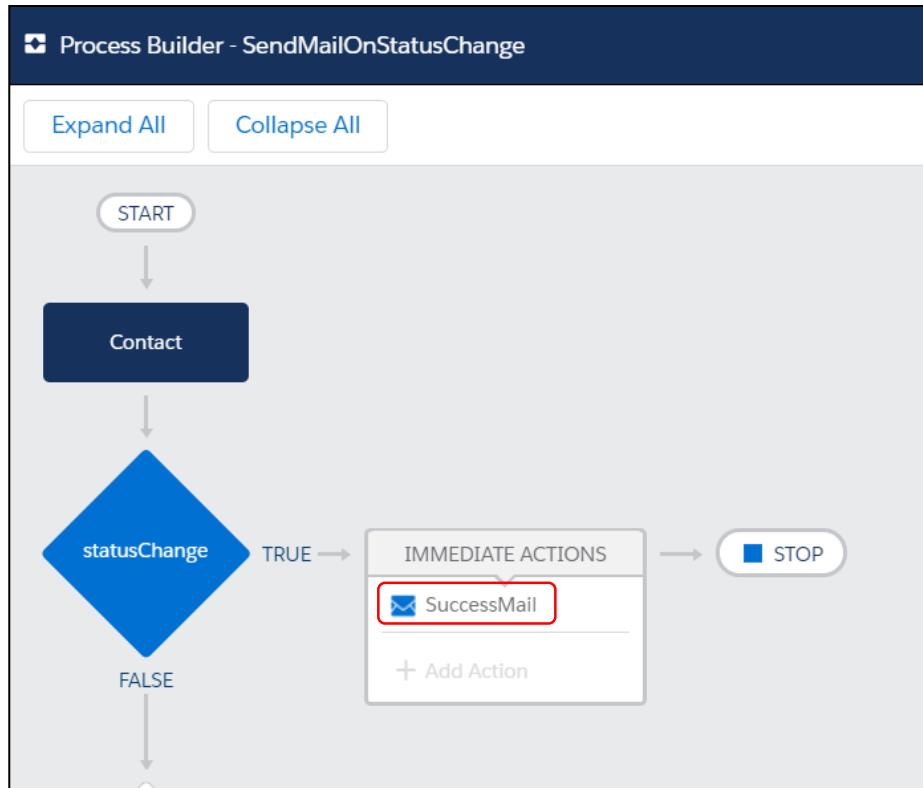
The screenshot shows the Contact Information form with the following fields:

- Contact Owner:** NCI ICT
- Salutation:** --None--
- First Name:** Dinesh
- Last Name:** Gauda
- Account Name:** Oxygen
- Title:**
- Department:**
- Birthdate:**
- Reports To:**
- Lead Source:** --None--
- Date of Joining:** 10/09/2018 [12/12/2018]
- Gender:** Male
- Student ID:** X17169836
- Country:** INDIA
- Passport Number:** R5566020
- College:** National College of Ireland Dublin
- Status:** New (highlighted with a red box)
- Address:** student village
- GNIB date:**
- Approved:** Yes
- PPSN date:**
- PPSN status:** Not Selected

A red box highlights the "Status" dropdown menu, specifically the "Approved" option.

Once the status is being approved a mail is being sent to the user stating that the profile has been verified.

Mail has been sent using process builder as shown in figure below.



Creation of email alert

The screenshot shows the "Email Alert Detail" page for an alert named "Hello". The alert's description is "Hello". It is set to send from the "Current User's email address" and to the "Email Field: Email". The "Email Template" and "Approval Mail" buttons are highlighted with a red border. The "Object" is listed as "Contact". The "Created By" field shows "NCI ICT" on 09/12/2018 22:24, and the "Modified By" field shows "NCI ICT" on 10/12/2018 00:37. Navigation links include "Back to List: Email Alerts", "Rules Using This Email Alert", and "Approval Processes Using This Email Alert".

Creation of Approval Mail Template

Text Email Template
Approval Mail
[« Back to List: Email Alerts](#)

Preview your email template below.

Email Template Detail		Edit Delete Clone
Folder	Unfiled Public Classic Email Templates	
Email Template Name	Approval Mail	Available For Use <input checked="" type="checkbox"/>
Template Unique Name	Approval_Mail	Last Used Date
Encoding	General US & Western Europe (ISO-8859-1, ISO-LATIN-1)	Times Used
Author	NCL ICT [Change]	
Description		
Created By	NCL ICT, 10/12/2018 00:33	Modified By NCL ICT, 10/12/2018 02:09
		Edit Delete Clone

Email Template [Send Test and Verify Merge Fields](#)

Subject | Profile Verification Successful

Plain Text Preview

```
Hi,  

Congratulations, this is to confirm that your profile has been verified. You will receive your Oxyzgen card via post in 5 working days.  

Regards,  

Oxyzgen Team
```

Mail to the user confirming the successful verification of the profile.

Profile Verification Successful ➤ [Inbox](#)

 **NCI ICT** via g8cy3vydv1mg.1t-p2fzeai.eu16.bnc.salesforce.com
 to me ▾

Hi,

Congratulations, this is to confirm that your profile has been verified. You will receive your Oxyzgen card via post in 5 working days.

Regards,
 Oxyzgen Team

Once the Admin has made approval action against a user the list comes down to 3 from 4.

 **Admin View** [Edit](#) | [Delete](#) | [Create New View](#) [List](#) [Feed](#) [?](#)

Action	Name	Country	Passport Number	College
Edit Del	Chomai, Rahul	INDIA	2463463	National College of Ireland Dublin
Edit Del	Dsouza, Tomrock	INDIA	R1042756	National College of Ireland Dublin
Edit Del	Patil, Yogesh	INDIA	R4213123	National College of Ireland Dublin

API INTEGRATION

We have used free servers from awardspace.com to host our php-mysql service and created 2 sub-domains to emulate GNIB and PPSN servers.

1. gnib.atwebpages.com

2. ppsn.atwebpages.com

Both the GNIB and PPSN websites use the same code since there isn't any much difference other than the name and thus the process will be same for both the servers.

Database:

First the dummy data is inserted into the Database using lmfao.py

```
1
2
3
4 coun=["AFGHANISTAN", "ALBANIA", "ALGERIA",
5 | "ANDORRA", "ANGOLA", "ANGUILLA", "ANTIGUA_AND_BARBUDA"]
6 from random import randint
7 import random
8
9 def creatint(cc):
10     lmgo='ABCDEFGHIJKLMNPQRSTUVWXYZ'
11     for y in range(31):
12         for x in range(randint(1, 6)):
13             upper=str(y+1)
14             if y<10:
15                 upper="0"+upper
16             print("INSERT INTO checkappoint values('2018-12-"+
17                 upper+", '"+random.choice(cc)+"-
18                 +random.choice(lmgo)+str(randint(1000000,9999999))+') ;")
19             print()
20
21 #creatint()
22
23
24
25 def gorment(cc):
26     lmgo='ABCDEFGHIJKLMNPQRSTUVWXYZ'
27     for x in range(50):
28         print("INSERT INTO checkstatus values('"
29             +random.choice(cc)+"-
30             +random.choice(lmgo)+str(randint(1000000,9999999))+') ;")
31
32 creatint(coun)
33 gorment(coun)
34
35
```

```

1  DROP TABLE IF EXISTS `checkappoint`;;
2  CREATE TABLE `checkappoint` (
3      `date` varchar(10) DEFAULT NULL,
4      `gib` varchar(255) DEFAULT NULL,
5      UNIQUE KEY `gib` (`gib`)
6  );
7
8  DROP TABLE IF EXISTS `checkstatus`;
9  CREATE TABLE `checkstatus` (
10     `gib` varchar(255) DEFAULT NULL,
11     UNIQUE KEY `gib` (`gib`)
12 );

```

Table 1: Checkappoint

This table stores the dates of the appointment of each passport- number. The values of passport number is unique and no 2 entries can have same passport number.

Table 2: Checkstatus

This table stores values of passports that already have their GNIB issued.

The screenshot shows the phpMyAdmin interface for a database named '2905178_gnib'. On the left, the database structure is visible, including the 'checkappoint' table which has columns 'date' and 'gib', and the 'checkstatus' table which also has columns 'date' and 'gib'. The 'checkappoint' table currently contains 24 rows of data. The right side of the screen displays the SQL query 'SELECT * FROM `checkappoint`', the results of which are shown in a grid. The results are as follows:

	date	gib
[Edit]	2018-12-01	RUSSIAN_FEDERATION-L1055392
[Edit]	2018-12-01	DENMARK-X8406310
[Edit]	2018-12-01	CANADA-J2279658
[Edit]	2018-12-02	FINLAND-V1470595
[Edit]	2018-12-02	KAZAKHSTAN-L8266648
[Edit]	2018-12-02	SAINT_VINCENT_AND_THE_GRENADINES-S7497304
[Edit]	2018-12-03	GRENADA-K4544076
[Edit]	2018-12-04	DENMARK-P2908058
[Edit]	2018-12-04	MONTENEGRO-O9920074
[Edit]	2018-12-04	ETHIOPIA-C8295936
[Edit]	2018-12-04	SOLOMON_ISLANDS-C6003118

Customer Journey:

Student with Country 'INDIA' and passport number 'Y0239485' = INDIA-Y0239485

1. Student checks his status (index.php) and then based on his passport composite key we get either of the 3 results.

In this project for convenience we will term the passport instead of country passport composite key for ease of understanding.

Example: IRELAND-T9085964

Country: IRELAND

PASSPORT Number: T9085964

URL: <http://gnib.atwebpages.com/?PASSPORT=INDIA-Y0239485>

```

1  <?php
2
3  /*This Script validates the passport number and returns the current status of the passport.
4   * There are 3 types of statuses.
5   * 1. appointment confirmed: ["1","2018-12-03"]
6   * 2. GNIB already exists: ["1","",]
7   * 3. no entry for this passport in the Database: ["0","",]
8   */
9  if(!isset($_GET["PASSPORT"])){
10    echo "[]";
11    exit;
12  }
13
14  $readvar=$_GET["PASSPORT"];
15
16  if(preg_match("/([A-Z_]*?)-[A-Z][0-9][0-9][0-9][0-9][0-9][0-9]/i",$readvar)) {
17
18
19
20
21  include("var.php");
22
23  // Create connection
24  $conn = new mysqli($servername, $username, $password, $dbname);
25  // Check connection
26  if ($conn->connect_error) {
27    die("Connection failed: " . $conn->connect_error);
28  }
29
30  $isAppointment=0;
31  $isDone=0;
32  $isDateX="";
33
34

```

```

34
35  $sql = "select date from checkappoin where gib='".$readvar."'";
36  $sql1 = "select gib as n from checkstatus where gib='".$readvar."'";
37  $result = $conn->query($sql);
38  if ($result->num_rows > 0) {
39    // output data of each row
40    while($row = $result->fetch_assoc()) {
41      $isAppointment=1;
42      $isDateX=$row['date'];
43    }
44  } else {
45
46
47  $result = $conn->query($sql1);
48  if ($result->num_rows > 0) {
49    // output data of each row
50    while($row = $result->fetch_assoc()) {
51      $isDone=1;
52    }
53  } else {
54
55
56  $output=array((string)($isAppointment|$isDone),$isDateX);
57
58  echo json_encode($output);
59
60  $conn->close();
61
62
63
64 ?>

```

* 1. Appointment confirmed: ["1","2018-12-03"]

* 2. GNIB already exists: ["1","",]

* 3. No entry for this passport in the Database: ["0",""]



2. If no entry of the passport number inside the database the student fetches available appointment dates via (table.php)

URL: <http://gnib.atwebpages.com/table.php>

A screenshot of a code editor displaying a PHP script named "table.php". The script connects to a MySQL database, queries for appointment dates, and returns them as a JSON array. The code includes comments explaining the purpose of each section. The entire code block is shown from line 1 to line 32.

Received: ["2018-12-02","2018-12-03","2018-12-05","2018-12-07","2018-12-08","2018-12-11","2018-12-13","2018-12-14","2018-12-15","2018-12-17","2018-12-18","2018-12-19","2018-12-20","2018-12-21","2018-12-23","2018-12-24","2018-12-25","2018-12-26","2018-12-28","2018-12-29","2018-12-30","2018-12-31"]



3. When student selects his date (Consider "2018-12-05") the date and his passport number is supplied to the (get_value.php) script then the record is inserted into the checkappoint database table.

URL: http://gnib.atwebpages.com/get_value.php?PASSPORT=INDIA-Y0239485&DATE=2018-12-05

```

1  ?>php
2
3  /*
4   * This Script Inserts value in database if the get parameters satisfy all constraints.
5   * [0] Signifies that the insertion failed due to various reasons
6   * [1] Signifies that the insertion of the new appointment was successful
7   * The values are added in the checkappoint database.
8  */
9  header('Content-Type: application/json');
10 header("Access-Control-Allow-Origin: *");
11 //Check if PASSPORT and DATE parameters EXISTS
12 if(!isset($_GET["PASSPORT"]) || !isset($_GET["DATE"])){
13     echo "[0]";
14     exit;
15 }
16
17 $readvar=$_GET["PASSPORT"];
18 $read_date=$_GET["DATE"];
19
20 if(
21 // DOES Regex match on PASSPORT Parameter.
22 preg_match("/([A-Z_]*?)-[A-Z][0-9][0-9][0-9][0-9][0-9][0-9]/i",$readvar)
23 &amp;&amp;
24 // DOES Regex check on DATE Parameter.
25 preg_match("/[0-9][0-9][0-9]-[0-9][0-9]-[0-9][0-9]/i",$read_date)
26 &amp;&amp;
27 // Checks if the date is of December 2018 only.
28 substr($read_date,0,7)=="2018-12"){
29     include("var.php");
30
31
32 $conn = new mysqli($servername, $username, $password, $dbname);
33 if ($conn-&gt;connect_error) {
34     die("Connection failed: " . $conn-&gt;connect_error);
35 }
36
</pre

```

```

36
37     $value_app=0;
38     //get the number of appointment entries for that date
39     $sql = "select count(*) as m from checkappoint where date='".$read_date."'";
40     $result = $conn->query($sql);
41     if ($result->num_rows > 0) {
42         while($row = $result->fetch_assoc()) {
43             $value_app=intval($row['m']);
44         }
45     } else {
46         echo "[0]";
47         exit;
48     }
49
50     //Check if there are more than 5 entries
51     if ($value_app>5){
52         echo "[0]";
53         exit;
54     }
55
56     //Insert the entries into the database if the number of entries are less than 5.
57     $sql = "INSERT INTO checkappoint (date, gib)
58     VALUES ('".$read_date."', '".$readvar."')";
59
60     if ($conn->query($sql) === TRUE) {
61         echo "[1]";
62     } else {
63         echo "[0]";
64         exit;
65     }
66
67     $conn->close();
68
69     else{
70         echo "[0]";
71         exit;
72     }
73
74
75
76 ?>

```



URL: <http://gnib.atwebpages.com/?PASSPORT=INDIA-Y0239485>



After the Status is being Approved the Get GNIB and Get PPSN buttons are being enabled in order to book an appointment for GNIB and PPSN.

The screenshot shows a Salesforce page for a user named Dinesh Gauda. The page includes a Chatter sidebar and a Recent Items section. The main content area displays 'Personal Details' with fields like First Name (Dinesh), Last Name (Gauda), Student ID (X17169836), Gender (Male), Address (29c, Gateway student village, ballymun road, Dublin 9), Mobile (9167746442), College (National College of Ireland Dublin), Email (dineshp1994@gmail.com), Date of Joining (10/09/2018), Country (INDIA), and Passport Number (R5556020). The 'Status' field is set to 'Approved' and is highlighted with a red box. Below this, there are two buttons: 'Get GNIB' and 'Get PPSN', also both highlighted with red boxes. The page footer includes copyright information and links to Privacy Statement, Security Statement, and Terms of Use.

After clicking Get GNIB the API gets called and the below screen comes up from which the user can select the appointments from the dates available.

A modal window titled 'Available GNIB Appointment Dates' lists various dates from December 2018. The dates are displayed in a vertical list with radio buttons next to each date. The dates listed are: 2018-12-02, 2018-12-03, 2018-12-05, 2018-12-07, 2018-12-08, 2018-12-11, 2018-12-13, 2018-12-14, 2018-12-15, 2018-12-17, 2018-12-18, 2018-12-19, 2018-12-20, 2018-12-21, 2018-12-23, 2018-12-24, 2018-12-25, 2018-12-26, 2018-12-28, 2018-12-29, 2018-12-30, and 2018-12-31. Below the list, a message encourages the user to select a date and click 'Book GNIB Appointment'. A blue button at the bottom of the modal is labeled 'Book GNIB Appointment'.

Apex code for the GNIB Date selection:

Below screenshot shows the apex code for GNIB date selection and we also have a controller named getGnibDateController in order to get the available dates data from the API.

Here we have used a Data table in order to show the available dates and also combined the radio buttons with a validation that only one radio button gets selected so that the user can select the desired date only and then only proceed further.

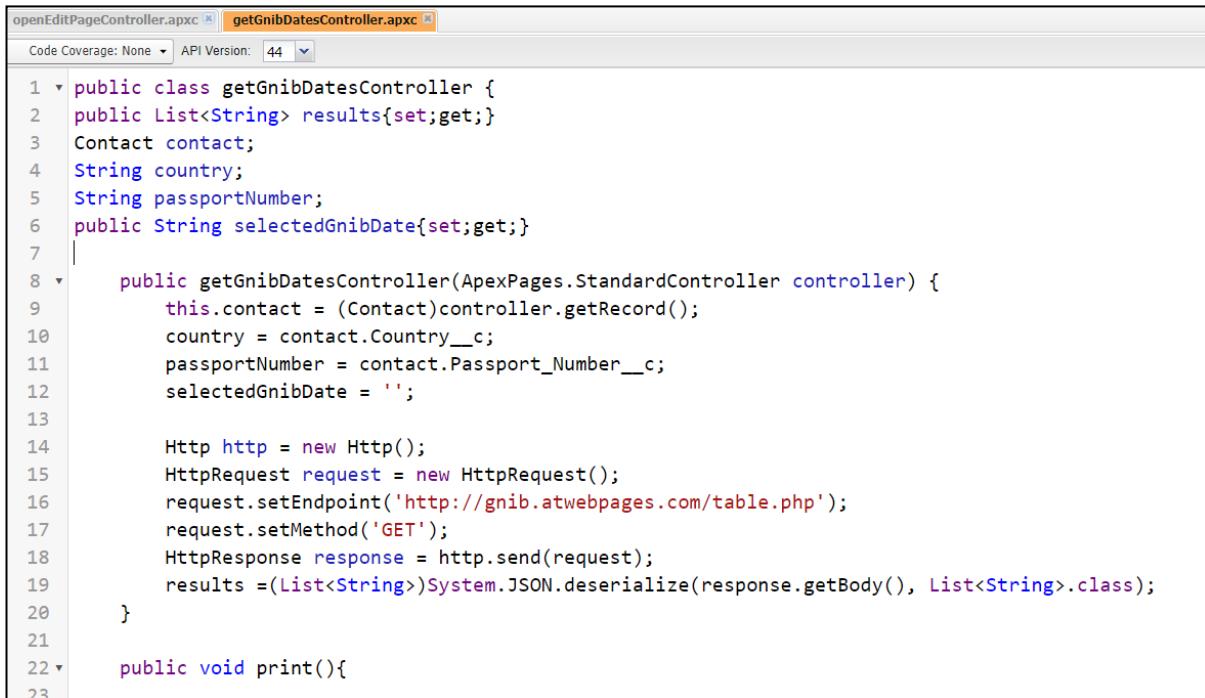


```
1 <apex:page standardController="Contact" extensions="getGnibDatesController">
2   <apex:DataTable value="{!results}" var="dimension2">
3     <apex:column headerValue="Available GNIB Appointment Dates">
4       <input type="radio" name="ap-dates" value="{!dimension2}" />
5       <apex:outputText value="{!dimension2}"></apex:outputText>
6     </apex:column>
7   </apex:DataTable>
8 <p><apex:outputText > Select one of the available dates and click on 'Book GNIB Appointment' button to book your GNIB appointment slot.</apex:outputText> <p/>
9
10 <apex:form >
11   <apex:commandButton onclick="getIndex();return false;" style="text-align:center; font-size:12px; color: white; background:#1872A4; padding-left: 10px; padding-right: 10px;" value="Book GNIB Appointment" />
12   <apex:actionFunction name="sendValueToController" reRender="pb2" action="!print">
13     <apex:param name="param1" assignTo="{!selectedGnibDate}" value="" />
14   </apex:actionFunction>
15 </apex:form>
16 </apex:page>
```

Controller Code for GNIB Available Dates:

Here we have established a connection with the external server using Http and sent a request to which a JSON response is being received which is being converted to a list of string.

When the user clicks on the Book GNIB Appointment button a request is being sent with Country Name, Passport number and GNIB date to which a response is being received.



```
1 public class getGnibDatesController {
2   public List<String> results{set;get;}
3   Contact contact;
4   String country;
5   String passportNumber;
6   public String selectedGnibDate{set;get;}
7
8   public getGnibDatesController(ApexPages.StandardController controller) {
9     this.contact = (Contact)controller.getRecord();
10    country = contact.Country__c;
11    passportNumber = contact.Passport_Number__c;
12    selectedGnibDate = '';
13
14    Http http = new Http();
15    HttpRequest request = new HttpRequest();
16    request.setEndpoint('http://gnib.atwebpages.com/table.php');
17    request.setMethod('GET');
18    HttpResponse response = http.send(request);
19    results =(List<String>)System.JSON.deserialize(response.getBody(), List<String>.class);
20  }
21
22  public void print(){
23
```

```

public void print(){
    contact.GNIB_date__c = selectedGnibDate;
    update contact;

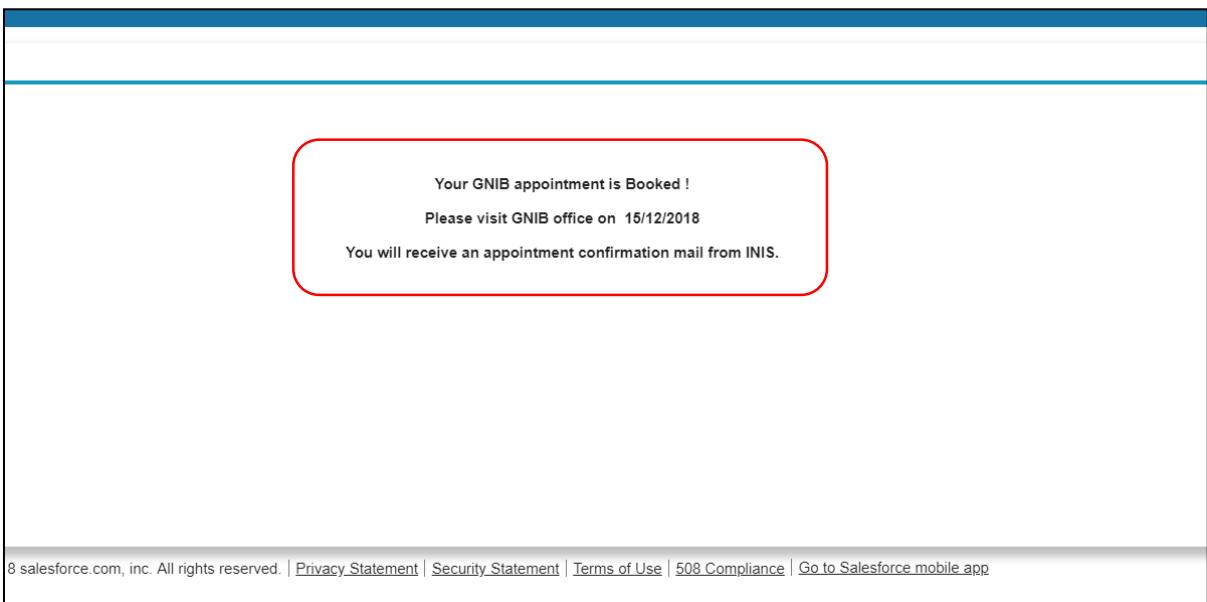
    Http http = new Http();
    HttpRequest request = new HttpRequest();
    request.setEndpoint('http://gnib.atwebpages.com/get_value.php?PASSPORT='+contact.Country__c+'-'+contact.Passport_Number__c+'&DATE=' + contact.GNIB_date__c);

    request.setMethod('GET');
    HttpResponse response = http.send(request);
    results =(List<String>)System.JSON.deserialize(response.getBody(), List<String>.class);

    String userID = UserInfo.getUserId();
    List<User> listUser = [Select u.ContactId from User u where u.Id = :userID];
    PageReference demoPage = new pagereference('https://ictproject-developer-edition.eu16.force.com/oxyzen/apex/gnibsuccesspage');
    demoPage.setRedirect(true);
}

```

Once the radio button is being selected and Book GNIB Appointment is being pressed the appointments gets booked for that particular date and it gets navigated to a new screen showing the below message.



Apex code for the Appointment Confirmation

```

<apex:page standardController="Contact">
<br/><br/><br/><br/><br/>
<center><b> Your GNIB appointment is Booked ! </b></center><br/>
<center><b> Please visit GNIB office on &nbsp; <apex:outputfield value="{!!contact.GNIB_date__c}"/></b></center><br/>
<center><b> You will receive an appointment confirmation mail from INIS.</b></center><br/>
</apex:page>

```

Once the Appointment has been booked the GET GNIB button gets disabled and the date to which the appointment is booked is being shown besides the button.

While in case of PPSN the appointment is not being booked so the button is still enabled.

Chatter

Recent Items
Dinesh Gauda

Personal Details [Edit](#)

First Name	Dinesh
Last Name	Gauda
Student ID	X17169836
Gender	Male
Address	29c, Gateway student village, ballymun road, Dublin 9
Mobile	9167746442
College	National College of Ireland Dublin
Email	dineshg1994@gmail.com
Date of Joining	10/09/2018
Country	INDIA
Passport Number	R5556020
Status	Approved

[Edit](#)

GNIB

[Get GNIB](#) GNIB date 15/12/2018

PPSN

[Get PPSN](#)

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After the Status is being Approved by the Admin the Get PPSN button is being enabled in order to book an appointment for PPSN.

Chatter

Recent Items
Dinesh Gauda

Personal Details [Edit](#)

First Name	Dinesh
Last Name	Gauda
Student ID	X17169836
Gender	Male
Address	29c, Gateway student village, ballymun road, Dublin 9
Mobile	9167746442
College	National College of Ireland Dublin
Email	dineshg1994@gmail.com
Date of Joining	10/09/2018
Country	INDIA
Passport Number	R5556020
Status	Approved

[Edit](#)

GNIB

[Get GNIB](#)

PPSN

[Get PPSN](#)

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After clicking Get PPSN the below screen comes up from which the user can select the appointments from the dates available. This data is being taken from a 3rd party API as explained earlier.

Available PPSN Appointment Dates

- 2018-12-01
- 2018-12-02
- 2018-12-03
- 2018-12-04
- 2018-12-05
- 2018-12-06
- 2018-12-07
- 2018-12-08
- 2018-12-09
- 2018-12-11
- 2018-12-12
- 2018-12-14
- 2018-12-15
- 2018-12-16
- 2018-12-17
- 2018-12-19
- 2018-12-20
- 2018-12-22
- 2018-12-23
- 2018-12-24
- 2018-12-25
- 2018-12-26
- 2018-12-27
- 2018-12-28

Select one of the available dates and click on 'Book PPSN Appointment' button to book your PPSN appointment slot.

Book PPSN Appointment

Apex code for the PPSN Date selection:

Below screenshot shows the apex code for GNIB date selection and we also have a controller named getPpsnDateController in order to get the available dates data from the API.

Here we have used a Data table in order to show the available dates and also combined the radio buttons with a validation that only one radio button gets selected so that the user can select the desired date only and then only proceed further.



```

editpage.vfp // homepage.vfp // gnbpage.vfp // ppsnpage.vfp
Preview API Version: 44
1 <apex:page standardController="Contact" extensions="getPpsnDatesController">
2   <apex:DataTable value="{!results}" var="dimension2">
3     <apex:column headerValue="Available PPSN Appointment Dates">
4       <input type="radio" name="ap-dates" value="{!dimension2}" />
5       <apex:outputText value="{!dimension2}"></apex:outputText>
6     </apex:column>
7   </apex:DataTables>
8
9   <p><apex:outputText> Select one of the available dates and click on 'Book PPSN Appointment' button to book your PPSN appointment slot.</apex:outputText> </p>
10
11  <apex:form>
12    <apex:commandButton onclick="getindex();return false;" value="Book PPSN Appointment" style="text-align:center; font-size:12px; color: white; background:#1872A4; padding-left: 10px; padding-right: 10px;" />
13
14  <apex:actionFunction name="sendValueToController" reRender="pb2" action="={!bookAppointment}">
15    <apex:param name="param1" assignTo="!selectedPpsnDate" value="" />
16  </apex:actionFunction>
17
18 </apex:form>
19 </apex:page>

```

Controller Code for GNIB Available Dates:

Here we have established a connection with the external server using Http and sent a request to which a JSON response is being received which is being converted to a list of string.

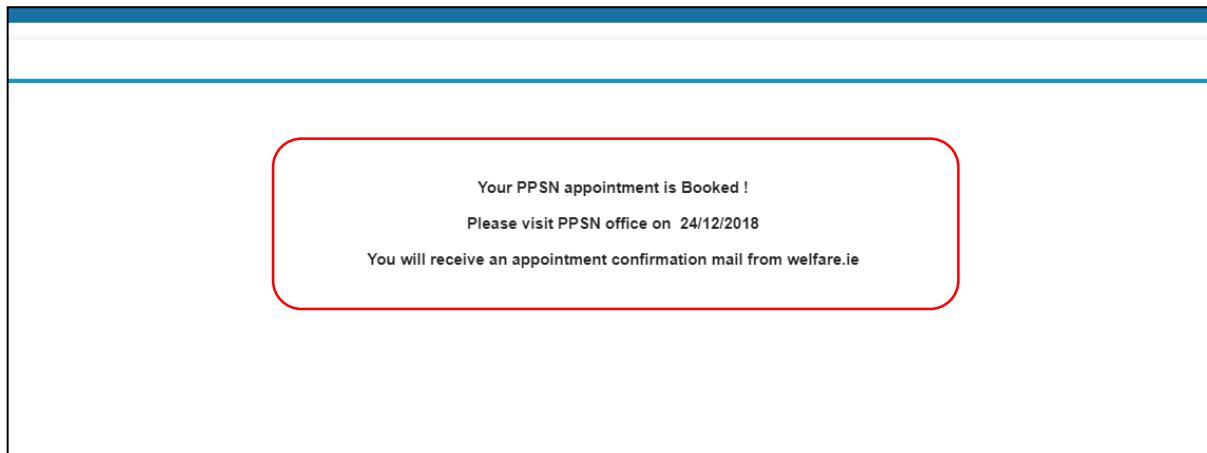
When the user clicks on the Book PPSN Appointment button a request is being sent with Country Name, Passport number and PPSN date to which a response is being received.

```
public class getPpsnDatesController {  
    public List<String> results{set;get;} |  
    Contact contact;  
    String country;  
    String passportNumber;  
    public String selectedPpsnDate{set;get;}  
  
    public getPpsnDatesController(ApexPages.StandardController controller) {  
        this.contact = (Contact)controller.getRecord();  
        country = contact.Country__c;  
        passportNumber = contact.Passport_Number__c;  
        selectedPpsnDate = '';  
  
        Http http = new Http();  
        HttpRequest request = new HttpRequest();  
        request.setEndpoint('http://ppsn.atwebpages.com/table.php');  
        request.setMethod('GET');  
        HttpResponse response = http.send(request);  
        results =(List<String>)System.JSON.deserialize(response.getBody(), List<String>.class);  
    }  
  
    public void bookAppointment(){
```

```
    public void bookAppointment(){  
  
        contact.PPSN_date__c = selectedPpsnDate;  
        update contact;  
  
        Http http = new Http();  
        HttpRequest request = new HttpRequest();  
        request.setEndpoint('http://ppsn.atwebpages.com/get_value.php?PASSPORT='+contact.Country__c+'-'+contact.Passport_Number__c+'&DATE='+contact.PPSN_date__c);  
        request.setMethod('GET');  
        HttpResponse response = http.send(request);  
        results =(List<String>)System.JSON.deserialize(response.getBody(), List<String>.class);  
  
        String userID = UserInfo.getUserId();  
        List<User> lstUser = [Select u.ContactId from User u where u.Id = :userID];  
        PageReference demoPage = new pagereference('https://ictproject-developer-edition.eu16.force.com/oxyzen/apex/ppsnsuccesspage');  
        demoPage.setRedirect(true);  
    }  
}
```

Appointment Confirmation Screen:

Once the radio button is being selected and Book GNIB Appointment is being pressed the appointments gets booked for that particular date and it gets navigated to a new screen showing the below message.



Apex code for the Appointment Confirmation:

A screenshot of the Salesforce Apex code editor. The tab bar shows several pages: editpage.vfp, homepage.vfp, gnibpage.vfp, ppsnpage.vfp, gnibsuccesspage.vfp, and ppsnsuccesspage.vfp. The ppsnsuccesspage.vfp tab is active. The code is as follows:

```
1 <apex:page standardController="Contact">
2 <br/><br/><br/><br/>
3 <center><b> Your PPSN appointment is Booked ! </b></center><br/>
4 <center><b> Please visit PPSN office on &nbsp; <apex:outputfield value="{!!contact.PPSN_date__c}"></b></center><br/>
5 <center><b> You will receive an appointment confirmation mail from welfare.ie</b></center><br/>
6 </apex:page>
```

PPSN button Disabled:

Once the Appointment has been booked the GET PPSN button gets disabled and the date to which the appointment is booked is being shown besides the button.

Chatter

Recent Items

Dinesh Gauda

Personal Details

First Name: Dinesh
Last Name: Gauda
Student ID: X17169836
Gender: Male
Address: 29c, Gateway student village, ballymun road, Dublin 9
Mobile: 9167746442
College: National College of Ireland Dublin
Email: dineshg1994@gmail.com
Date of Joining: 10/09/2018
Country: INDIA
Passport Number: R5556020

Status: Approved

GNIB

GNIB date: 15/12/2018

Get GNIB

PPSN

Get PPSN

PPSN date: 24/12/2018

Type here to search

23:16 10-12-2018

CASE: In case Admin rejects profile

In case the Admin rejects the Application profile due to some reason so the admin will select reject from the status dropdown.

Contact Edit

Contact Information

Contact Owner: NCI ICT
Salutation: None
First Name: Dinesh
Last Name: Gauda
Account Name: Oxygen
Title:
Department:
Birthdate:
Reports To:
Lead Source: None
Date of Joining: 10/09/2018 [12/12/2018]
Gender: Male
Student ID: X17169836
Country: INDIA
Passport Number: R5556020
College: National College of Ireland Dublin
Status: New
Address: student village
GNIB date: Approved
PPSN date: Rejected

Phone:
Home Phone:
Mobile: 9167746442
Other Phone:
Fax:
Email: dineshg1994@gmail.com
Assistant:
Asst. Phone:

Address Information

Mailing Street:
Mailing City:
Mailing State/Province:
Mailing Zip/Postal Code:
Mailing Country:

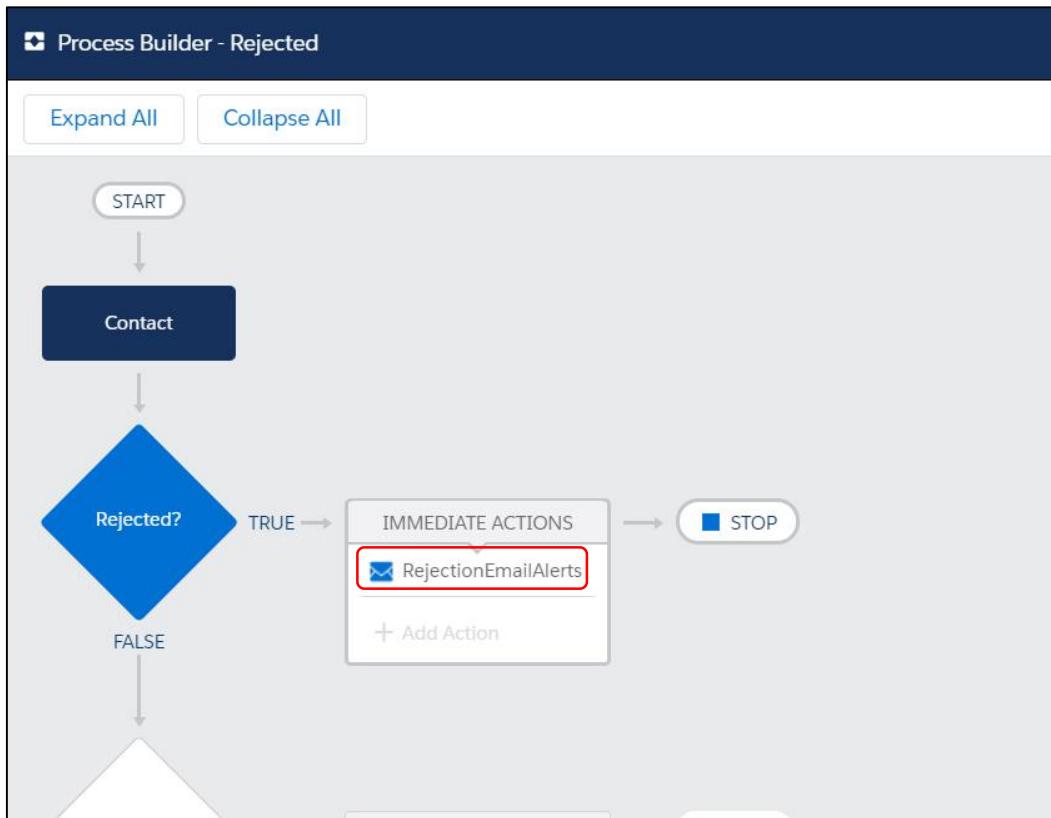
Other Street:
Other City:
Other State/Province:
Other Zip/Postal Code:
Other Country:

Description Information

Copy Mailing Address to Other Address

Rejection Mail- Process Builder

So in this scenario a rejection mail will be sent to the user. Mail has been sent using process builder as shown in the screenshot below.



Email Alert Details

The screenshot shows the "Email Alert Detail" page for an alert named "rejection". The alert's description is "rejection" and its unique name is also "rejection". The "From Email Address" field contains "Current User's email address". The "Recipients" field is set to "Email Field: Email". The "Created By" field shows "NCI ICT" with a creation date of "11/12/2018 17:49". The "Modified By" field also shows "NCI ICT" with the same date. The "Email Template" is "Application Rejected" and the "Object" is "Contact".

Rules Using This Email Alert
This alert is currently not used by any rules.

Approval Processes Using This Email Alert
This alert is currently not used by any approval processes.

Rejection Email Template

We have created a custom email template for the profile rejection mails. This has been done as follows.

Text Email Template
Application Rejected
« Back to List: Email Templates

Preview your email template below.

Email Template Detail

Folder	Unfiled Public Classic Email Templates	Edit Delete Clone
Email Template Name	Application_Rejected	Available For Use <input checked="" type="checkbox"/>
Template Unique Name	Application_Rejected	Last Used Date
Encoding	General US & Western Europe (ISO-8859-1, ISO-LATIN-1)	Times Used
Author	NCI ICT [Change]	
Description		
Created By	NCI ICT, 11/12/2018 17:04	Modified By NCI ICT, 11/12/2018 17:04

Email Template [Send Test and Verify Merge Fields](#)

Subject | Application Rejected
Plain Text Preview |

Hi,
This is to bring to your notice that your application has been rejected because of some missing documents. Kindly visit your nearest Oxyzen centre with all the desired documents.

Regards,
Oxyzen Team

Rejection Mail

Below screenshot shows the mail sent to the user in case admin rejects the profile registration.

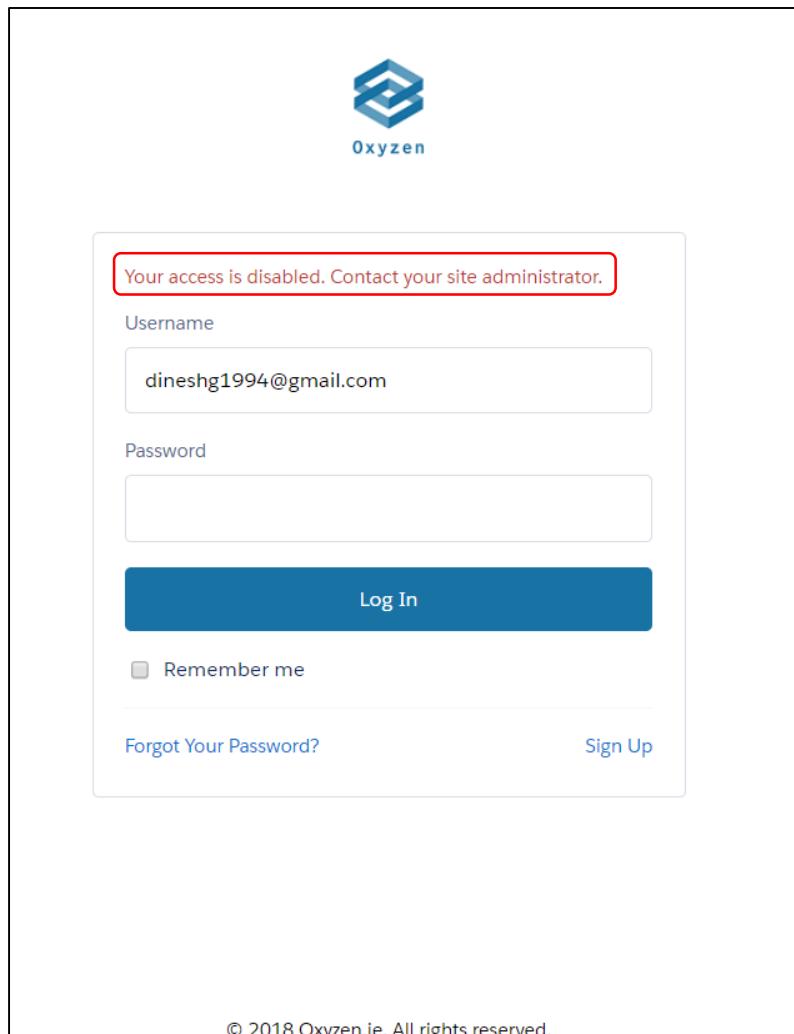
NCI ICT via ssg65xwq0detyr.1t-p2fzeai.eu16.bnc.salesforce.com
to me ▾ Tue, Dec 11, 5:53 PM (7 hours ago) [star](#)

Hi,

This is to bring to your notice that your application has been rejected because of some missing documents. Kindly visit your nearest Oxyzen centre with all the desired documents.

Regards,
Oxyzen Team

Once the users profile registration is being rejected the account is being blocked and the user needs to visit one of the nearest Oxyzen centres.



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Limitation that we came across

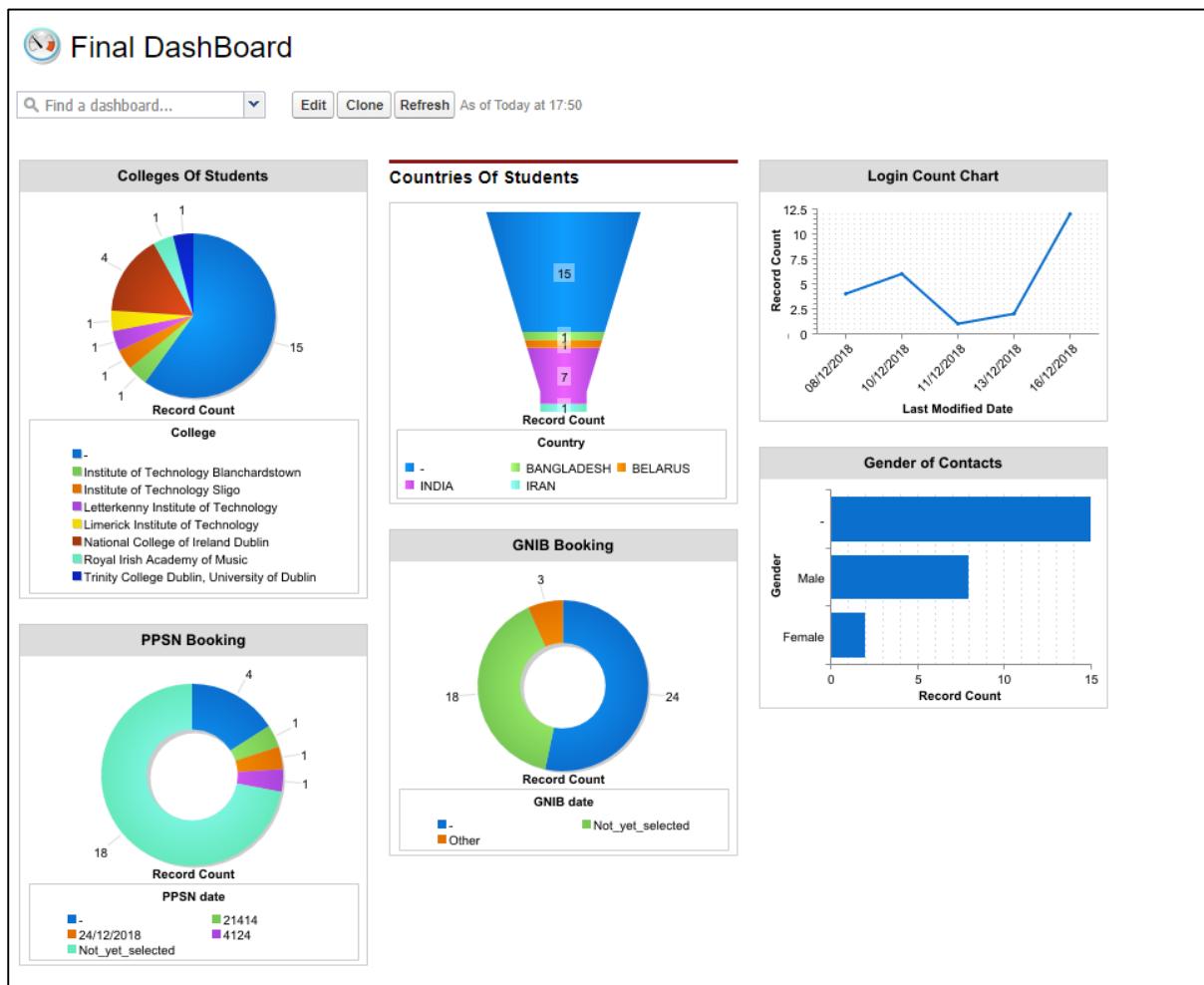
While we were trying to retrieve the dates from our 3rd party custom API, in case of admin it was successful as we have set the URL in the Security controls -> Remote Site Settings but in case of a particular user "Insufficient privileges" was being shown on the screen as no such setting or privileges options were available for the user. We tried to find various ways by which we could assign the privileges but due to time constraints we weren't able to find one. So we can surely do this in the future scope.

A screenshot of a Salesforce Chatter feed. The header bar is blue with the Oxyzen logo on the left and search and user navigation on the right. Below the header is a "Chatter" section. On the left, under "Recent Items", is a post from "Dinesh Gauda" titled "Insufficient Privileges". The post content is: "You do not have the level of access necessary to perform the operation you requested. Please contact the owner of the record or your administrator if access is necessary. For more information, see [Insufficient Privileges Errors](#)". The entire message is highlighted with a red box. At the bottom of the page is a footer with copyright information and links to Privacy Statement, Security Statement, and Terms of Use.

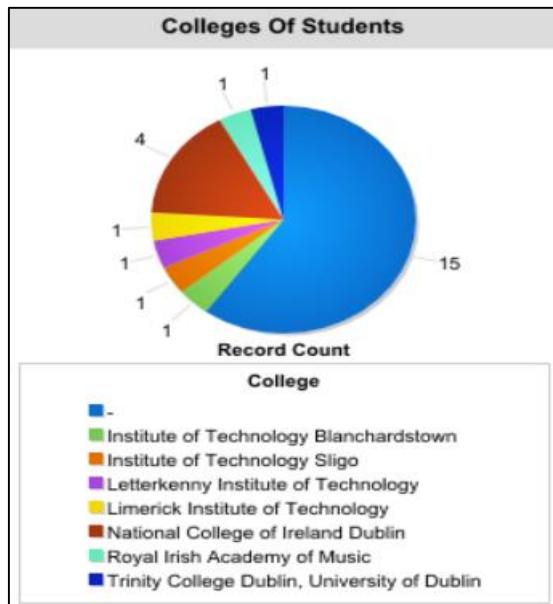
Dashboard

The dashboard is designed for analytical services which are capable of answering the following queries dynamically.

1. Number of students registered from a particular college/university.
2. Country of origin of the students who registered.
3. Count of the number of students Logging into Oxyzen.
4. Number of students done with PPSN booking.
5. Number of students done with GNIB booking.
6. Gender of the registered users.

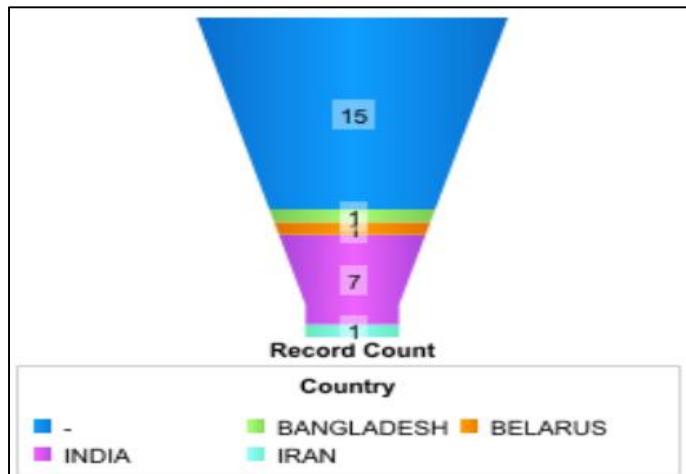


1. Number of students registered from a particular college/university.



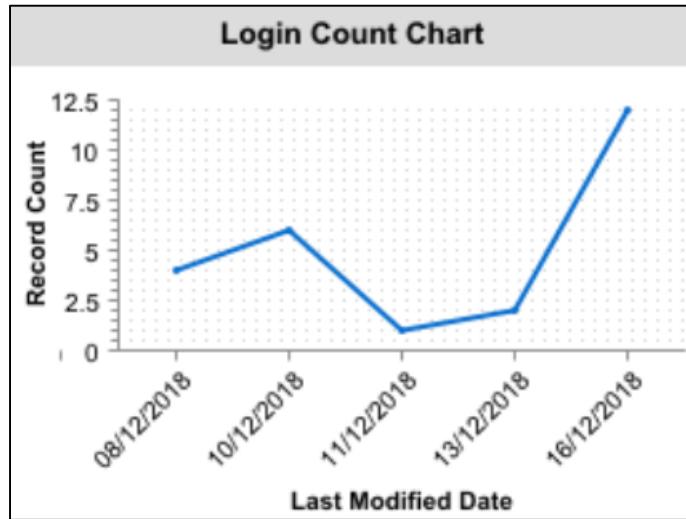
The college pie chart is made to check the metrics on which college is adapting to our system fast so that we can focus on the areas or colleges that we are slowly expanding on.

2. Country of origin of the students who registered.



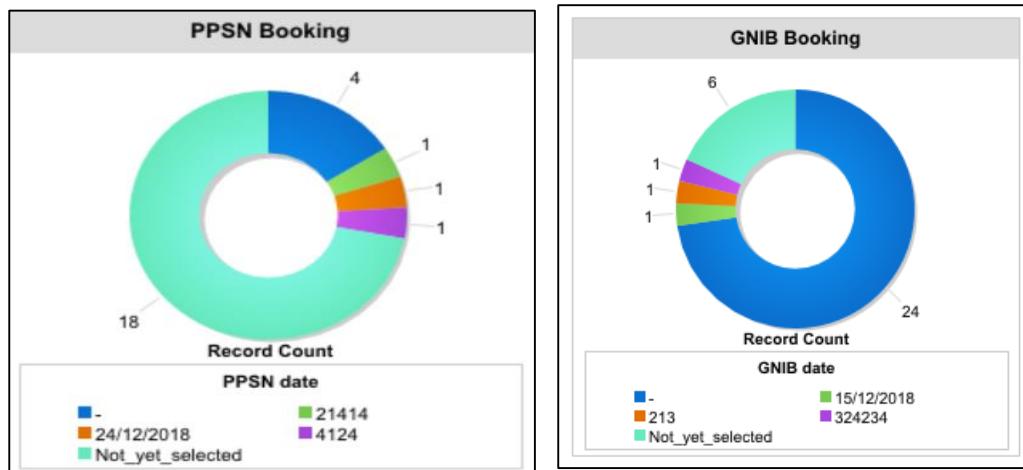
The countries of students help us to identify regions from where International students are coming and then provide them with customized services as per their preferences on later stage of the project.

3. Count of the number of students Logging into Oxyzen.



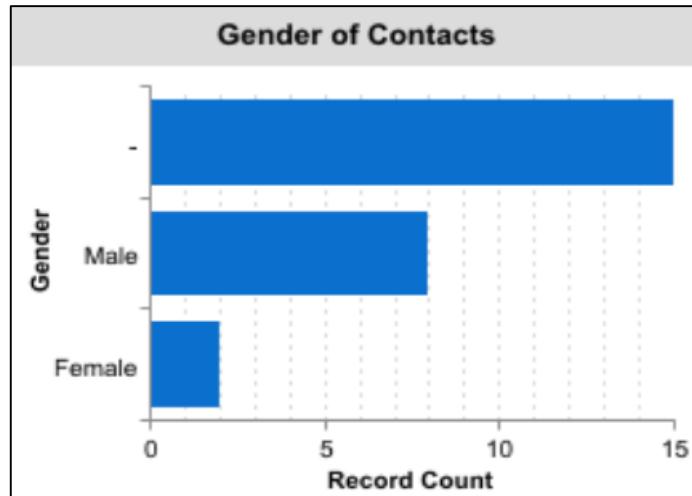
The login graph can help us to identify trends on which data in the month or which period of the year students tends to register on our interface and manage number of employees in the validation sector accordingly.

4. Number of students done with PPSN and GNIB booking.



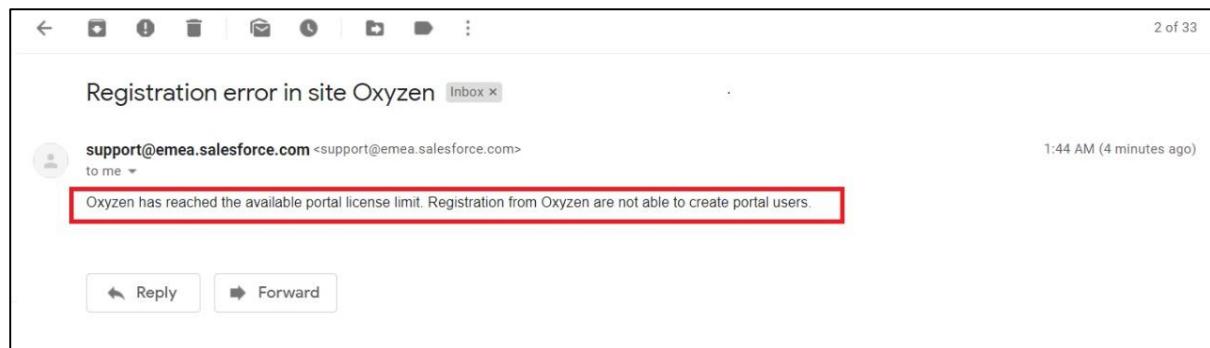
We can send statistics about GNIB and PPSN registration to the respective government services to convince them to continue and invest in our system. Similarly this can we done with other partner services in future scope.

5. Gender of the registered users



Using the gender chart we can draw new insights on user behaviour and adjust our user experience to suit the same.

Limitation while making dummy data



We have added enough dummy data but couldn't add more because of the limited access for community users, every time we used to get this kind of mail to which we had to deactivate some users so that we could register new users.

Future Scope

The Future application of the project can be to provide Banking services, Leap Card, etc via API calls. As this project is to provide all the services to international students at one spot. Due to time constrain the application was limited to GNIB and PPSN booking.

The application can also be extended to have additional features of Retailer's Club card and provide them with the discount according to location perspective. Student won't require any College letter, we will directly query the College server to get their status.

References

Finances Online . (2017). Retrieved from <https://financesonline.com/top-15-erp-software-systems-comparison-top-solutions-market/>

Higher Edcation Authority. (2018). Retrieved from <http://hea.ie/statistics/>

ISIC Card. (2018). Retrieved from <http://www.isiccard.ie/aboutus/>

ISSU iConnect Card. (2018). Retrieved from <https://www.studentcard.ie/information/student-id-card-ireland>

Open Codez. (2017, February 6). Retrieved from <https://www.opencodez.com/salesforce/cloud-computing-salesforce.htm>

SelectHub. (2017). Retrieved from <https://selecthub.com/enterprise-resource-planning/erp-advantages-and-disadvantages/>

The European Student Card. (2018, May). Retrieved from <https://europeanstudentcard.eu/project/>