MyTravel Mobile: You can take it with you!

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A combined effort, MyTravel is the result of the Travel Tiger Team (campus business process Rapid Process Redesign initiative), Administrative Computing and Telecommunications, and the UCSD Travel Team working together to satisfy a campus demand.
Summary

UC San Diego’s My Travel application supports over 28,000 trips annually with 20,000 prepaid expenses for air, hotel and conference fees. With MyTravel, trips can be managed from end-to-end including mobile functionality travelers need while they are on the go. While MyTravel itself is an outstanding business application designed for users, our story focuses on the strategy and impact of delivering mobile content and functionality that users want and need.

Project Description

Overall

In 2010, the Travel Team reviewed existing travel processes and tools and it was evident the suite of applications (TravelLink) at the time not only did not meet new business demands but also used older technology. It was agreed upon to develop an application in order to update and streamline travel planning, management, and reporting. The team realized it would not be an easy feat to move from complex related systems to a simple integrated application. That said, the Travel Team joined forces with end users, process owners, and ACT technical and usability experts to review existing travel processes and systems in order to determine what users would need today - what to keep and what new features were needed.

The end result is MyTravel, a single application to manage travel set-up, payments, and reconciliation. In order to offer this one stop experience, MyTravel has integrated with related UC San Diego corporate travel card and UC’s Connexxus travel program processes. New functionality added includes:

- A welcome page tailored to each user
- A single inbox from which users can manage all travel activities
- Travelers can now initiate requests for new trips which route to their Preparer for completion
- New claim types (replaces Payment Authorization as the method for claims limited to mileage and/or parking)
- New trip types include Move/Transfer, Recruitment, and Group travel

For administrators, new features, integrated functionality, and visibility of transactions that are secure and auditable have resulted in time savings, cost savings, and peace of mind. For travelers, MyTravel offers independence by giving travelers self-service options before they go to initiate a request for trip set up and expense prepayment to mobile functionality while they are on the go!
Mobile- It Travels with You

*The mobile component is one of the most significant MyTravel new features.*

With most of our users travelling, it made sense to offer a mobile component. Considering the breadth and depth of travel activities the team looked at the functions—from complex to simple—and thought what would a traveler on the go want to do on their mobile device? After looking at the usage statistics and interviewing campus users, the team focused on a travelers’ need to track expense receipts as the primary focus for the mobile interface.

The team identified simple use cases and developed design mockups to determine how best to electronically manage receipts on a mobile device. From the team’s discussions the Receipt Wizard concept was developed. The concept for the Receipt Wizard is simple: it allows travelers to take a picture of their receipt and upload the electronic image to their MyTravel event for claim which are reviewed by preparers, approvers, and auditors. This not only eliminates travelers’ worry about holding onto paper receipts but also facilitates auditor reviews—saving both storage space and time.

To implement the Receipt Wizard, the Travel Team needed a critical change to policy in order to accept electronic receipts for audit. Once this policy change was adopted it paved the way for mobile receipt management.

We implemented the MyTravel Mobile component using University of California’s MWF (Mobile Web Framework) to deliver a device agnostic mobile and rich user interface to travelers.
Technologies: What we Used

MWF (Mobile Framework)
- http://cwo.ucsd.edu/mobile/

Attachments:
- Disk storage requirements are approximately 18 gigabytes per year increasing by 1% per year to 28 gigabytes per year after 10 years.

Tailored Interface:
- The user interface displayed is based on the user’s role: Traveler, Preparer or Approver. IFIS approval templates are used to determine which role the current user has.

Overall Approvals:
- We created an approvals inbox widget that can be placed on any Web page to facilitate access to the tool.
- We leveraged UC San Diego’s workflow engine, MyApprovals, to route documents for approval. For approvals, we introduced three new document types: Trip Setup, Travel Invoice, and Travel Cash Advances. A second level audit approval was added for UCSD Travel to provide final review for a subset of claims based on risk criteria.

Servers:
- MyTravel runs on two different types of servers. An existing legacy Integrated Financial Information System (IFIS) runs on an IBM Z/OS v1.7 mainframe server (figure 1) and contains a TN3270 based travel module. We retired a legacy PERL application that used screen scraping of the TN3270 IFIS travel module to surface it on the Web.
- Primarily written as a Java 2 Platform Enterprise Edition (J2EE) Web application. It runs on a Web farm of 6 Red Hat Linux v5.8 machines running the Apache v2.2.3 Web Server using the Tomcat v6.0.26 servlet engine. The application uses the IBM DB2 v9.7 database for data storage.

jQuery JavaScript Library:
- A rich user interface by using jQuery v1.4.4. jQuery is a JavaScript Library that simplifies dynamic HTML document traversing, event handling, animating, and Ajax interactions for rapid Web development. jQuery is used to display data tables that can be sorted and filtered in the client's browser, eliminating the need for a callback to the server. It is also uses AJAX and JSON calls for traveler, trip and payment searches or to auto populate lists of countries. Dynamic HTML allows the user interface to respond to the user's input in real time, only showing the user fields they are required to complete.

Apache CXF v2.1.2:
• Uses the Apache CXF wsdl2java utility to take the COBOL WSDL documents and generate fully annotated Java code which make Unix client service calls to the legacy mainframe IFIS Travel System. This real time approach to trip and payment creation provides instant creation of the trip and payment documents within the operating ledger, which prevents the need for a nightly batch process.

**GT Software Ivory Studio v4.3:**

• GT Software Ivory Studio v4.3 was used to leverage the existing legacy mainframe trip and payment transactions. This tool creates Web services that the new MyTravel components use to interface with the IFIS operating ledger. Ivory Studio utilizes a graphical interface to create SOAP WSDL interface files from existing CICS screens. The WSDL file is then used to generate Java client stubs for the IFIS mainframe legacy transactions. Eleven Ivory Studio Web services were created to support the interface between MyTravel and the legacy IFIS operating ledger. All navigate through the current IFIS Travel On-Line screens, enabling them to use the existing business logic.

**Timeframe**

MyTravel Mobile was made available to campus in March 2012.

**Success Factors**

The following summarizes the key success criteria we set forth at the outset if the project:

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<thead>
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<th>Success Factor</th>
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<tbody>
<tr>
<td>Ease of use</td>
<td>✔</td>
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<td>Leveraged existing toolsets</td>
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<td>Receipt management and reconciliation is not a nightmare</td>
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<tr>
<td>Increased customer satisfaction</td>
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**Predicted Cost Savings**

Overall, MyTravel achieves an annual cost savings of $1M by eliminating paper forms and freeing up administrative resources. A significant portion of these cost savings is achieved through the efficiency of the mobile component.

**Customer Satisfaction Responses**

"Wow - MyTravel 3.0 is a big improvement over the previous version! Thank you and the team for the hard work in rolling this out. The biggest improvements are: 1) Ability to upload receipts - this will save the depts time and resources in storing backup and ..."
facilitate improved compliance 2) "Available Actions" navigation toolbar - this makes it easier to toggle back and forth between front-end travel processes (creating trips, adding travelers, searching for travelers, etc.) and post-event reconciliation in MyTravel. In the previous version, we had to have two IE tabs open to toggle back and forth between the pre- and post-event applications. 3) The look and feel is updated and more consistent with newer Blink/Finlink pages (like MyEvents, etc.). Plus the tab features at the top make it so much easier to get the information you need and get to other related websites. Good job!

- MSO, UC San Diego Supercomputer Center

I thought it was so user friendly – quicker, etc. Kudos for developing such a helpful tool. And the link allows easy tracking of all events. I love it!

- Office of the Dean, UC San Diego Clinical Studies

Just a quick note to say thank you for all your work for streamlining the search screen on MyTravel. It is so wonderful to be able to just enter the traveler’s last name and get all the outstanding trip information! I just used the “View Trip” function and it is soooooooooo much easier and quicker than navigating to the Event Summary!!!

- Operations Specialist, UC San Diego Biological Sciences

So far, so good with MyTravel 3.0. It was very straight-forward, and I think it will be a big improvement. I’m so glad we’ll be able to do group travel electronically now!

- Fiscal Assistant, UC San Diego, Marine Biology

... giving a talk at UCSD a few weeks ago. They received by mail my receipts last Monday - and on Thursday I had received in the mail a check reimbursing me. (In the meantime I had the utterly painless job of validating a detailed itinerary/listing of charges online.) The secretary there confirms that the system is easy to use. It seems a pretty clear model for us.

- Faculty traveler, UC Berkeley Law Professor

References
- Using the Quick Entry Wizard (also shows attachment process): [http://www.bfs.ucsd.edu/DIS/TRAVEL/Quick Entry Wizard_demo/Quick Entry Wizard_demo.htm](http://www.bfs.ucsd.edu/DIS/TRAVEL/Quick Entry Wizard_demo/Quick Entry Wizard_demo.htm)