APPS

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UK APP ECONOMY 2014

Sizing the app economy, jobs and opportunities for developers in Britain

Charting the mobile app economy, revenues, jobs, the profile of the British app developer, and how the UK can provide better opportunities for developers.

http://www.vmob.me/UKAppEconomy

In association with Google

About VisionMobile ™

VisionMobile™ is the leading research company on the apps economy and mobile business models. Our research helps clients track app developer trends and master mobile business models.

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THE UK APP ECONOMY 2014
SIZING THE APP ECONOMY, JOBS AND OPPORTUNITIES
FOR DEVELOPERS IN BRITAIN

20 June 2014

KEY TAKEAWAYS

Apps have been changing the way people communicate, work and play. Traditional businesses, from media to retail, have been seeing their business models disrupted by start-ups that amass millions of users within the space of a few months with minimal marketing budgets.

The UK has been quick in adopting smartphones, tablets and apps with smartphone penetration expected to reach 74% by the end of 2014. But beyond the benefits that one can derive from using apps, there are potentially much bigger benefits in creating apps, or creating an app industry for that matter.

VisionMobile set out to assess the state of the UK app industry in 2014 and find out whether the UK is on the right track to becoming a vibrant and global hub for the app economy. Our findings are based on our Developer Economics survey series (our 7th edition reaching over 10,000 app developers) and a UK App Developer Census survey of over 300 developers across the country.

We estimate the UK app industry will exceed £4 billion in revenues in 2014 and will be growing at a CAGR of 38% between 2013 and 2015 and 22% between 2013 and 2025. The UK has approximately 8,000 companies that are directly involved in app development and approximately 380,000 jobs centred around the app economy. We expect that approximately 30,000 new jobs will be created in the in the next 12 months.

Most of the UK app industry is concentrated around Greater London, which is home to 31% of UK app companies while the South East hosts another 24% of app companies. There are several app startup hubs located in Brighton, Cambridge, Birmingham, Bristol and Edinburgh, however these are much smaller in scale than London.

The UK is certainly among the top global tech hubs with several metrics indicating that it is in fact the biggest tech hub in Europe and most likely the second most important tech hub after the US. In 2013 the UK accounted for over a third of the total app revenues generated in EU28 and slightly less than a fifth of all app developers in the EU28.

The UK app industry attracts developers & designers across all ages, from teenagers to 65+ year olds, with 4% being 17 years old or younger. Female app developers or designers account for just 8% of the developer/designer population.

44% of app developers and designers in the UK generate most of their income from apps, while 22% generate no income from apps. These are most likely Hobbyists and Explorers for who app revenues is not the primary goal, or early stage startups that have yet to monetise their products. The average salary

of developers and designers that generate all their income through apps is £47,000, which is well above UK average salaries.

83% of app developers and designers are self-taught and only 7% have attended a Bootcamp or other taught course. This indicates a gap in the market for affordable training for app developers.

Overall, app developers and designers are pleased with career prospects, flexibility, income and work life balance. But they are quite critical of the UK as a technology hub and the support it provides, highlighting gaps in training and mentoring, funding, industry presence and support, particularly outside of London.

The UK has gathered a lot of momentum in the past two years and the government has been visibly supportive of the startup economy, introducing several incentives and investment in infrastructure. However, there are several areas where more work needs to be done in order to sustain this momentum: continuing tax incentives, providing affordable training, even at an early age, cutting the red tape for fledging startups, educating entrepreneurs about funding resources and support schemes. Industry must also strengthen its support in these areas and confirm this support through developer events across the UK.

1 THE UK APP ECONOMY IN 2014

Since 2007 mobile apps have been changing the way people communicate, work and play. Beyond their impact on mobile phone users' attitudes, apps have been transforming markets and industries, and disrupting established business models. This is happening at a much faster pace than the web disruption due to the pervasiveness of smartphones: what took the web 20 years, mobile is trying to accomplish in under 10. Moreover, while web usage was limited to home or work, mobile now connects users and their needs everywhere, allowing apps to displace incumbent distributors in industries across music, news, telecoms, retail and fitness, with more to come.

Beneath the tip of the iceberg lies a fast growing app economy: VisionMobile estimates that the global app economy was worth over £40bn in 2013 and is growing at approximately 27% each year. This figure includes revenues from apps sold via app stores, including in-app purchases and advertising revenues, as well as revenues from commissioned app development. The mobile app industry is a fast growth industry that presents "blue ocean" opportunities for platform vendors, smartphone vendors, developers and businesses across industries as diverse as news, media, entertainment, retail, finance, automotive, health and logistics. Its rapid expansion is creating thousands of new jobs, both directly and indirectly. At the same time the app economy brings efficiency gains across a range of vertical sectors throughout the economy and benefits societies by promoting digital inclusion.

The UK has been an early adopter of smartphones and is currently among the leading EU countries in terms of smartphone penetration; UK smartphone penetration is expected to exceed 75% by the end of 2014 according to the IAB[1]. At the same time the UK is one of the leading EU countries in app consumption with over 250 million monthly app downloads, according to Priori data[2], an app analytics company. That is equivalent to more than 4 apps downloaded per UK resident per month, or 48 apps per year.

Global apps like Candy Crush Saga and Clash of Clans are of course among the top apps in UK app stores. Local apps that provide access to regional content and services such as BBC iPlayer, BBC Weather, Sky Sports News, Met Office, GumTree and National Rail are very popular and frequently feature among the top apps in UK app stores.

The rapid adoption of smartphones and mobile apps indicates that UK consumers and businesses are strong demand drivers in the global app economy. But what is the contribution of the UK to the app economy supply and what are the benefits it derives in terms of jobs created and GDP? As we reported in the European App Economy report published in September 2013, the app economy was responsible for almost 800,000 jobs and over €10 billion in revenues in 2013. But how much of this can be attributed to the UK? VisionMobile set out to assess the state of the UK app industry and find out whether the UK is on the right path to becoming a vibrant and global hub for the app economy.

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[1] http://www.iabuk.net/blog/2014-the-end-of-the-beginning
[2] Prior data 09 Jan to 08 Feb 2014, https://prioridata.com/insights

While there are positive signals coming out of the UK, there are still areas for improvement. Developers highlight limited access to funding, the need for extended tax breaks for startups, catering to the needs of the developer community outside of London and the need for affordable training opportunities.

UK: A £4 BILLION APP INDUSTRY

VisionMobile estimates that the UK app industry was worth £2.9 billion in 2013 and is set to exceed £4 billion in 2014 and reach £5.5 billion in 2015, representing an annual growth rate of 38% between 2013 and 2015. These figures include sales of apps and app-related services that are developed in the UK and sold either locally or globally.

The figures exclude eCommerce revenues from sales of non-digital goods via mobile apps (e.g. via Amazon, eBay or mobile websites). Mobile commerce sales in December 2013 alone exceeded £3 billion according to IMRG[3] and therefore currently represent a much larger market than the mobile app market. We expect that the increased adoption of mobile apps by retailers and evolving business models in mobile retail like affiliate sales and mobile-social-local marketing will allow app companies to capture a sizeable share of this growing market within the next five years.

Our research, based on responses from several thousands of developers, shows that the UK is a major app economy hub, having a prominent role in the EU app economy: **in 2013 the UK accounted for over a third of the total app revenues generated in EU28 and slightly less than a fifth of all app developers in the EU28. Average revenues of UK app developers are approximately 75% higher than those of developers across EU28.**

In VisionMobile's [App Economy Forecast 2013-2016](#) report we estimated that the app economy in Europe will be growing at a rate of 23% annually between 2013 and 2016. The UK app economy will grow at a higher rate due to its rising popularity as a tech hub, high app consumption rates, relative to other EU. The UK benefits from a mature retail market that is rapidly adopting mobile apps, as are other industry verticals, creating a demand for commissioned app development.

In addition, the UK app economy is more export-oriented, i.e. UK developers generate significantly more revenues from high-growth markets outside Europe than other European developers. This is partly due to lower language barriers that allow UK developers direct access to English-speaking markets, but more importantly a well structured and maturing tech startup ecosystem, that is adequately supported by government and industry alike.

In the longer term, we expect that growth in the UK app economy will be driven by the following factors:

1. **Increase in Enterprise and B2B apps**
   The increasing popularity of bring-your-own policies, integration of apps within business processes and adoption of enterprise app stores is poised to drive a 27% annual growth in the B2B and enterprise market as we reported in our [Business & Productivity Apps](#) report. At the same time, mobile is becoming an increasingly bigger part of the ICT economy as products and services migrate or expand from desktop computing to mobile computing.

2. **Strong growth in financial technology (Fintech) startups**
   The UK is becoming a key player in financial technology with strong growth in VC funding for Fintech

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[3] http://www.imrg.org/index.php?catalog=539

startups. According to a recent [report by Accenture](#) on Fintech investment, the UK and Ireland accounted for 53% of Fintech funding deals in Europe and 69% of capital raised. We expect that Fintech growth to translate in related app industry revenues.

3. **Rise of mCommerce and affiliate programmes for monetising apps**
   Mobile is claiming a growing proportion of eCommerce sales in the UK. According to IBM's stats[4] for UK Boxing Day sales in December 2013, 45% of all online sales were made via mobile devices (tablets and smartphones). eCommerce is the top-grossing revenue model for apps, according to Developer Economics 6th edition and developers can capitalise on its rising importance through affiliate sales programmes.

4. **Strong growth in Internet of Things applications and services**
   Internet of Things applications and devices are gradually gaining traction in a number of areas such as wearables, home automation, health and in-car technology. We expect that rising adoption of such devices will extend consumer spending across several devices and services in the future.

5. **Global market reach of UK apps and app related services and products**
   Our data suggests that UK app developers generate a significant part of their revenues from high growth international markets, with almost half of UK developers generating most of their income from non-European markets. As the UK builds up its app industry it will become an influential technology hub and benefit from network effects that will continue attracting more startups.

6. **The app-ification of services**
   There is a trend in moving products and services to mobile: from retail, to entertainment and ticketing. In addition, a large number of physical products, from toothbrushes to bicycles are being offered with an accompanying app. Beyond the demand for developer resources that this will create, apps will translate to new revenue streams for app enabled products. In the next 5 years we expect that every company will have an app, much like every company today has a website.

We expect that these developments will accelerate the UK app economy in the mid-term: by 2020 we forecast that the UK app economy will reach £15 billion and will exceed £30 billion by 2025. This is equivalent to an annual growth rate of 22% between today and 2025. By 2025, we expect that a large part of the app economy revenue will be driven by Internet of Things services, mCommerce and business/enterprise demand, primarily from international markets.

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[4] http://www-01.ibm.com/software/uk/marketing-solutions/campaigns/christmas-2013/christmas-readiness-2013.html

THE UK APP ECONOMY SET TO EXCEED £30 BILLION IN 2025

UK App Economy revenues 2013-2025 (£ billion)
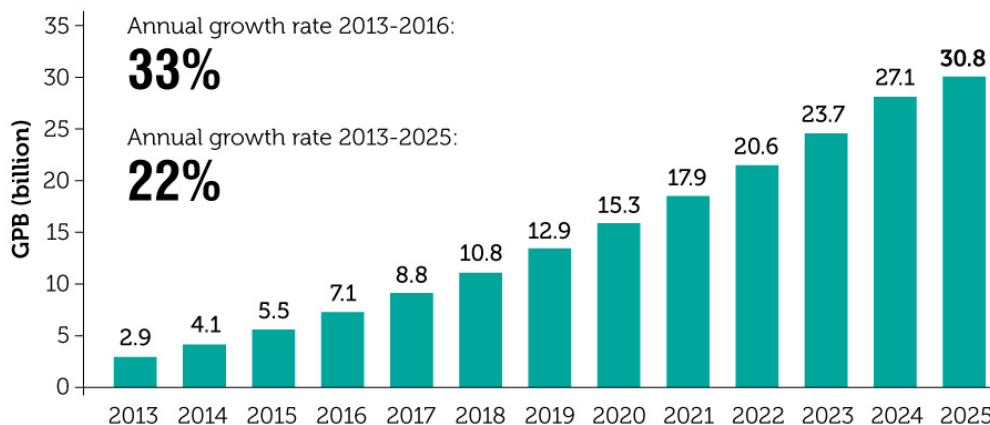
Annual growth rate 2013-2016:
33%

Annual growth rate 2013-2025:
22%

Year	GPB (billion)
2013	2.9
2014	4.1
2015	5.5
2016	7.1
2017	8.8
2018	10.8
2019	12.9
2020	15.3
2021	17.9
2022	20.6
2023	23.7
2024	27.1
2025	30.8

30,000 NEW JOBS EXPECTED IN THE NEXT 12 MONTHS

There are 35,000 registered companies in the UK whose business is software development or software publishing as of May 2014[5]. VisionMobile estimates that at least 8,000 of these companies (22%) are, to some extent, engaged in mobile app development. However, mobile app development may not be their primary revenue source: while some companies are in the business of producing and selling apps, others use apps as a means to extend a product offering, engage consumers or simply to increase brand affinity.

We estimate that companies engaged in mobile app development in the UK employ approximately 380,000 individuals. This includes technical and design jobs as well as sales, marketing and management jobs. Our Developer Economics May 2014 survey of 10,000+ app developers globally, indicates that UK app companies employ 47 people on average. While this number is seemingly large for app startups, there are several large-scale players that skew this number upwards. Many of these companies are established software vendors or verticals for which app development may not be their core business. At the same time, more than 50% of companies engaged in app development employ less than 5 people, which is a more typical figure for an early-stage startup.

[5] http://data.gov.uk/dataset/basic-company-data

We estimate that 110,000 UK individuals are directly involved in mobile app development, as developers or designers, either professionally or as a hobby, as of May 2014[6]. Approximately 68% of these, or, 75,000 are professionally engaged in mobile app development, while the remaining number are either moonlighting or hobbyists.

SNAPSHOT OF APP COMPANIES AND APP DEVELOPERS IN THE UK IN 2014
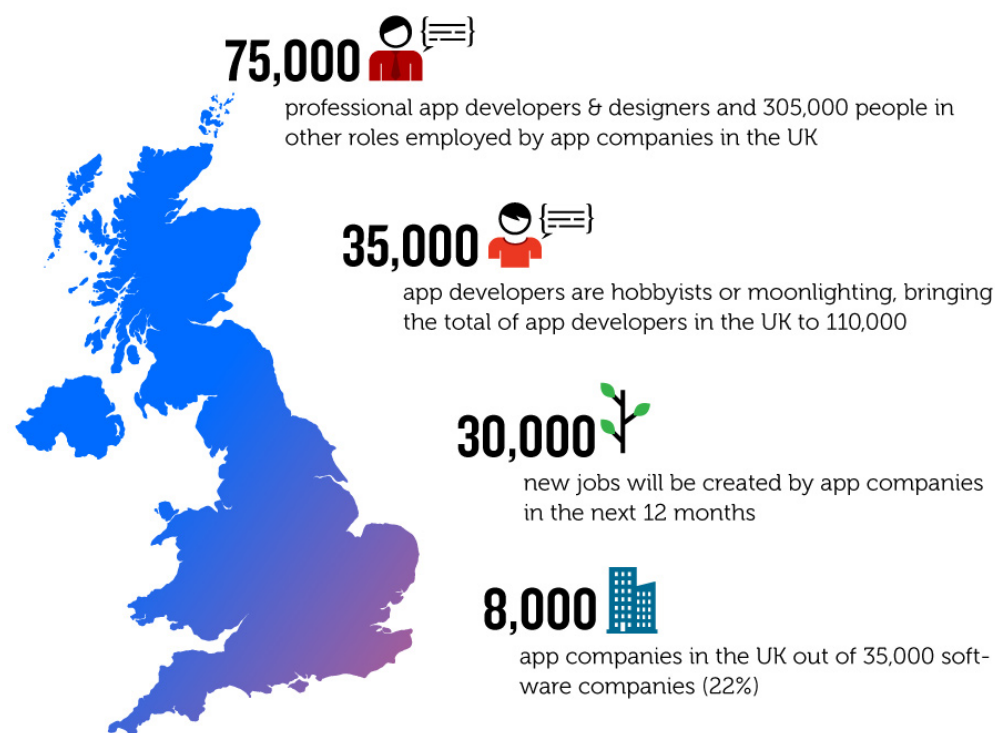
75,000 professional app developers & designers and 305,000 people in other roles employed by app companies in the UK

35,000 app developers are hobbyists or moonlighting, bringing the total of app developers in the UK to 110,000

30,000 new jobs will be created by app companies in the next 12 months

8,000 app companies in the UK out of 35,000 software companies (22%)

UK app companies are expected to increase their developer team size by 7% in the next 12 months, based on the UK App Developer survey of 300+ developers that VisionMobile conducted in May 2014. This translates to a demand for 5,250 new developer jobs among app companies. Mobile developers are also in demand by non-app companies such as enterprises and consumer brands that seek to leverage mobile apps to extend their digital strategies. Such strategies may include acquisition, engagement and monetisation of mobile users or, cost reduction and efficiency gains in the case of enterprises.

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[6] This estimate is based on our previous report on the EU App Economy combined with data from large scale Developer Economics surveys and data from Stackoverflow.

With every new developer/designer job there is of course a demand for non-technical roles such as sales, marketing and project management. As companies mature they seek to add entrepreneurial and commercial skills. The ratio of developers & designers to other roles in UK app companies is currently 1 to 5. As a result, we expect that approximately 30,000 new jobs will be created in the UK in the next 12 months because of app companies.

STARTUP PROFILE: TRANSFERWISE

TransferWise is a peer-to-peer currency exchange service that enables low-cost transactions between individuals. Founded in 2011, it is representative of the Fintech (financial technology) activity presently taking place in London and the disruptive potential of app and tech startups across a range of vertical industries.

As co-founder Taavet Hinrikus notes "with London being a financial centre it helps when you are dealing with financial technology as we are and we are also close to a lot of the people that we have partnered up with. London is a great place for startups and the businesses here have done a good job at building up an ecosystem of technology." According to Accenture, the growth in Fintech investment in UK and Ireland exceeds all other global hubs, with a 74% growth since 2008 against a global average of 27%.

TransferWise started as a means to facilitate its founders' own problem: transferring money across borders, a process that involved expensive currency exchange services. Today TransferWise offers low cost transaction fees and transparency to users transferring money across currencies and countries.

Since 2011, TransferWise has grown from 2 people to over 50 employees today. They recently announced a $25 million funding round, backed by Peter Thiel's Valar Ventures, Index Ventures and Richard Branson, among others, bringing the total investment in the firm to $33 million. It has reportedly facilitated over £1 billion worth of currency transactions and claims to have saved its customers over £45 million in transaction fees.

LONDON AND THE SOUTH EAST IS DRIVING APP STARTUPS GROWTH

Our research indicates that more than half of UK app companies are based in Greater London (31%) and the South East (24%). This is where the UK startup scene is, although a significant share of app startups is spread all over the country. In theory startups can start anywhere: from your university accomodation, your living room or your friends' garage. But being around a tech-hub helps immensely if you want to attract talent, get hands-on training or join Meetups with like-minded people.

So where is the buzz centred in the UK app scene? We analysed the distribution of app companies throughout the UK[7], to map hubs in London, Brighton, Birmingham, Bristol, Manchester, Cambridge, Edinburgh and Glasgow. Tables 1 and 2 show how app companies are distributed across UK regions and cities.

Table 1: Distribution of app companies across UK geography	
Greater London	31%
South East	24%
Midlands	10%
North West	9%
South West	8%
North East	5%
East Anglia	5%
Scotland	5%
Wales	2%
Northern Ireland	1%

Table 2: Estimated number of app companies by UK city					
Rank	City	Number of app companies	Rank	City	Number of app companies
1	London East Central	413	18	London North West	123
2	London South West	340	19	Cambridge	112
3	London West	319	20	Kingston Upon Thames	106
4	London East	231	21	Oxford	105
5	Brighton	224	22	Slough	103
6	London North	216	23	Glasgow	101
7	Reading	206	24	Belfast	94
8	London South East	197	25	Tunbridge Wells	93
9	Guildford	164	26	Sheffield	92
10	Birmingham	161	27	Redhill	91
11	Twickenham	151	28	Leeds	90
12	Harrow	150	29	Nottingham	90
13	Manchester	142	30	Milton Keynes	89
14	Bristol	139	31	London West Central	88
15	Hemel Hempstead	129	32	Gloucester	86
16	Edinburgh	125	33	Southampton	86
17	Coventry	123	34	Cardiff	85

[7] Based on data from Companies House

35	Newcastle on Tyne	85		43	Swindon	62
36	Leicester	84		44	Romford	60
37	Stockport	82		45	Dartford	59
38	Ilford	77		46	Watford	59
39	Chelmsford	71		47	Derby	58
40	Croydon	70		48	Northampton	58
41	Portsmouth	66		49	St. Albans	58
42	Bournemouth	63		50	Chester	58

DISTRIBUTION OF APP COMPANIES IN THE UK
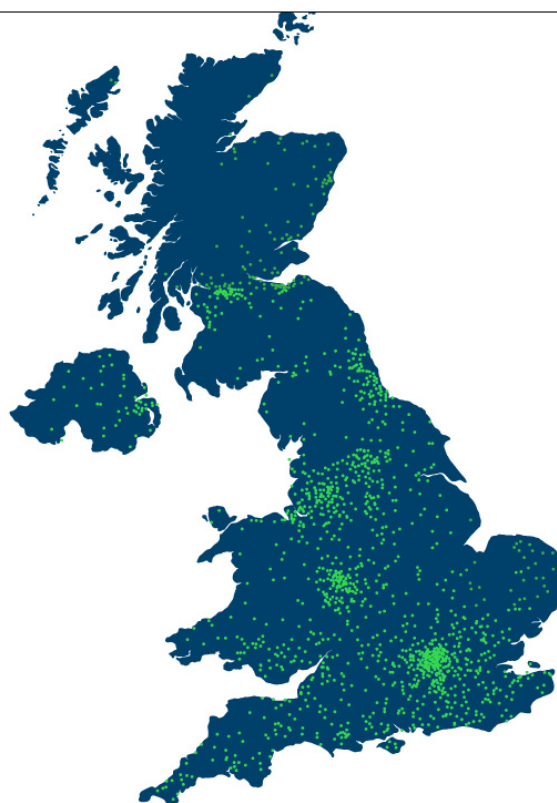
Source: UK App Economy 2014 report | www.vmob.me/UKAppEconomy
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UK DEVELOPERS ARE MORE EXPORT-ORIENTED THAN OTHER EUROPEANS

While Europe has been an early adopter of smartphones, there are wide differences between European countries in adoption and usage of smartphones, app consumption and development activity; these differences are more pronounced across the European East to West. The UK is among the leading European countries in terms of both smartphone penetration and app consumption.

According to our latest Developer Economics survey of 10,000+ app developers, UK companies are significantly smaller, compared to German and French companies, with an average size of less than 50 employees vs. 68 for Germany and 78 for France. The UK seems to be attracting more experienced software developers than France, although the average length of experience of developers in Germany is comparable to the UK.

App companies in the UK and Germany favour commissioned app development (i.e. developing apps on contract), whereas in France, the top revenue model is in-app purchases. According to VisionMobile's Developer Economics 6th edition survey, commissioned app development is a much more attractive proposition for app developers; the relatively low percentage of app developers in France that are involved in commissioned app development could be an indicator that French verticals and brands are slower to adopt mobile apps, creating less demand for outsourced development, which is a key driver of the app economy.

At the same time, UK developers are more export-oriented than their European counterparts: we estimate that 48% of UK developers generate most of their revenues outside of European markets. In contrast, based on our research, just 11% of developers based in France generate most of their revenues outside of Europe while for Germany this figure is 38%. As we discussed earlier, this may be partly due to language; but it could also be an indication that UK app developers are more mature in terms of their business and marketing focus, two essential ingredients in a creating a successful app.

Table 3: How does the UK compare against Germany and France?			
	UK	**Germany**	**France**
App downloads [a]	277m	310m	218m
App downloads per capita [a]	4.23	3.86	3.41
Top development platforms (% of app developers using platform) [b]	Android 72% iOS 68% Windows Phone 33% Mobile browser 19%	Android 65% iOS 59% Windows Phone 34% Mobile Browser 23%	Android 70% iOS 62% Windows Phone 28% Mobile Browser 21%
Top revenue models [b]	Commissioned apps 27% Advertising 27% Free with In App Purchases 23%	Commissioned apps 34% Advertising 23% Free with In App Purchases 21%	Free with In App Purchases 23% Advertising 21% Commissioned apps 20%
Average experience in mobile development [b]	3.1	3.1	2.9
Average experience in software development [b]	7.4 years	7.3 years	6.6 years
Average number of apps involved with in past 12 months [b]	4.4	5.2	3.7
Average app company size (employees) [b]	47	78	68
App companies < 5 employees [b]	52.4%	35.3%	31.8%
Average number of apps in past year [b]	4.4	5.2	3.7

[a] Priori data (9 Jan to 8 Feb 2014) for iOS and Android – priori.com
[b] VisionMobile Developer Economics 6th and 7th edition surveys

IS UK THE LARGEST TECH-HUB OUTSIDE US?

Our Developer Economics surveys are the largest globally, gathering over 10,000 responses from app developers across 137 countries: from the US, China, the UK and India, to Kenya, Saudi Arabia and Guatemala. Apps and app development is a truly global phenomenon. The US is undoubtedly dominating

app startup activity with San Francisco, Los Angeles, Seattle and New York been major hot spots. But what is going on outside the US and how does the UK compare to other countries?

We have found that the UK is responsible for over a third of the EU28 app economy and is home to nearly one fifth of the EU app developer population, suggesting that it is a major driving force behind the EU app economy.

In Q1 2014 the UK topped the European tech exits chart, according to CB insights[8], with 38 of 152 total exits (21%), ahead of Germany (16%) and France (10%). London claimed 16 of UK exits confirming its position as Europe's top tech hub, with Berlin coming in second with 10 exits. **In 2013 the UK was ranked second overall in terms of number of IPOs and M&As after the US, but ahead of China, Germany and Canada.**

London (in fact Inner London - East) is the largest European hotspot in terms of the number of ICT companies it hosts, according to the [EU Atlas of ICT hotspots](#), a recent EC study on the ICT sector. It also ranks first in terms of VC funding of ICT firms. Overall, the study takes into account 42 different indicators (such as proximity to Universities and R&D activity) where London comes in second overall, behind Munich, but ahead of Paris.

In 2012, Startup Genome ranked London 7th overall among a number of tech hubs globally, and the 3rd hub outside the US, behind Tel-Aviv. The index took into account a number of quantitative and qualitative metrics including access to funding, startup performance and quality of talent; however it was a weighted index that also factored in population size. So while Tel-Aviv may be home to more startups per capita, it is most likely trailing in the total number of startups if we consider that the UK, and London in particular, have come a long way since 2012.

The "[The Venture Capital & Private Equity Country Attractiveness Index](#)" composed by IESE Business School and EMLYON Business School is now in its fifth year and ranks the UK 4th globally, behind the US, Canada and Singapore, in terms of attractiveness to VC and private equity. This index is not limited to tech companies and primarily assesses the investment environment rather than tech activity, looking at metrics concerning employment law, taxation and investor protection among others.

Our analysis suggests that there are several countries with higher app developer population than the UK, such as the US, China, India and Russia. However, with the exception of the US the rest of these countries currently lack the necessary infrastructure and support that make a global tech hub and also present a more risky investment environment. Nevertheless, these hubs are gathering support from industry and governments; Russia, for example, is reportedly investing several billion dollars in the Skolkovo Innovation Centre in the outskirts of Moscow aiming to create a rival to Silicon Valley.

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[8] http://www.cbinsights.com/blog/european-tech-exits-q1-2014

STARTUP PROFILE: SONGKICK

songkick

London-based Songkick is a service that connects people to their favourite bands, gigs and festivals. It makes it easy to follow your band and get notified of events before they get sold-out. Songkick was founded in 2007 and received a small initial funding from Y Combinator. Since then it has raised more than $16 million, according to Crunchbase. In March 2014 Songkick reached its 10 millionth user and has generated over $100 million in ticket sales. While Songkick is also available on the web, 60% of its traffic now comes from mobile users, highlighting the rising importance of mobile as a means to connect to people. Songkick was voted one of the top 50 Android app in 2013 by TIME magazine.

Despite their stint in Silicon Valley, founder Ian Hogarth says the reason they moved back to London is because "London has more concerts than any other city in the world each year". In London the startup benefits from a large, and vibrant music industry, with thousands of gigs taking place each year which makes it an ideal place to launch the service, network and establish partnerships.

Songkick has established partnerships with several music streaming services such as Spotify and SoundCloud allowing it to leverage their large user base. Songkick also powers Spotify's "on tour" feature, allowing users to find and buy tickets from artists as they listen to their music, creating a two-sided market that connects artists to music lovers and allows artists to generate revenue via live events, on top of royalty fees. Founder Ian Hogarth hopes to "double or triple the number of people who go shows, and expand the industry".

One of the areas that Songkick focused on with their mobile apps is low-friction ticket purchasing process. According to founder Ian Hogarth the bulk of concert discovery is now via mobile. However, buying tickets or any other goods outside of app stores via a mobile phone has not been a smooth experience and solving this problem has opened up a significant revenue stream for Songkick. mCommerce is becoming a major revenue stream for mobile entrepreneurs but a frictionless and secure transaction is imperative for capturing user interest.

2 PROFILING THE BRITISH APP DEVELOPER

There is no "average" British app developer. Developers vary greatly in their goals, ambitions, background and attitudes towards app development. We have extensively researched developer motivations, success metrics, desired outcomes and choices across a range of factors such as platforms, monetisation and target markets. Our Developer Segmentation model defines eight segments based not on skills, demographics or technology, but on what developers are trying to achieve in the app economy. These segments are backed by hard data on developer motivations, success metrics and revenues from our survey of 6,000 mobile developers.

Table 4: VisionMobile Developer Segmentation model		
Segment	**Description**	**Examples**
Hobbyists	Moonlighters building own apps to learn and have fun	Moonlighting software engineers, people out of work, students
Explorers	Independent developers gaining experience as a side project to seize on future opportunities	Wannabe entrepreneurs, employees in mobile development companies, moonlighting freelancers
Hunters	Experienced developers building an app business, and focused on the money	Game studios, bootstrapped startups, independent software vendors with mobile experience
Guns for Hire	Seasoned pros developing apps on commission	Mobile marketing agencies, mobile outsourcing shops, freelancers
Product Extenders	Companies using apps to promote or extend a non-mobile product or brand	Nike, Wal-Mart, UPS, Nissan
Digital Content Publishers	Developer teams using mobile apps to monetise digital content inventory	Disney, Primal Pictures, 6waves, Jesta digital
Enterprise IT	CIOs and IT managers using apps to increase organisational efficiency and reducing costs	CIOs, CTOs and IT managers within medium and large companies, ISV and VAR developing solutions for enterprise
Gold Seekers	Mobile startups aiming to hit VC gold	Venture-backed startups, entrepreneurs raising money, contractors aiming to move to product business model

For companies aiming to reach out to developers as part of their developer programmes, this segmentation model is the most accurate and most causal to use in order to understand and reach out to developers. In the UK, Hunters (28% vs. 24% global) and Guns for Hire (20% vs. 16% global) are the two most popular developer segments, indicating a mature developer population.

APP DEVELOPMENT ATTRACTS ALL AGES, BUT NOT WOMEN

Overall, our research finds that18% of app developers and designers in the UK are 25 years old or younger. The average age of the UK app developer or designer is just under 35 years. At the same time, 18% of app developers are over 44 years old, indicating that there are opportunities across all age bands.

Our research also shows that 4% of UK app developers are still at school. With teenagers often driving demand for next-generation social networks (e.g. SnapChat) it certainly pays to be as close as you can to this demographic. This is a positive sign for the future of UK app industry and where both industry and policymakers can look for the future pool of British app developers. The recent acquisition of Summly,

the work of British teenager Nick D'Aloisio, by Yahoo for $30 million has certainly inspired many teenage developers around the country.

WHO ARE THE UK APP DEVELOPERS?
% of UK developers by age and gender (n=330)
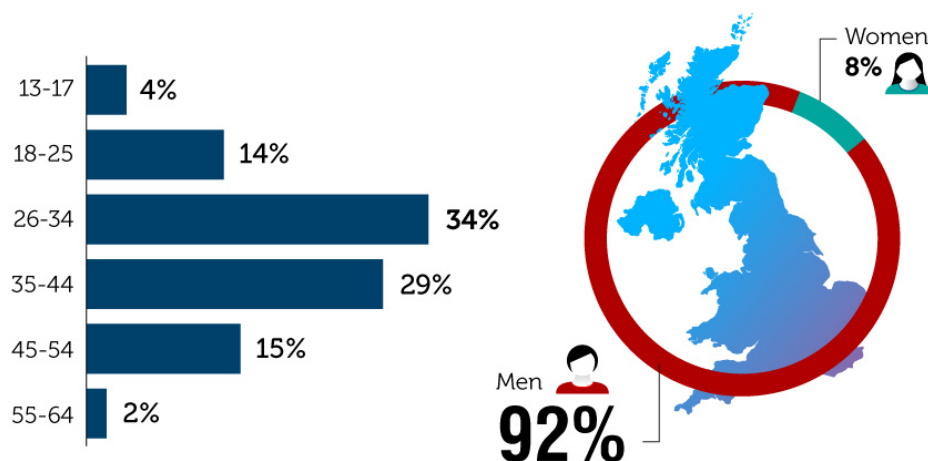
|	
13-17	**4%**
18-25	**14%**
26-34	**34%**
35-44	**29%**
45-54	**15%**
55-64	**2%**

Women
8%

Men
92%

The gender gap is quite evident in the UK app developer scene: UK developers are predominantly male, with just 8% female. This is consistent with employment records available from the Office of National Statistics that indicate that 89% of software development professionals are male. It is quite evident from these figures that women are not particularly attracted to software development although the same picture is evident across engineering professionals too, despite continuing efforts to effect some change, from government or independent campaigns.

DEVELOPING APPS PAYS WELL

How do developers make money? Our research into UK app developers finds that for the majority (56%), app development is not a main the income source. About 22% of UK app developers in our survey indicate that apps do not contribute to their total income; the majority of these developers are likely to be Hobbyists who may not be interested in generating app revenues while some are in early-stage startups. The low barriers to entry allow Hobbyists and Explorers to easily experiment with apps, although not everyone will generate a sustainable income from apps. At the other end of the monetisation spectrum, 25% of UK app developers generate the entirety of their income from apps.

MAJORITY OF UK APP DEVELOPERS DO NOT RELY ON APPS AS THEIR MAIN INCOME SOURCE

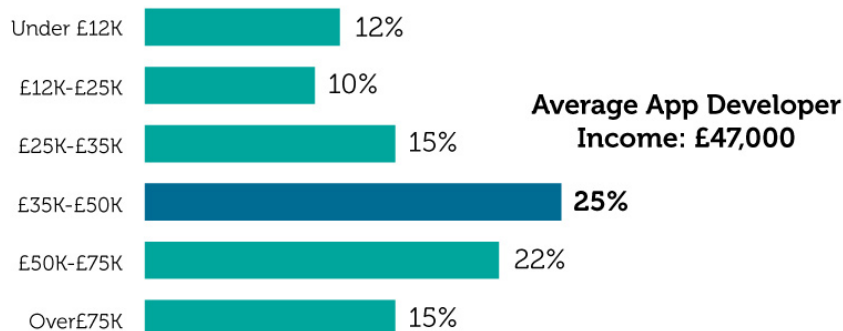Share of annual developer income generated via mobile apps (n=292)
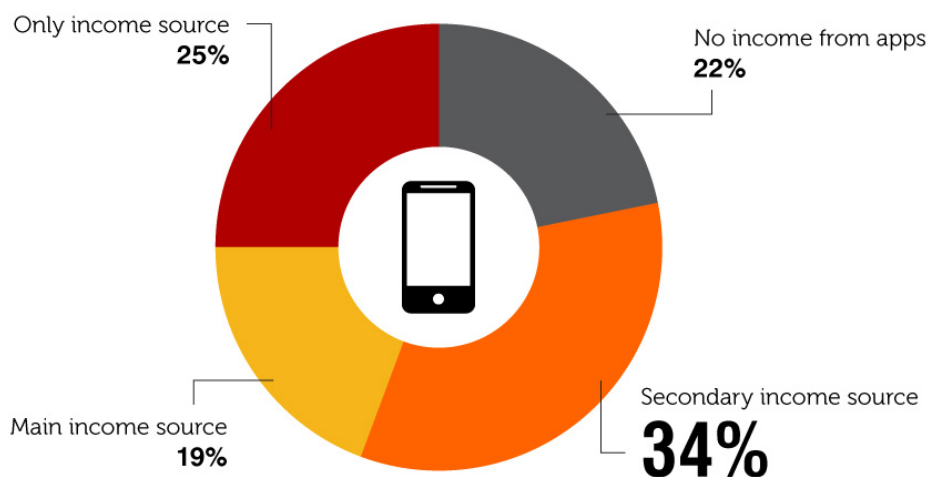
Only income source
25%

No income from apps
22%

Secondary income source
34%

Main income source
19%

Most app developers in the UK earn over £35,000 per year according to our survey of over 300 UK app developers in May 2014. Note that this income does not necessarily come directly from apps. Developers that make 100% of their income from apps earn approximately £47,000 on average. These income ranges are well above national averages for the UK, suggesting that app development a very attractive career proposition, while demand for app developers is intensifying.

UK APP DEVELOPER INCOME IS AT £35K-50K (MEDIAN)

UK app developer income from any activity, **not** just app development (n=268)

Under £12K	12%
£12K-£25K	10%
£25K-£35K	15%
£35K-£50K	**25%**
£50K-£75K	22%
Over £75K	15%

Average App Developer Income: £47,000

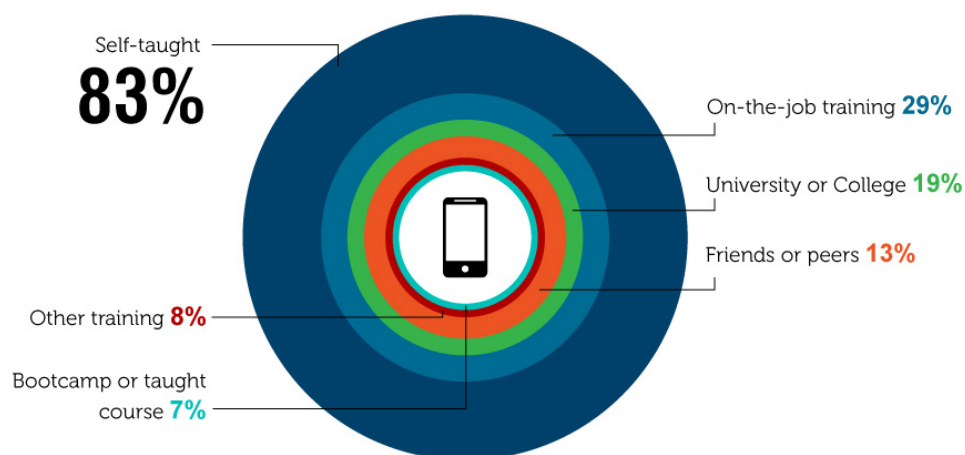## THE MAJORITY OF UK APP DEVELOPERS ARE SELF-TAUGHT

Our research shows that the vast majority (80%) of app developers in the UK are self-taught. Almost 30% indicate that they have received on-the-job training and 18% indicate that they have received training at University or College. These findings point to a major gap in learning options for app developers. The UK is already attracting a large number of developers from abroad in order to bridge a widening skills gap in STEM disciplines (science, technology, engineering, mathematics). However, our research highlights a strong demand for additional training resources for app development skills; integrating these skills into local education facilities could go a long way in bridging the skills gap.

Bootcamps provide a fast-track but demanding training option for complete novices that want to break into app development but just 7% of UK developers have selected this route or some other taught course. In fact more app developers (13%) will seek training from friends or peers. A number of developers in our UK App Developer Census survey indicated that there is no training available to them or that training is not affordable.

Our research also showed use of online training resources such as Coursera, Codecademy and Stanford University online courses. Online courses have come a long way to become credible alternatives to classroom courses and an easier to fit to the demanding developer lifestyle.

OVER 80% OF APP DEVELOPERS ARE SELF-TAUGHT
% of developers by learning source (n=292)

Self-taught
83%

On-the-job training **29%**

University or College **19%**

Friends or peers **13%**

Other training **8%**

Bootcamp or taught course **7%**

BUSINESS AND PRODUCTIVITY APPS ARE HIGH PRIORITY FOR UK DEVELOPERS

Business and Productivity apps is the most popular app category among UK app developers with 31% of developers active in this category, compared to a global average of 27%. At the same time, 25% of UK app developers create enterprise apps. With small businesses and large enterprises gradually adopting off-the shelf productivity apps (e.g. Box, Evernote), commissioning own apps, moving towards SaaS and adopting bring-your own policies, the enterprise and productivity app market will continue to present great opportunities for app developers.

In the Business and Productivity Apps report we forecast that the business, enterprise and productivity app market will grow at 27% annually up to 2016 reaching $58 billion (£35 billion). Most of this value will be captured via commissioned app development as enterprises seek to create custom-built apps; but sales via enterprise app stores will also gain significantly more traction than today as more enterprises adopt app stores as their means of managing and distributing apps to their employees.

27% of UK app developers focus on the games category, inline with the global average of 28%. Games are the most popular apps in terms of overall downloads but also the most lucrative app category across all platforms in terms of app store sales, claiming over 75% of total consumer app store spending,
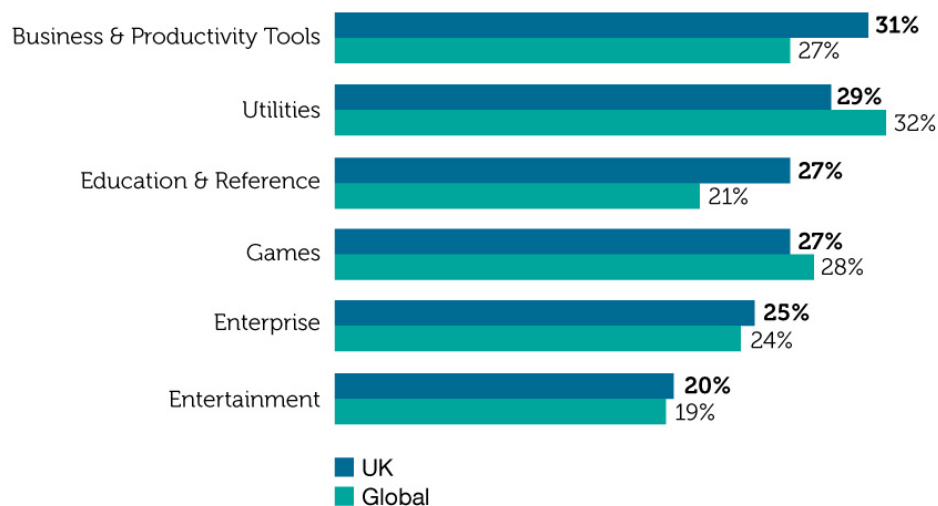
according to app analytics firm App Annie[9]. Games account for most of the top ranking apps, both in terms of revenues and in terms of downloads.

While some of the biggest app success stories have come from the gaming sector (Clash of Clans, Candy Crush Saga, Flappy Bird), the gaming market is extremely competitive and the majority of app revenues are concentrated among just a few large publishers. At the same time, mobile games are attracting a much larger user base than console or PC games and smartphones are becoming an increasingly important gaming platform, attracting a large number of established PC & console game publishers.

Among other app categories, we find that 29% of UK app developers produce utilities, i.e. apps such as flashlights and alarms. In past research we have seen that utility apps are actually the least lucrative in terms of revenues generated, but are a good starting point for Hobbyist and Explorer developers experimenting with app development.

BUSINESS AND PRODUCTIVITY APPS IS THE MOST POPULAR CATEGORY FOR UK DEVELOPERS

Top 6 app categories, UK vs. World (UK n=423, Global n= 10,484)

Category	UK	Global
Business & Productivity Tools	31%	27%
Utilities	29%	32%
Education & Reference	27%	21%
Games	27%	28%
Enterprise	25%	24%
Entertainment	20%	19%

■ UK
■ Global

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[9] http://www.idc.com/getdoc.jsp?containerId=prUS24701414

STARTUP PROFILE: SALESGOSSIP

Zabetta Camilleri is a fashionable lady. But she kept on missing out on brand promos and sales when she went out shopping - she was just too late and all the good stuff had disappeared long before she found out about the promos. So she asked around to see if there was any service or app that would keep her posted any time there was a promo on her favourite brands. When she figured out that there was nothing there she just couldn't accept that and went out to create SalesGossip, together with Emilio Sanz, in 2012.

SalesGossip, based in London, is a service that connects brands and retailers to fashion lovers and consumers. When a shop runs a promo on your favourite brand SalesGossip will let you know. If you happen to be around a shop that runs an event or sales, it will let you know. SalesGossip is now working with 1,100 brands in the UK, which represents 97% of the market. "The biggest challenge we faced was onboarding the first few brands. Once we had done that, everybody wanted to join".

SalesGossip received a £25,000 prize when they won the RBS EnterprisingU Business Plan Competition and has received over £800,000 in angel funding since then. Zabetta thinks that London is an ideal place for startups: "The beauty of London is that you have a community of entrepreneurs who themselves invest in startups. Most of our investors were themselves entrepreneurs; London is among the few cities that have that. It's a very vibrant place and fantastic for networking, recruiting and access to people with knowledge and experience".

"Mobile is very important to SalesGossip, not so much for the actual sale itself but for gathering data and communicating with our community. 47% of our traffic now comes from smartphones and tablets and 60% of our emails are opened on mobile devices". SalesGossip launched an iPhone app recently is planning to launch on more platforms soon. They constantly are on the lookout for new technology that can help them improve their customer services such as iBeacons and data mining capabilities.

APP DEVELOPERS HAVE POSITIVE OUTLOOK ON CAREER PROSPECTS

The UK App Developer Census survey reveals that UK app developers and designers are very satisfied with the career prospects and the lifestyle that their involvement with app development allows; however work/life balance can suffer as indicated by about one fifth of our respondents.

Career prospects

The vast majority of app developers in the UK (74%) have a positive outlook when it comes to career prospects as a result of their involvement with mobile app development; only a tiny 2% indicate that their involvement with app development has had a negative impact on their career. While app development has its risks being a very competitive market, it is almost certain that at the current growth rates, the skills developers gain will be in demand for the foreseeable future.

Work/life balance

About one fifth of developers in our UK App Developer Census indicate that their work/life balance has suffered as a result of their involvement with app development. It is very likely that at the initial stages of a startup, developers will go through a lot of stress and sleepless nights, as the app market is extremely competitive.
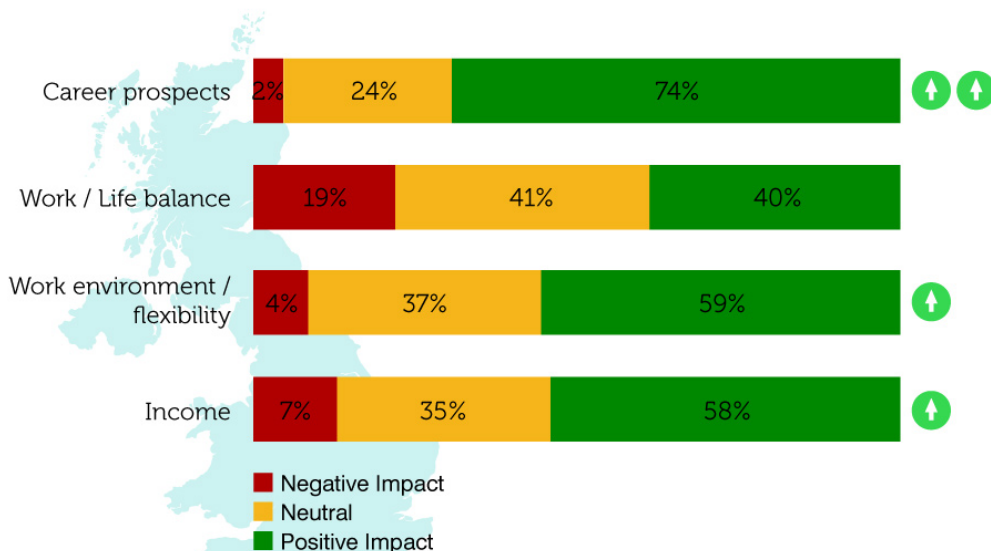
Work environment/flexibility

Despite the sleepless nights, around 60% of developers are satisfied with the flexibility that the app developer lifestyle affords them. Working from home or flexible working hours are quite common among app startups; at the same time tech hubs often provide a vibrant work environment with lots opportunities for networking and knowledge sharing but also for socialising.

Income

Our research indicates that a large percentage of app developers earn very little money from app development; however, UK developers seem to be content with the income generated via mobile apps, with only 7% indicating that they are dissatisfied. Given that many developers are moonlighting or developing apps as a hobby, even a small revenue stream coming from mobile apps can be a good supplementary income on top of their main salary. App developers working in VC-funded or growth-stage software companies are certainly in demand in a fast growing industry.

HOW DOES INVOLVEMENT WITH APPS AFFECT YOU
% of UK developers (n=288)

	Negative Impact	Neutral	Positive Impact
Career prospects	2%	24%	74%
Work / Life balance	19%	41%	40%
Work environment / flexibility	4%	37%	59%
Income	7%	35%	58%

■ Negative Impact
■ Neutral
■ Positive Impact

DOES THE UK PROVIDE OPPORTUNITIES FOR APP DEVELOPERS?

As part of our UK App Developer Census, we asked developers to rate the UK against a number of criteria that we consider being important in any tech hub. In contrast to their attitudes towards app development, many respondents are not satisfied with the opportunities that the UK offers to them. The area they are less critical about is employment, while access to funding was the area that was criticised mostly.

"The UK needs better infrastructure in all aspects of the startup business world - OUTSIDE of London. Our government and investors tend to forget the North exists."

- App developer in Manchester

Job opportunities

The majority of UK developers (53%) are content with the level of job opportunities available in the UK, while another 27% believe that the UK exceeds expectations. The UK is becoming a global hub for app development activity and this is clearly reflected on the job market.

Policy/Regulation

While the majority of app developers in the UK think that the policy and regulatory environment is satisfactory, a significant number of app developers (29%) believe that it falls short of expectations. Apps have disrupting and are continuing to disrupt several industries, such as news, finance, music, healthcare and telecoms but often face regulatory hurdles as their business models are incompatible with existing policies. The UK benefits from a light-touch regulatory environment but given the rapid pace of technology advances in the mobile app sector it may difficult for policymakers to review existing policies in time. Policymakers should keep an eye on technological shifts taking place and strive to review existing policies on a more frequent or ad-hoc basis.

"Give grants to small startups. An expensive part of app developing is buying the phones/tablets to test the apps on."

- App developer in Bristol

Access to funding

Funding is, according to most developers, the area where the UK suffers most in terms of app development opportunities and several developers in our survey indicated that this is the one area where the UK can improve in order to become a more attractive place for app entrepreneurs. A resident VC community is an essential ingredient of tech hubs around the globe, and especially one that can rival the deal-flow of the US Bay Area.

The UK certainly has the right financial and legal environment to support VCs and private equity but needs to demonstrate the entrepreneurial flair that attract these funds. London has been the scene for several large-scale tech exits, which certainly drives attention to the city and attracts new talent. Recent

reports[10] suggest that the London financial tech (Fintech) sector funding has been growing rapidly, at a rate of 177% from Q1 2013 to Q1 2014.

''The UK needs to focus on teaching young people to code so they can be hired. Basically, it should be taught from a primary school age along with reading and writing.''
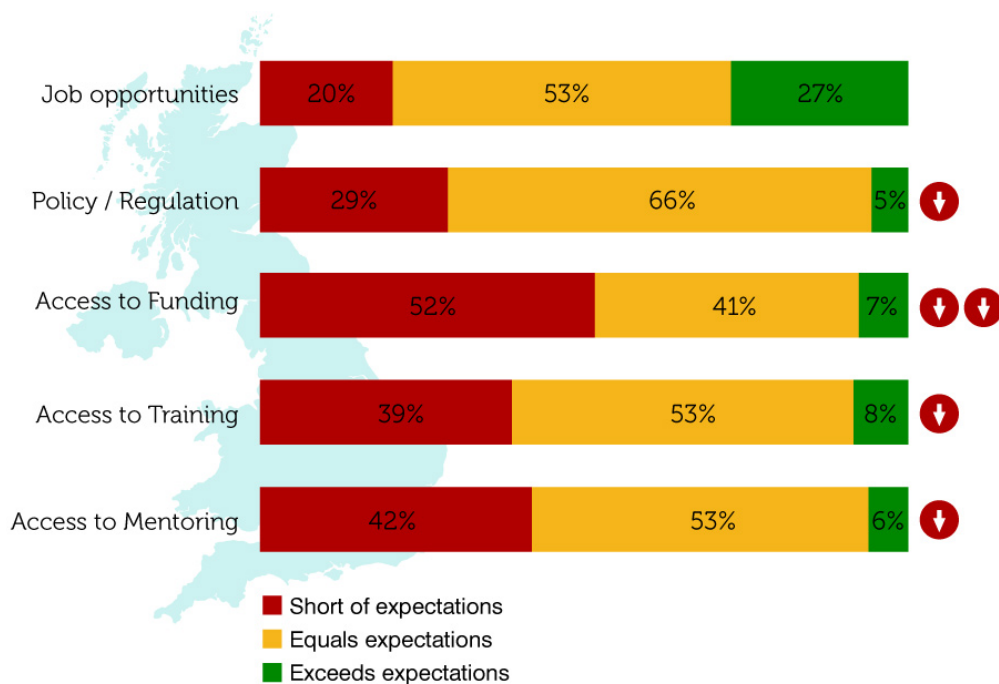
- App developer in London

Access to training & mentoring

Beyond funding, access to training and mentoring are the two other areas with a relatively large number of developers being dissatisfied with the level of support in the UK. A number of developers highlighted that more training options are required in the UK and in particular outside of London.

DOES THE UK PROVIDE GOOD OPPORTUNITIES FOR APP DEVELOPERS?
% of UK developers (n=285)

	Short of expectations	Equals expectations	Exceeds expectations
Job opportunities	20%	53%	27%
Policy / Regulation	29%	66%	5%
Access to Funding	52%	41%	7%
Access to Training	39%	53%	8%
Access to Mentoring	42%	53%	6%

- ■ Short of expectations
- ■ Equals expectations
- ■ Exceeds expectations

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[10] http://images.dowjones.com/company/wp-content/uploads/sites/15/2014/04/Dow-Jones-VentureSource-1Q14-EMEA.pdf

3 MAKING UK THE DESTINATION FOR APP DEVELOPERS

London is growing as a hub for financial technology startups, which seems as a natural step forward since it is home to some of the largest global financial institutions, with significant experience of the inner workings of the financial services. London's advantage in this sector is likely to act as a magnet for developers and entrepreneurs in other sectors too as the startup environment matures and builds up the necessary infrastructure, culture and services that a global tech hub requires.

The UK features among the top locations globally in terms of investor attractiveness and business readiness. It benefits from attractive tax incentives for startups, low business administration overheads, high investor security, a world class legal system and employment laws that favour entrepreneurial activity and risk.

These qualities, combined with the growing number of startups in the UK are creating positive network effects that will continue to attract startups to the UK. With an estimated 8,000 app companies and even more tech startups, the UK has built a vibrant tech scene which is, however, primarily centred around London and the South East.

There are significant hubs in other regions but they do not yet have all the ingredients that are necessary for them to grow into international hotspots; they may be lacking strong developer communities, access to training and mentoring and good connections to VC funding. Even in the digital age, physical proximity goes a long way in strengthening business links and networking, which is essential in the tech industry, particularly when seeking funding and talent. While it may be more difficult for cities outside of London to develop into international tech hubs and attract high-profile companies, there is a lot of scope for supporting these hubs as they can become the incubators for early stage UK startups.

The UK government has been actively engaged in shaping policies and creating incentives and infrastructure to support the UK tech scene. Examples of this can be seen in initiatives such as R&D tax credit, Seed Enterprise Investment Scheme, SEIS, Space for Growth, Startup Loans Scheme, Tier 1 (exceptional talent) VISA and the continuing support for London's Tech City. In addition, continuous effort towards open data allows entrepreneurs access to a wealth of content that powers several apps and services.

This support needs to continue in order to maintain UK's momentum as a global tech hot spot. At the same time, there is a lot more that can be done by both government and industry. Developers responding to our UK App Developer Census highlight several areas where support is needed across education, funding, events, tax breaks, broadband access and cutting the red tape.

''Greater access to funding and training for app developers with low income or on benefits.''

- App developer in Bristol

Education, Training & mentoring: Access to affordable training, availability of training outside of London and integration of software development skills into the education system were highlighted by many respondents to our UK App Developer Census. At the same time, it appears that several tech entrepreneurs and developers are not aware of resources,

opportunities and options that are available to them. A high-profile, industry or government-led educational campaign could provide a good starting point for those that are new to the scene.

''More government funded programmes to encourage the uptake of programming. Further support of small app startups that are producing innovative and disruptive technologies.''

- App developer in London

Funding: Access to funding opportunities is limited as seen by many UK app developers. However, the rising profile of London and the UK as a tech hub is likely to attract more capital. The Seed Enterprise Investment Scheme, introduced in 2011 is a government scheme that aims to encourage investment by providing tax breaks and lower risk for investors wishing to invest in qualifying startups.

''More developer conferences by the big names: Google, Apple etc. Also, holding events in locations other than London.''

- App developer in Manchester

Conferences & events: There is a need for more support by the larger players (Google, Apple, Microsoft) and hosting large developer events in the UK, as app developer conferences are typically US-centric.

''Tax breaks for people starting businesses in the apps field. Stronger incentives for people to learn tech industry skills at university. More support to help more community led organisations flourish outside London.''

- App developer in London

Tax breaks: Many developers in our survey highlighted Tax breaks as an area for improvement. While there is already an R&D Tax Credit scheme in place there may be scope for widening the qualifying criteria or extending the scheme. Clarity on tax issues, particularly for freelance developers & designers is also essential. Some of our survey respondents indicated that they are not clear about their tax status or the level of NI contributions they need to make.

''Clarification of IR35. UK is still an unsettling place to be a contractor. No guarantee your career as a contractor will suddenly be found in breach of IR35 and be backdated to when you first started contracting. This puts people off going into contracting.''

- App developer in London

Cutting red tape: Several respondents highlighted administrative overheads, particularly around the complexity of the tax system for small scale independent developers and freelancers. Lowering the administrative burden for smaller companies is key for the UK app industry, especially when apps are usually the means to provide supplementary rather than main income.

"High speed broadband > 20MBps to every square inch of the country. Current provision outside cities and motorway corridors is restricting economic development."

- App developer in London

Broadband access: Affordable and fast broadband and mobile broadband access is an important driver both for developing apps but also for driving growth in app sales. Several developers to our UK App Developer Census highlighted the lack of sufficient broadband coverage in rural areas.

METHODOLOGY

The UK App Economy report is based on data gathered from the latest two Developers Economics survey waves by VisionMobile: Developers Economics 6th edition (7,000+ developers) and Developer Economics 7th edition (10,000+ developers) which were both ran within the past 9 months and the UK App Developer Census survey ran in May 2014, which gathered 330 responses from UK developers.

Several of the figures in this report are based on two past reports by VisionMobile on the app economy: the App Economy Forecasts 2013-2016 report and the European App Economy report that were published in July 2013 and September 2013 respectively.

Forecasts for the UK App Economy were based on a number of assumptions including:

- Increased adoption of smartphones, tablets and other app-enabled devices (smart-watches, IoT gadgets, smart TVs, home automation, in-car systems).

- We assumed a 15% annual growth of such devices in the UK up to 2020 and a 10% increase up to 2025. Smartphone adoption, alone, in the UK is currently increasing at a rate of approximately 10% annually.

- A 10% annual increase in global app-enabled device adoption - this is a very conservative estimate as smartphones sales, alone, have increased much faster in the past few years.

- Estimates for population increase based on UN forecasts.

- A 5% annual increase in average spending on apps as a result of maturing user base, more services moving towards apps (e.g. news, entertainment, payments) and enterprise app adoption increases.

In order to map the distribution of app companies throughout the UK we used Company House records for software companies created after 2008, when the first app stores emerged. While not all software companies incorporated since 2008 are app companies, we believe that a large number of them are (over 20,000 of the 35,000 software companies in Companies House records were incorporated after 2008). We believe that the distribution of these companies throughout the UK geography is representative of the distribution of app companies in the UK.

Estimation of the number of app companies is based on the number of app developers in the UK (calculated using StackOverflow data and data from the European App Economy report) and the average size of app companies in the UK (based on Developer Economics survey data). The forecasts on the number of new jobs created in the next year was based on the UK App Developer Census survey and calculated ratios of (developers and designers) to other roles in app companies.

distilling market noise into market sense