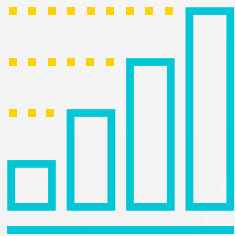# SMALL
DEVICES
BIG
CHALLENGES

It's hard to imagine how different mobile platforms are now compared with 10 years ago. In 2008, only 17% of people in the UK owned a smartphone.

That number has more than quadrupled, with 78% of the general population owning smartphones and 95% of those aged 16 – 24.

Apple's flagship iPhone X is 5 times more powerful than the original iPhone, and the same can be said for many Android devices. Bigger hard drives, faster memory, and larger screens have been the staples of each mobile iteration. However, it's not just the devices; the Mobile gaming market keeps getting bigger and bigger. With an ever-expanding market and new users every day, there's a lot to be excited about.

The global gaming market is expected to exceed **$180 billion in 2021 and mobile is estimated to account for 59% of that total**. Some would think that, as the devices are less powerful and smaller than typical consoles, it would be easier to develop for. Those people would be wrong.

REGULAR AND RAPID CONTENT UPDATES

Mobile games have an expectation of constant updates with new content for your players. This is partly due to the nature of the mobile market. It's hard to stand out when there are hundreds of apps being published every day, so constant content updates can be the secret to keeping your game in contention for players' attention. The goal of increasing active users requires you to keep turnarounds short and your game bug-free. If an update goes out quickly but causes issues on the players' device it will turn that player off the game more than not having new content. **Some of the most popular mobile titles have faced this issue with bug-laden updates causing havoc among the player base**. Login problems, install problems, any bug that stops your player getting into the game can have lasting effects.

This kind of rapid development can put a huge strain on many members of the team. Development teams can face long hours and intensive development during crunch periods. QA can be overwhelmed without enough time to test features, having to work long hours and ignoring areas of the game to prioritise critical features, with QA managers having to do the testing themselves.

Outsourcing can be the perfect solution to many of these crunch problems for QA. The critical factor is flexibility and scalability. Internal teams can be scalable, but it requires a larger undertaking and far longer to onboard new testers. Instead, outsourced teams have the flexibility to be ready within a few days' notice with all the required equipment, organisation, and skills. The scalability of outsourced teams is also perfect for mobile development. Your next update might be substantially larger than the last and utilising an outsourced team means you can increase or decrease your team size with minimal stress. Outsourced teams also free up your QA managers time, as they don't need to coordinate them personally due to team leaders and management being embedded in the outsourced solution.

Rapid updates also need rapid localisation. Translation and Localisation QA can often be an afterthought to developers focusing on getting stable, bug-free builds first.

This part of the process should be a priority for global releases as it's the best way of getting your game to more players. Integrating your QA, Translation, and Localisation QA within a single outsourcer can allow your QA managers to focus on managing, with the knowledge that all these needs are being handled by an outsourced team. Using a single outsourcer for all these services allows managers to have a single point of contact, removing any running around between multiple companies and teams.
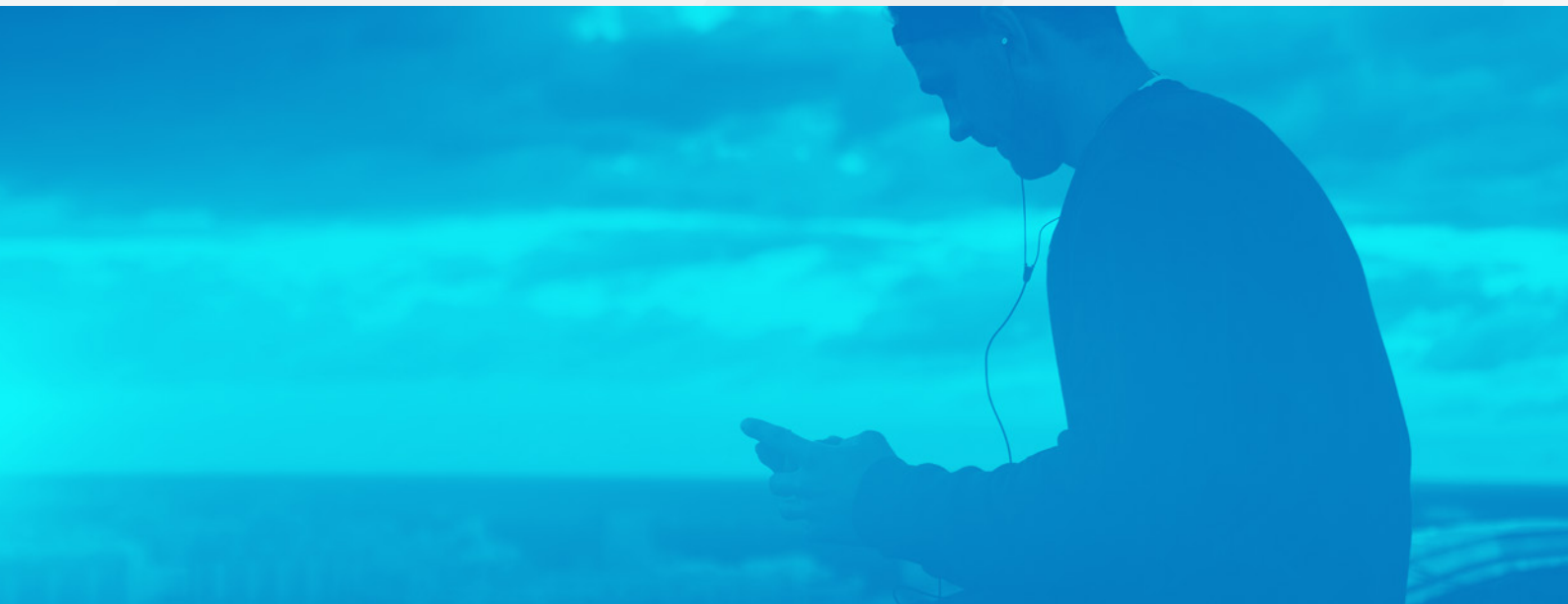
NUMBER OF DEVICES

Mobile platform development is for the bold and brave. You're not just making a game for a single device, you're making a game for thousands of devices of differing size, power, and battery life. It isn't as simple as loading your game on a couple of the phones the team has for personal use, if only it were! It's almost impossible for mobile developers to maintain an inventory of every possible iteration, feasibly and monetarily. **Some of the biggest mobile games in the world have faced compatibility issues, with players facing "Your device is not compatible with this version" warnings on purportedly compatible titles.**

Compatibility is an interesting topic to compare between iOS and Android devices. iOS offers a more unified approach, with all the devices being made by a single company, usually running the same operating system. Android is the inverse, non-unified with many different iterations of hardware being developed and sold by a litany of technology companies. **Both platforms still require compatibility testing, but you may find that you need to test a broader array of devices if you're releasing on Android.**

Legacy devices also need to be checked for new releases. Generally people pass their old devices down to family members or sell them online, but that means the number of users with those devices doesn't always drop dramatically as time goes on. **Legacy devices can cause a major headache for developers, who may not have the resources to source or maintain a library of older devices.** These requirements compound the difficulty of testing across a vast range of devices.

That broad array of devices could number in the hundreds, if not thousands. Outsourced compatibility labs can provide developers with this range of devices but at a fraction of the cost of purchasing, and without any of the issues of upkeep. PTW's outsourced lab contains 10,000 possible configurations because we've seen how broad the testing can be.

Compatibility testing isn't an option.

It's a necessity for ensuring that all your players get to enjoy the same experience, agnostic of their choice of device.

PTW

THE ALWAYS CHANGING WORLD OF MOBILE DEVELOPMENT

Unlike a more typical console cycle, where noticeably more powerful hardware is released every 5 -10 years, mobile is a constant release cycle with more powerful hardware coming out monthly. Mobile devices are now almost incomparable to the original smartphones of 2009. Edge-to-edge screens, innumerable software iterations, and more powerful processors have pushed the industry to greater and greater heights. It's not just processing power and screen sizes that have increased, resolutions have also seen their share of dramatic changes. Phone screens are up to double the size of the original iPhone and Android releases, but screen resolutions are up to 5 times the detail of those original models.

This isn't even considering curved screens and brand-new form factors like Samsung's foldable Galaxy Fold which will affect how games built for traditional screens display and perform. **This is another reason that compatibility labs are so useful for mobile developers.** With phones this dramatically different in power and capability, there isn't a "one size fits all" test you can perform on a couple of devices. You need to get original devices and directly check performance while running original hardware.

FIRMWARE & ENGINE UPDATES

Firmware & engine updates for mobile devices come thick and fast. **Unity is the most popular engine being used for mobile, with over 50% of all games on all platforms using the engine.** Unity updates 3 times every year, meaning developers are never too far from needing to update their engine. Engine updates can change key functionality which in turn puts more pressure back on development for the following updates.
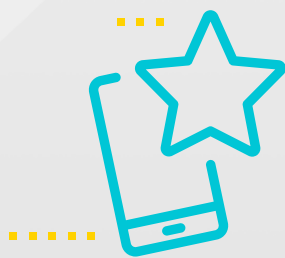
Firmware updates can be even more aggressive in timing, with new updates coming out anywhere from every few weeks to every few months.

New firmware updates don't typically cause major issues for games but it's yet another thing that mobile developers need to be aware of. On the inverse, developers also need to be aware how their titles function on older firmware updates and prompt players to update if required. It's another stage of compatibility that developers need to test, adding onto the already mammoth task of checking all the required devices.

LOCALISATION

As was mentioned earlier in the article, localisation for mobile games faces similar challenges to general QA but the issues are exacerbated by language-specific rules and bugs. Localisation is the best option for getting games seen and played by more players. Without major non-English languages many players are cut-off from experiences and may avoid them completely, in favour of titles they can play in their own language.

Localising for small screens can generate a host of issues like text truncation and overrunning of text boxes.

The small screen size can mean you need to simplify your user interface, increase text sizes, and include less text on-screen overall. These issues become more pressing if you're porting a game from an existing platform. **Porting a game to mobile isn't just a case of making it run and putting a bow on it, developers need to redesign many aspects of the game to create an optimal mobile gaming experience.**

Localising into more languages can also hugely impact discoverability on the app store. As stores typically index per language, you can include different keywords for each language, maximising your rankings on search lists. It also means the game is more likely to be featured on country-specific stores, maximising your visibility.

Deciding on the languages to target can be difficult. Developers may go to the commonly localised FIGS languages, but careful attention should be paid to Asia. **It's widely known that China is the largest market for mobile games in the world, but many are unaware that South Korea is also a sizeable mobile market.** South Korea's mobile games market is larger than the UK, fourth behind China, US, and Japan. Korea also has the third highest levels of user penetration, behind the US and, somewhat surprisingly, Ireland. According to Gala Global, supporting Korean localisation provides the second highest ROI for all languages, with English in first position. Korea also doesn't face the censorship difficulties that releases in China do, meaning culturalisation, while still important, isn't quite as critical.

SMALL DEVICES BIG CHALLENGES

Fast turnarounds, an ever-changing device list, and constant engine updates make mobile development a tough business. Many of the biggest strains on your business can be remedied by utilising outsourced services. **Avoid QA crunch by bringing in QA teams for update testing, meaning your mangers can get back to managing.** Utilise compatibility labs to reduce costs and increase your range, developers can't be expected to maintain a store of thousands of possible devices so let outsourcers do it for you. Be prepared for upcoming firmware and engine updat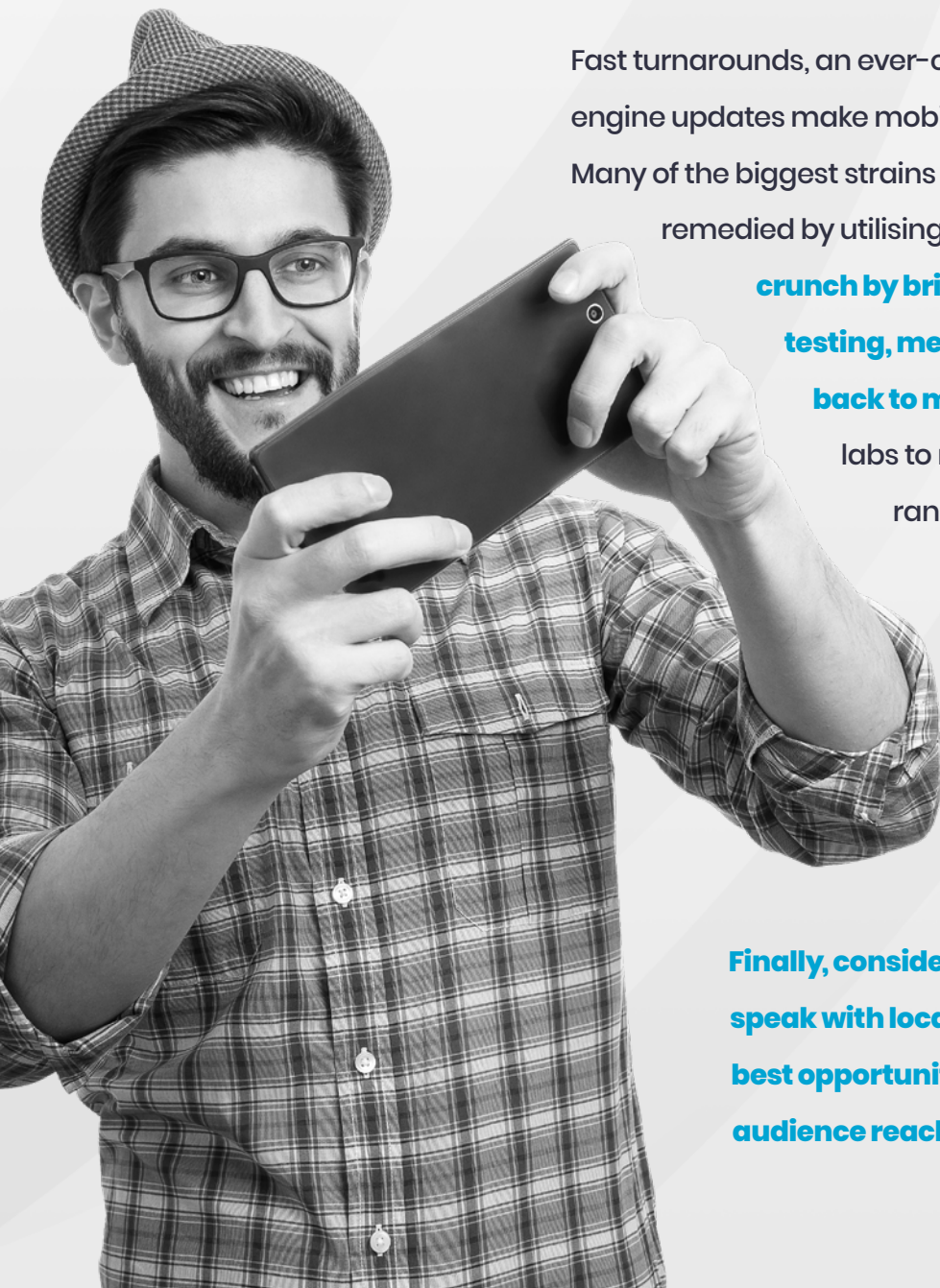es, allowing time for bugs to be fixed and QA to fully test new updates. **Finally, consider your language spread and speak with localisation experts to identify the best opportunities for return on investment and audience reach.**

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BRINGING YOUR STORY TO THE WORLD

Got a question?

JOHN HEGARTY

Client Partnerships Manager
(Mobile, VR, and AR)

📱 **+44 (0) 7944 857 335**

✉ **john.hegarty@ptw.com**

ptw.com

in /ptwintl   🐦 @ptw   f /PTWintl