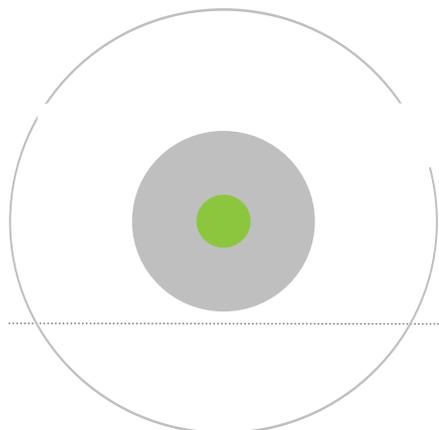# Internationalization of Admission Systems

Internationalization issues in Admission Systems and some possible solutions.

SIMPLE

FAST

RELIABLE

Background

An admission system is one of the most challenging applications, when it comes to localization. Apart from the usual language / locale issues, it has to provide for the variance in education systems, government regulations and region-specific market forces. As admissions touch a large number of young people in the opportunity exploration phase of their lives, it becomes critical to achieve equity in technology access and use. At GreenClouds we have tried to explore this very interesting area, keeping in mind the opportunities that new technologies throw up and the evolving localization needs of the changing world. This note is a collection of what we learnt and what we are implementing in **Formistry**, our Admission Management Suite.

Internationalization starts with varying access conditions

Progressive enhancement

Someone could ask, how is Progressive Enhancement related to localization? We look at diversity management as being international. And diversity includes devices, browsers and operating conditions. Simply put, in order to be equitable to all, the Admission System should work, if the images are turned off, if the JavaScript is turned off and if both are turned off. Through Test Driven development, we start at the lowest configuration and add layers of richness with images and JavaScript.

Accessibility is performance in bandwidth challenged conditions

The developers invariably are used to higher bandwidth, while a considerable number of users, especially in the developing world are still on dial-up connections. Excellent optimization of all assets is critical in catering to this audience. And it will make it super-fast for the well connected. There are enough tools like Google PageSpeed to measure and improve this.

Accessibility is performance on multiple devices

There is rapid adoption of Mobile technologies worldwide, and in the developing world, the rates are even higher. Along with this, comes the challenge of mobile browsers with varying capabilities and 'viewports'. Factoring some of these quirks, along with Progressive enhancement helps in reaching most of them smoothly.

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A comprehensive admissions processing solution, providing the best of accuracy, speed, safety, privacy and reliability.

Durable QR Codes Bar Codes

The operating conditions (crumpled and soiled documents) render barcodes, not very accurate. QR technology is some 30% more rugged in terms of scanning accuracy. They are also easily transportable on a mobile device. Instruments like Test Admit Cards and their verification can gain a lot with this technology.

Geo-Location can be useful

HTML5 led Geo location can be a very handy tool to improve localization to a great extent. We are experimenting on browsers that support Geo Location.

Cloud facilitates web services to add authentication

In a complex country like India, where data validation of very large and very many data sets (e.g. Caste, School Boards, Colleges, Languages, Unique address system and geo linked quotas) is required, it makes sense to provide centralized data API services, which all Admission systems can use easily. Similarly, innovation is possible in payment methods also, where off-line & online payments and hybrid modes can be deployed (e.g. India Post can physically collect money and make an electronic transfer using their very large post office network.). 'Common Analytics services' is another interesting possibility.

Make Background images of text to be re-sizeable

An English header on a nicely styled background image may have to increase in width to accommodate a Malay translation. Image expandability of the original software design, should support this, without having to re-design the image and the related CSS.

Images should have a separate layer for text

When text has to appear on an image, keeping the images and the text in separate layers will help in future translation efforts.

Use images that are culturally safe

A pig or a donkey may be cute and funny in one culture but pretty offensive to another. A red color is considered auspicious in India and China, but in other cultures, it may signify danger.

Dual language cultures

With 22 official languages, a country like India is used to forms being in English, as the policy makers and planners need data consolidation and common analytics. Here, the help if given in the regional language, while the form itself may be in English is a great help.

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Tools

We have adopted Xliff as a method to implement translation. Gettext is another method. But we thought it would be more useful for a dynamic multilingual environment. Admission systems as of now can create consolidation / analysis challenges if made dynamically multi-lingual.

Codification challenges

An admission system is a critical data collection point. Most MIS quality is determined by this data quality. While most developed countries bank on School Interoperability Framework (SIF) to achieve standardization, countries like India are a long way from that. What's more? There are numerous reservation systems based on castes. The official number of 'backward' castes in India is 2399. Of these the 'Most backward' is 837 and Scheduled Castes is 108 and Scheduled Tribes is 744. The others are called 'creamy layer'. This is critical information, which has significant impact on Admission chances and scholarships and grants. All on-line Admission systems take this as an open field, without any validation. And there are urban / rural quotas and the accompanying town classifications.

We have decided to lean on HR-XML with mapping to SIF wherever possible. India specific fields further extend this. HR-XML provides the linkage to the employment market, easily.

Navigation has to support right to left languages

Another important consideration related to designing global systems is to take special care of the navigation design. A right to left language person would be more comfortable with a similar navigation flow. Even in the same language, sometimes, localization will also have to cater to the varying reading directions. For example, people in Mainland China may prefer to read from top to bottom whereas people in Hong-Kong prefer to scan from left to right. This greatly influences the navigation and placement of important information. Most of the globally relevant websites have not been able to achieve full globalization for layout and functionality. An good example of this is a leading search engines' Arabic site, which gives you the ability to search in Arabic but the navigation system is still suited for "left to right" languages and is therefore not intuitive enough for an Arabic speaking world. The results are only from Arabic sites, thus it might be said that the best possible information is not available to the person due to technical shortcomings.

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Translation and translatability

Even such basic information as name, address, degree, certificate, high school etc also do not follow a set pattern across the world. The local interpretation would change for words like "graduate", "degree", "college" etc. A translator would, therefore, not just have to translate literally but also contextually. Usually the user is forced by the system to cater to the whims of the programmer. For example many cultures do not have the concept of middle name, India including. The users from these cultures are almost forced to come up with their own interpretation of the term to suit the system requirements. Similarly, "Address information" is also another information that people struggle with. We notice that generally websites tend to use "Address Line 1" and "Address Line 2" to make it universally relevant and then add City/State/Country as mandatory fields. This approach may be easy to implement but it does not solve the usability issue. The users tend to interpret these fields uniquely and render any meaningful analysis impossible.

It is quite clear that a single version of an application cannot cater to all and we can safely assume that different cultures perceive a user-interface in different ways. This can also be further extended to say that each user interprets the user-interface in a unique way. The constraints of time and resources stops one from catering to such granularity in interface design but we believe that a level of delight can still be given to each user by correctly catering to uniqueness of the user's culture by thoughtful localization.

Key points:

- **Language and locale information has been the big focus of Localization / Internationalization, so far.**
- **Local Market forces, regulations, are equally important considerations.**
- **Access, equity, Accessibility and Inclusion applies to technology in a big way while considering localization.**
- **Technology architecture has to be flexible to add and remove fields at the local level.**
- **Flexibility also should mean rules and workflow flexibility.**
- **Data Services APIs, (Eg: Indian castes, PINCODE numbers) will help greatly in accuracy and data entry ease. The architecture should support use of such APIs.**