



A comprehensive mobile solution for Staff Management



A Comprehensive Staff Management Solution

CrewBuddy is a leading-edge mobile application that brings the convenience of managing staff information to smart phones and tablets.

Manage Roster

CrewBuddy empowers staff to manage their own roster, receive alerts and notifications, manage duty sign-on/off procedures, and gain better control over swapping allocated roster activities.

Updates to published rosters are automatically retrieved and displayed with easily distinguishable highlighting.

Statistics

CrewBuddy provides access to roster statistics over defined roster periods, allowing staff to keep track of metrics like port visits, duty hours and allowances.

The display of the roster calendar can be personalised to set weekends and roster display start date.

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Fig.2 Roster highlighting with updated shifts

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Dates from		1/4/2015
Dates to		30/4/2015
Port Visits		
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KWI		2
SLL		3
BAH		1
AUH		1
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Fig.3 Query stats choosing roster period



Fig.4 Choose the date to display in roster

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notifications



Fig.6 Blocking notification view Block access to the app until

SAMSUNG 2 :28 Wed, 29 April Reporting Fit for Duty AUH - MEL Report 21:3 IJ Ĵ \bigtriangleup

Fig.8 Android notification screen

Notifications

CrewBuddy allows airlines to instantly notify all staff members regarding any disruptions like flight delays, airport updates and provides a mechanism for staff to acknowledge these notifications. Priority notifications can be configured to block access to the app until they have been acknowledged by the staff member.

Push Notifications

Notifications and alerts can also be sent as push notifications to the device's notification panel for continued connectivity when staff are not actively logged in to the application.

Devices

CrewBuddy is designed to run on all of the following platforms:

- iOS Devices
- Android Devices
- Windows and Linux PCs

Fig.5 Main Menu with blocking



Fig.7 iOS push notification screen

Pairing

Staff can access detailed pairing information by drilling down through the roster calendar.

Details like pairing duration, flight leg duration, local start and end times of flight legs and statistics of a pairing are displayed in the Pairing View.

Proximity-based Sign-On and sign-Off

CrewBuddy facilitates proximitybased sign-on and sign-off from duties using Bluetooth LE technology by detecting the proximity of staff to specially registered beacons.

Signing on or off can be customised using rule-based temporal controls. Eg: Disallow sign-on until 2 hours before duty is due to start.



Fig.9 Pairing view - Please sign-



Fig.10 Scanning for beacons





Fig.11 Detected beacons waiting for sign-on confirmation from Crewing System

Fig.12 Signed on, ready for signoff



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Fig.13 Upload pairing to Swap Market

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DXB/HS	2 - DXB	26 May 2015
DXB/OF	F - DXB	28 May 2015
C885-00	- DXB	12 May 2015
DXB/HS 2	1 - DXB	3 Jun 2015
DXB/OF	F - DXB	6 Jun 2015

Fig.15 Browse section in Swap Market

Fig.14 Uploaded pairings in Swap Market

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A Greater Sense of Fairness

CrewBuddy enables staff to swap work with others at any time via an automated swap market. All proposed swaps are simulated and checked against a central rule base in real-time to ensure feasibility and legality.

Once the swap request has been agreed to, CrewBuddy passes the swap to the airline's Crewing System.

The Swap Market enables staff to check the feasibility and legality of a swap using a stand-alone Rule Engine thereby significantly reducing the swap management load on the Crewing System. As the Swap Market is peer-to-peer, it removes the need for planners to be involved in the feasibility checks of staff swaps but are given the responsibility of the final approval of a swap.

The management can shape the Swap Market by defining company rules, which are automatically enforced for all future swaps. With our solution, staff are given a tool to shape their roster, leading to improved staff satisfaction and efficiency of operations.

Fig.16 Before/After swap view

Swap Legalities

Dynamic evaluation of rules to determine swap legality.

My Swaps

Once both parties have agreed on a swap, the swap status can be viewed in the My Swaps section Swaps are categorised as Under Review, Rejected or Approved



Fig.17 Swap market illegality error message

Fig.18 View My Swaps

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Under Review

14 May 2015

C631-00 - DXB 9 Jun 2015

DXB/HS1 - DXB

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2:03 pm

My Swaps

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Review

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N/A

Reviewed

View Port Information

CrewBuddy provides weather information, maps and restaurant information for all ports included in a roster. Staff are also able to gather additional information relating to their ports.





Fig.20 Port info view

Architecture

CrewBuddy features a highly scalable architecture with the ability to deploy multiple servers that communicate with a clustered implementation of a High-Availability Data Cache. The High-Availability Data Cache replicates data across all instances in a cluster while assuring transaction consistency and automatic recovery if a cluster node fails. It is event-driven to avoid the need for polling. All client-server communications are encrypted with hot-failover mechanisms for servers in place.

Rule servers are used to dynamically evaluate the legality of swap requests, or any other business logic that is specific to a customer. They employ a rules engine that is provided a set of rules written in a custom Domain Specific Language (DSL) and data from the High-Availability Data Caches.

Integration

CrewBuddy provides an event-driven integration server with which a third-party Crewing System's client integration module can interface. The integration server implements a database-agnostic message protocol for the exchange of data and events.

The Crewing System feeds staff, roster, notifications and other required data into the CrewBuddy system in real-time. All changes are instantly reflected at the user's end by the mobile clients.



Fig.21 Integration Architecture - CrewBuddy is fully integrable with existing legacy systems and able to be customised to suit your needs.

Constraint Technologies International (CTI) is a solutions & service company and a market leader for optimization software for the Transport, Travel and Logistics Sector.

For over 20 years CTI has been building tightly integrated and mission critical systems. For over 10 years we have been building and maintaining optimization solutions that optimize cost, service, equipment and capacity and that show actual cost against plan in real-time. Our systems are well engineered and reliable.

CTI is very much a technically driven organization and we take pride in the quality, performance and reliability of our products and solutions. A large portion of our revenues are invested in applied research and development within CTI, and more fundamental research with our University partners. CTI invest heavily in research and development and we apply our technology to challenging customer problems. We achieve continuous improvement in performance and capability using the latest software engineering techniques. All our products are backed by knowledgeable and professional technical support.

Our mission is to offer effective, scalable, state of the art software that is constantly evolving and improving. Our software is easy-to-use, configure and maintain. CTI has made a commitment to assure customer satisfaction.



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