



**REALISTIC DIGITAL**

Your Mobile Solution Partner

# How We Work

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White Paper

**Realistic Digital**



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Realistic Digital is one of the UK's fastest growing mobile application development companies. With several applications being developed across multiple platforms at any one time, the best fitting methodology and processes is key to ensuring a successful and smooth delivery to our clients.

This whitepaper demonstrates how Realistic Digital works with clients using a clear process and endeavors to mitigate many common risks by using outstanding expertise to develop and manage the production of mobile apps.

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## REALISTIC DIGITAL'S CHOSEN METHODOLOGY

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The main factor for choosing the correct methodology at Realistic Digital is communication. To achieve delivery Realistic Digital believes they MUST have:

- Clear regular communication internally (daily project meetings).
- Clear and concise documentation to hand over to clients. (Technical Specifications, Information Architecture and Creative)
- Clear key milestones to enable clients to plan their resource accordingly.

Agile is an effective methodology but has some drawbacks:

- To be effective, agile usually requires clients to provide permanent, dedicated resource to implement a healthy test-driven approach. Not all clients have this luxury of spare resource.
- Agile results in little or no documentation, although it is essential for Realistic Digital, especially when trying to integrate and communicate with a client with an existing system. This is even more important when the backend of a system is being implemented and maintained by a company external to Realistic Digital and the actual client.
- No clear set deadline as user stories move from sprint to sprint.

Realistic Digital are still very much agile savvy. If a project permits then an agile approach proves to be very effective.

We adopt Initiatives that adhere to an agile approach and utilize these dependent on the project requirements. These include;

- Providing on-site resource to work with our clients direct on-site.
- Providing builds on a daily basis direct to the clients internal test team to confirm the changes made each day are acceptable before moving on to the next area of functionality.



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Internally initiatives used in agile are in place including:

- Daily Scrum meetings that include Management, project leaders and development teams.
- An online project management system that provides both Realistic Digital and our clients with a visual project update in real time that includes the progress of the project, tasks, accountabilities and communication tools that put the development team, project managers and the client in constant contact.
- Defined project periods with clear objectives.
- Structured initial exploratory testing.

The V-model methodology results in good clear documentation. However, when it is considered that the average Realistic Digital project has a six-week turn around, the extensive documentation and testing required to adhere to this process are not normally feasible in the time frames and can often cause delays purely due to waiting on documentation.

Realistic Digital, in the majority of cases, deploys a straightforward waterfall type methodology, but the internal working of Realistic Digital, as already mentioned, still implements initiatives from agile and rapid development methodologies (Scrums, burndowns etc.). The next section demonstrates this methodology and the normal project lifecycle.

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## THE PROJECT LIFECYCLE

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The main project lifecycle is broken down into four main stages:

### Concept

Once a non-disclosure agreement has been signed, Realistic Digital will offer several ideas to help best implement the client's vision through various pitches and then break down the cost into its individual areas. This helps the client to decide on the best functionality for any given budget. Once an idea is agreed, basic wireframes are generated and in some cases a working prototype will be created and demonstrated so that the client can visualise what the app will look like before moving directly into the confirmed project.

### Initiation

Following agreement for the project to move forward, straight away work starts on scoping out the project. An initial project plan is agreed starting with Realistic Digital's in-house design team who work purely on mobile design and creating the best flow for the agreed wireframes. The result is very clear designs for sign off by the client. Meanwhile Realistic Digital's experienced architects and



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developers work with the design team and the client to agree both functional and technical specifications, and QA start to generate test specifications before coding commences.

## Delivery

The actual development of the app is usually broken down into three key milestones (Alpha, Beta and Final Releases) with associated deliverables. Internally these deliveries are broken down further into smaller manageable sprints. For larger projects Realistic Digital adopt the same approach with sprints agreed with the client so more cycles are included to give regular visibility of the apps progress. Realistic Digital's dedicated QA team run through the requirements using risk based exploratory testing before working with the clients to guide them through their own internal acceptance testing; often providing dedicated on-site support to work direct with the clients QA team.

## Close

Realistic Digital endeavors to help clients through the whole release process. So far, Realistic Digital has successfully developed over 50 applications most of which have been submitted through the Apple app store or Android Market. Using our expertise in this area we have a very successful record in getting apps through first time by adhering to the standards and making sure all the information required is collected in advance of submission. Also, when an enterprise app is required we have experience in helping institutions set this up so they can deliver their app internally in a smooth manner without the restrictions of using developer accounts.

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## CHALLENGES IN MOBILE TESTING

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Realistic Digital has a highly skilled workforce with industry leading experience in mobile development. This section details the main risk areas that project and test managers can usually come across when working with mobile that can have a dramatic impact on schedules if not catered for properly. Using Realistic Digital's knowledge of these risks helps mitigate and deliver on time and with outstanding quality.

## Resource

A common mistake is the assumption that by adding more resources to a project the app will get completed quicker. While this is normally the case for the actual development of mobile apps, testing can be very different. The difference is in the use of SDK simulators that run on desktop machines. Simulators do not accurately represent real time behavior of actual devices, so for Realistic Digital's developers and testers to accurately test mobile apps in a real environment, it is essential to have a number of actual valid test devices and available Wi-Fi and Mobile Broadband



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networks to be effective. The scheduling of the availability of devices can prove extremely difficult. Realistic Digital's answer to this is to provide each developer and tester with his or her own devices, covering the platforms that they develop on. Cloud testing is one solution that enables developers and testers to try an app on an actual device anywhere in the world, on a network of choice. The biggest drawback with this is that if a connection is lost then the app will remain on that device and it may not be possible to reconnect to that same device. Multiple companies use these same devices so an early version of an app that is potentially being developed under a non-disclosure agreement, could end up on a device on the other side of the globe, with no way of getting it back and visible to rival companies. For this reason Realistic Digital do not adopt cloud testing using third party providers to protect the clients' interests.

## Devices

Today there are an increasing number of devices and configurations. Desktop machines have specific drivers to help cope with different configurations, screen resolutions and sizes. When Realistic Digital produces a mobile app it has to be able to cater for multiple screen sizes and hardware. This is particularly relevant when considering the many and varied Android platforms from various suppliers.

### **Developing Mobile Apps for a Fragmented Cross-Platform Market**

Currently there are around 150 different Android models according to the list available through Wikipedia - [http://en.wikipedia.org/wiki/Comparison\\_of\\_Android\\_devices](http://en.wikipedia.org/wiki/Comparison_of_Android_devices) and the numbers grow daily. Each device potentially has a different hardware configuration, a different version of the OS with possibility of no future OS upgrades and different screen size.

Blackberry apps are an even bigger challenge with a host of different OS's, SDK's and screen resolutions to cater for but stabilising with more recent versions.

Realistic Digital always aims to obtain the most popular devices in the market, and subsequently then the smallest and largest screen resolution to be catered for. The reason for this is that generally if an app runs correctly on the smallest screen resolution it will likely display correctly on any subsequent devices with a larger screen size up to the maximum tablet sizes. The target market needs to be considered properly before catering for these lower-end smaller devices. Realistic Digital always strives to give clear recommendations as to the best market coverage to distribute the app efficiently.

Apple has seen some fragmentation with introductions of different iOS versions and the arrival of the iPad screen resolution. Realistic Digital will always factor in testing for the latest significant release of Apple's new iOS, which usually releases in June. Realistic Digital also have earlier devices like the iPhone 3G and an early iPod touch's (i.e. no camera, compass etc.) and always sanity check



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to ensure they handle the app (if this is what the client requires). The iPod is particularly important when dealing with things like AR (augmented reality) and maps features, as the app will need to fail "gracefully" and keep the user informed to ensure a satisfactory user experience. Jail broken and unlocked iOS devices result in invalid testing of your app, not to mention legal implications so Realistic Digital do not test on these devices. All Realistic Digital devices remain as Apple intended.

Web apps seem to be a feasible consideration to cover multiple platforms using HTML5. The complication with this is that they are limited to what device hardware functions the browser can handle (i.e. most browsers cannot connect to and use the camera or GPS etc). As in any website development you also have to consider the different browsers to be used. Browsers supporting "WebKit" are usually consistent across platforms, so this is a good place to start testing.

## Environment

Realistic Digital has worked with many different apps with different web feeds to integrate within the desired app. On many occasions this comes from a client system and a VPN and wireless network must be available to develop and test. It is common for a client to use a different network for testing to the one developed on. In this scenario Realistic Digital will work with a client to identify the best way for us to test. This sometimes involves sending a developer and/or a test engineer to diagnose problems on initial implementation for acceptance testing. Issues often get raised when something as simple as the latest version of the app needs installing correctly instead of just overwriting. Giving clients this support, even if only for the first day of testing, can be very beneficial and save time.

## Distribution

The Apple app store normally takes about two weeks to gain approval for the App, if compliant with Apple guidelines. If the app fails to be accepted it can take another two weeks for resubmission so Realistic Digital make sure guidelines are checked and rechecked the first time round before initial submission. A developer account for iOS can have up to 100 devices available in a provisioning profile, which have to be added manually, and the profile expires after a few months. It is necessary to acquire an Apple enterprise account to distribute effectively within a business. Most platforms have certificates and signing procedures that need to be accounted for. Even Android has certificates when working with map data although generally Android is more open and can be submitted to the market quickly, which is advantageous in releasing maintenance releases quickly to the market.

Apps that are developed for an operator usually get it installed prior to distribution in the firmware. In this case Realistic Digital will work with the operator and with the handset manufacturers to ensure that you comply with the required standards. This is particularly relevant with the operators introducing their own options to download and install apps direct from their sites, rather than using the traditional stores and market places.



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## CONCLUSION

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By communicating effectively using the best of both worlds from an agile and a straightforward waterfall methodology, Realistic Digital have a clear project lifecycle process to communicate to clients. This combined with our very organised approach to managing devices, different OS's and other associated risks with mobile testing, results in an efficient production line and satisfied clients as Realistic Digital's extensive portfolio and client testimonials confirm.

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