Salesforce Certified Technical Architect

Mock Scenario
ROADS FOR EVERYONE

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Scenario

Instructions

For the hypothetical scenario described below, the candidate will have 180 minutes to read, evaluate, and document a high-level architectural solution. The solution should:

- Address where the Force.com platform will and will not be used.

- Describe how the Force.com platform portion of the solution will interact with the other systems needed to complete the solution

- Identify any potential key risk areas.

The candidate should target the presentation to a technical IT architecture audience. In cases where requirements are not explicitly stated for the scenario, the candidate should use their best judgement and make appropriate assumptions based on the information provided. The candidate should indicate to the review board any assumptions that were made when designing the proposed solution. The candidate will not have an opportunity to ask clarifying questions related to the hypothetical scenario.

The candidate will be evaluated on their ability to assess the scenario requirements, design a solution, communicate the proposed architecture, and justify the design decisions. The candidate will not be evaluated on the tools used for the presentation.

Project Overview

Roads For Everyone (RFE) are a global charity with the aim to improve infrastructure - specifically roads - in developing countries. They have the ethos that the lack of roads, and therefore access, leads to many development-related issues to do with education, medicine, poverty and illness.

They fundraise across the world, often using local affiliates and working with other recognised charities to enable delivery of their projects and activities.

Their head office is in the USA (Wilmington, Delaware) and they also have regional offices in EMEA (The Hague, Netherlands), APAC (Melbourne, Australia) as well as smaller branch offices in Canada (Vancouver), Zimbabwe (Harare) and India (Hyderabad).

RFE carry out fundraising activities all year round, but also run campaigns in response to special events (earthquakes and other natural disasters, for instance).

As a registered charity, they are required to account for all donations and ensure that they are spent in a responsible manner, per Charities Commissions rules, and directly towards the causes that they have donated to.

RFE are after a 'drains up' review of the IT infrastructure and whilst they feel some systems are fit for purpose, they are prepared to replace everything if a good reason is provided.

Current Systems

1. RFE have a custom built CRM which has been identified as no longer fit for purpose. They would like to retire this and migrate all data to Salesforce

2. Canute is their banking integration app. This holds bank account information for all donors and contractors and is compliant for all necessary legislation. It exposes a REST API.

3. A externally hosted public facing website. This contains mostly static information, but RFE would like to have it be more dynamic in the future and show running totals of campaigns, and let website-users see progress of projects in real time.

4. An Azure-based set of integration tools. Whilst not comprehensive, and previous IT initiative has seen some SOA-based integrations built on Azure. The quality, standard and governance of these varies. RFE would like to review the integration strategy as part of this process.

5. MailChimp has been used for marketing campaigns and whilst there are no specific issues with the use of this tool, RFE are also looking to replace this.

6. A private website for donors only. This is currently sparsely used and doesn't contain any features that need to be kept. RFE would like to replace this with a more feature-rich portal. As part of this, the 150,000 registered users will need to be migrated.

7. RFE use Active Directory for internal user management.

Future Landscape

1. RFE would like to expose the new 'donors website' content via an app.

2. RFE would like to digitise as much of the Project Build phase as possible, and will be issuing devices to all Project Managers. For various reasons these will be Apple tablets in the US and EMEA, and Android devices for the rest of the world.

3. RFE would like to make it easy to access the Donors website, and want to include logins from Facebook and Twitter as part of this.

Users

1. Street Fundraisers. These are volunteers who will approach members of the public and attempt to have them become benefactors of the charity. Given they are volunteers the number varies, but is broadly 5,000 globally at any given time.

2. Fundraiser Administrators. These are office-based admins that are organised by country, rolling up to regional VPs.

3. Charity Overseers. A central team of 10 in Wilmington that oversees all fundraising details.

4. Corporate Team. This team of roughly 100 users, approaches businesses and corporations (of all sizes) to pledge annual amounts to the charity.

5. Build Team. A team of 100 that identify suitable projects and work with local authorities to gain permits, permissions and engage with local contractors.

6. Project Managers. There are approximately 100 PMs, with 5 regional PM Directors.

Business Process Requirements

1 - Fundraising (Individual)

A. RFE employs Street Fundraisers, who encourage people to sign up for direct debts. This involves use of an RFE-issues tablet to capture the individual's personal details and banking details.

B. They use RFE-issues tablet devices for data capture.

C. As well as the personal information (Name, address, DOB, etc.), it is also necessary to capture marketing consent at the time of registration so that donors can be included in future marketing campaigns.

D. Per regulations, RFE need to provide an easy way for donors to opt out of future communications.

E. Bank details (account, sort code, IBAN, etc.) need to be captured at this time but RFE policy means that none of these details will be held in Salesforce, but directly in Canute.

F. Donors will donate in their local currency, and should be able to see this on all communications and information.

G. RFE reports globally in US dollars.

H. Donors will receive, via email, an invitation to the donors area of the website where they can carry out a number of actions

     i) Update their personal details

    ii) Update banking details

   iii) Cancel any scheduled donations

iv) Print a validated list of donations for any timeframe (which will be used for tax reasons)

2 - Fundraising (Corporate)

A. The Corporate Team handles all corporate donations.

B. There is a website and email address where companies can contact RFE directly. RFE would like these routed directly to the Corporate Team

C. The Corporate Team also approaches businesses, using MailChimp at the moment and purchased lists. The quality of these varies and RFE would like to ensure account information is as accurate as possible before sending campaigns.

D. The RFE team will discuss the donation, aims and goals for the company donations and then sign a contract with them for a commitment of an annual donation. This has previously carried out manually but RFE would like to digitise and accelerate this process.

E. There is a page on the public facing website that lists all corporate donors and uses their logos (which the companies provide); most companies want to be included on this, but not all do and can opt out.

F. RFE would like to automate the logos and company names going onto the website.

G. When companies stop making donations (or go out of business), RFE would like the website to be updated as soon as possible.

H. Corporate Donations always make donations towards specific projects and want to receive updates on how that project is progressing.

3 - Fundraising (Other)

A. RFE receives donations from many estates, where individuals leave money to them as part of a Will. These need to be handled more sensitively and RFE would like to send personalised letters to the relatives of those who donate money in this way. There are approximately 2,000 donations of this type a year.

4 - Campaigns

A. RFE runs two types of campaigns on a regular basis. The first is Scheduled Campaigns to target existing donors to ask them to increase their donations. Donors can opt out of this at any point.

B. The second is Reactive Campaigns, which are generally in response to specific events (such as an earthquake which damages roads in a region). In these cases, the donations must be used exclusively for this project. RFE requires this to be tracked so that it can be reported on in the future.

C. Donors can also opt out of Reactive Campaigns.

D. Corporate donors will be targeted as part of Reactive Campaigns, but not Scheduled.

E. Campaigns are run on multiple channels (Facebook Ads, Emails, Sponsored Google results, etc.) and RFE would like to track how successful each campaign is.

F. Donors will only be in a maximum of 3 scheduled campaigns a year. This is a regulatory requirement, and RFE need to ensure this cannot be exceeded.

5 - Project Planning

A. With the money raised, RFE carries out projects globally. Money is arranged into regional 'pots' to be used for projects, with budgets given for each calendar year.

B. The projects are identified centrally by the Build Team.

C. Governments and NGOs can approach RFE for assistance using a webform.

D. However, most often RFE contacts a local or central authority of a country to get permission to carry out the projects.

E. RFE uses local contractors to carry out the work. Every building contractor is required to sign the RFE Code of Conduct before they start.

F. Each project has a minimum number of quotations that will be required. This varies based on the country that the project is in.

G. Once contractors provide quotations, RFE will make decisions on which contractors to use. But only once they have received the required number of quotes. A project cannot start until this number has been reached.

H. As part of the decision criteria, RFE will look at how many projects they have worked with contractors in the last 3 years. This should be easily visible.

I. Contractors will sign a contract at this time.

6 - Build

A. Once work has commenced, local contractors submit invoices on a monthly basis. This is currently carried out by fax, but RFE would like to update this process and will take advice on how best to complete his.

B. Invoices need to be approved by the PM before they are paid out. Invoices that are more than 10% higher than quotations require Regional Management approval.

C. Payments to contractors are made directly from Canute.

D. There will be a Project Manager on site, who will keep track of spend and progress. This includes data entry and photos. These need to be entered into a mobile device that the PM will have; sometimes the project will be in an area with no cellular coverage.

E. Any permits required need to be stored in the CRM and the PM will need to be able to access them at any time on their device.

F. Any photos taken need to include GPS and date/time information to be stored as metadata.

G. Donors should be able to see the progress of any project, regardless of whether they have donated specifically to it or not.

H. When fundraising was carried out for a specific project (such as with Reactive Campaigns or with Corporate Donations) a clear audit of donations and spend must be kept. RFE are looking for suggestions on how to complete this.

I. General donations can be used for any project. These do not require a clear audit.

Data Migration Requirements

A. There are approximately 5 million records in the custom CRM, Excel sheets and various office-based systems that have been created organically.

B. Data quality is hugely variable.

C. RFE would like a comprehensive strategy for migration of these records to a single consolidated source.

Visibility and Security

A. Street Fundraisers are only able to create records. They have no visibility to any records in the system, even the one they just created.

B. Fundraising Admins should be able to see all donors and donations for their countries.

C. FA VPs should be able to see all donors and donations for their regions.

D. FAs should be able to create and manage campaigns.

E. Some celebrities and high value donors are benefactors of RFE. Although their names can be visible to all, their personal details should only be visible to Fundraising Admins.

F. Corporate donors and donations should only be visible to the member of the corporate team who handles that account.

G. 'Pots' are allocated on an annual basis and should only be visible to regional VPs.

H. Donors should be able to view a history of their donations.

I. The build team can view projects and ideas for their regions.

J. PMs should only be able to view projects they have been assigned.

K. Contractors should be able to submit and view quotations and invoices.

L. All users should be able to use the system (browser and app) in their local language.

Reporting

A. VPs need to be able to see campaign effectiveness.

B. It must be possible to trace donations for Reactive Campaigns and Corporate donations to specific projects.

C. VPs need to see a report of contractors whose invoices are >10% of quotes more than 3 times in the last 12 months.

D. Top Individual Fundraisers are eligible for recognition and RFE would like to identity the top 'earners' in each country every quarter.

Project Lifecycle Requirements

A. RFE have no development capability in house, and will be working with a preferred supplier 'Developers For Good' who specialise in the charity sector.

B. RFE would like to establish governance process to ensure that the relationship is smooth and efficient. They have budget for a few key internal hires and would like recommendations on how to best setup for this project to succeed.

C. Canute is highly regulated, and changes can only be made under strictly controlled circumstances in the first week of each calendar quarter.

D. The RFE board would like to show progress of the IT refresh within 6 months.