



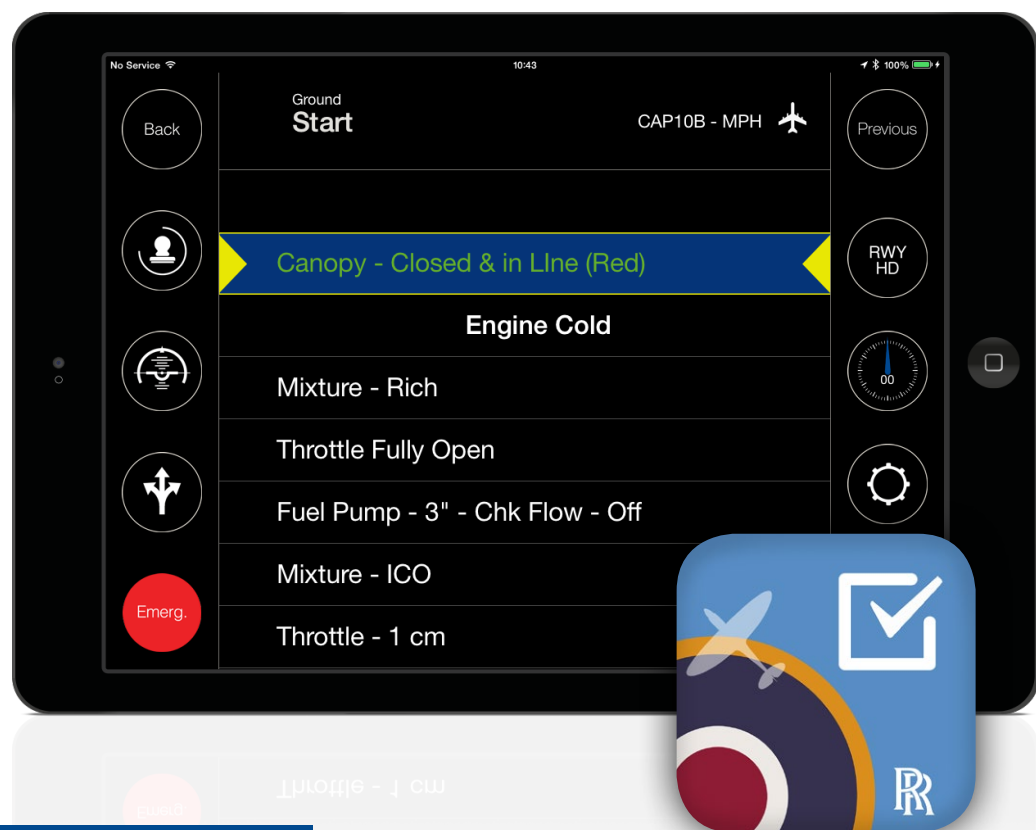
Rolls-Royce

Flight Checklist App iPad, Apple Watch and Pebble

Objective

Rolls-Royce's test pilots fly several different aircraft, including restored WWII Supermarine Spitfires. Pre-flight checks can be laborious and pilots typically use laminated cards to guide them through the process. This is laborious in a modern plane – with older aircraft like the Spitfire there is the added factor that modern safety measures are missing, meaning any error could be both costly and dangerous.

Rolls-Royce Chief Test Pilot Phill O'Dell came up with an innovative solution to this problem – use an iPad Mini that sits in a holder in the cockpit, and develop an app to guide the pilot through the required steps of their pre-flight checks. Phill also realised that the iPad would be the ideal tool to help him and his team meet their flypast timings with complete accuracy, enabling them to focus on far more important aspects of their flying, particularly safety and efficiency.



Solution

Phill engaged Compsoft to design and develop the app. Compsoft worked closely with Phill and his team, first to detail the required specification, design and user experience (UX). Due to the environment in which it is used, the app design and UX is very different to many apps Compsoft has developed, with a predominantly black and white UI and large buttons which can be operated by a pilot wearing gloves. The app delivers on the requirement to enable the user to carry out the required steps easily, efficiently and without ambiguity.

The app was developed as a framework to enable it to be used for any number of different aircraft; the user flows for new aircraft (or changes to flows for existing aircraft) may be defined by Rolls-Royce and added to the app prior to submission of a new build.

The iPad app is designed to sit in the cockpit of a Rolls-Royce Spitfire (or other aircraft) and guide the pilot through their essential pre-flight checks.

The app also has a flypast feature (including Pebble and Apple Watch integration), ensuring perfect timings can be achieved more easily and more safely than with traditional methods.



"The app has improved both the efficiency and accuracy of our flying. Compsoft have made that possible and have been tremendous to work with - professional, with incredible attention to detail and great fun throughout the whole process."

Phill O'Dell, Chief Test Pilot, Rolls-Royce.



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“Every year we perform a very important flypast at one of the world’s largest airshows - The Royal International Air Tattoo here in the UK. Our flypast is held on the Friday night and is timed to coincide with an amazing sunset ceremony. Just as the band finishes playing and the sun is setting we arrive in a Spitfire and display. This year the timing features in the app made for a far less stressful flight. We were ‘on time’ to the second but without the usual hard work of navigating using only a ‘Mark 1 eyeball’ and map. It allowed me to concentrate on far more important aspects of the flight and yet still achieve the principle aim – a great leap in both efficiency and safety.”

Phill O'Dell, Chief Test Pilot, Rolls-Royce.



Benefits

A plane like a Spitfire obviously has no built-in modern gadgets to help the pilot, and the fact that it remains the same essential plane as was flown in WWII is, in many ways, the reason it is still being flown at all. However the safety and efficiency of the pilots is no less important for that - what makes this app both innovative and unique is how it imaginatively applies and integrates 21st century technology with the much older Spitfire technology, in a way that is far from obvious, and delivers such a substantial benefit to the user.



Results

Prior to approaching Compsoft, Rolls-Royce spent many months researching possible 'off the shelf' options. None of them met requirements or were even close to the eventually capability of the app. Rolls-Royce's Chief Test Pilot said recently at a major UK airshow:

“Going bespoke was absolutely the right decision; the quality of our working relationship with Compsoft has been essential and greatly enabled the rapid advancement of this program. We’ve ended up with a product that is the envy of many pilots worldwide and has greatly increased our operability and efficiency. But more importantly it has given us the time and capacity to monitor the ‘important stuff’ – we look for other aircraft more, check the aircraft’s systems, and can concentrate on flying!”