SKILL UP

LEARN MORE TO EARN MORE

perfect code

WEB DEV & DESIGN
SALARY & SKILLS REPORT

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PUBLISHING

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'WHAT YOU NEED TO KNOW TO EARN MORE IN WEB DEVELOPMENT'

THE MOST COMPREHENSIVE GLOBAL IT SALARY AND SKILLS SURVEY EVER.

SKILL UP

CONTENTS

For companies and people all over the world web development & design choices have become even more essential over the last few years, and you, as a web developer, have to make a few important decisions that can affect your entire career as well. You need to ask yourself questions such as:

- Are Emerging Economies taking a growing slice of the web job pie?

- Should you join a start-up, or go into an enterprise company?

- How valuable is being a Full-stack Developer?

- Is Angular 2.0 going to take over the world of web development?

- Is mobile going to change the way web developers work permanently?

- What's the hottest upcoming trend in Web Development?

The need to answer these questions led us to look at the community as a whole, and so we decided to launch our Skill Up campaign.

WHAT IS SKILL UP?

With our Skill Up survey we wanted to look at the tech community as a whole to identify upcoming trends over the next few years and share what you can do to ensure you get the most out of your career and skills. We divided our survey into 4 segments, Web Development & Design, Application Development, Security & System Administration, and Data Science & Business Intelligence, making this one of the most comprehensive surveys in recent years.

Specifically we asked:

- What skills lead to a higher salary?

- What skills/technologies are most highly valued by different industries?

- What cutting edge technologies are really worth you spending your time learning?

To get a better idea of the community's thoughts we asked you all to fill in our survey, the results of which you can find compiled here in this report, giving you the facts, the figures, and more importantly – the knowledge and skills you need to make the best career decisions.

Let's look at the results in more detail.

WHAT WERE THE DEMOGRAPHICS OF THE SURVEY?

The response from our community was huge – with almost 20,000 responses from developers across nearly 100 different countries, so thank you!

Of the four skill streams, our Web Development stream had one of the highest responses with 6,000 different developers from a wide variety of industries and experience levels. To give you an idea of the different industries your fellow developers come from we've drawn up some graphs on both the levels of experience and the number of people working in each industry who use their web development skills every day:

### EXPERIENCE
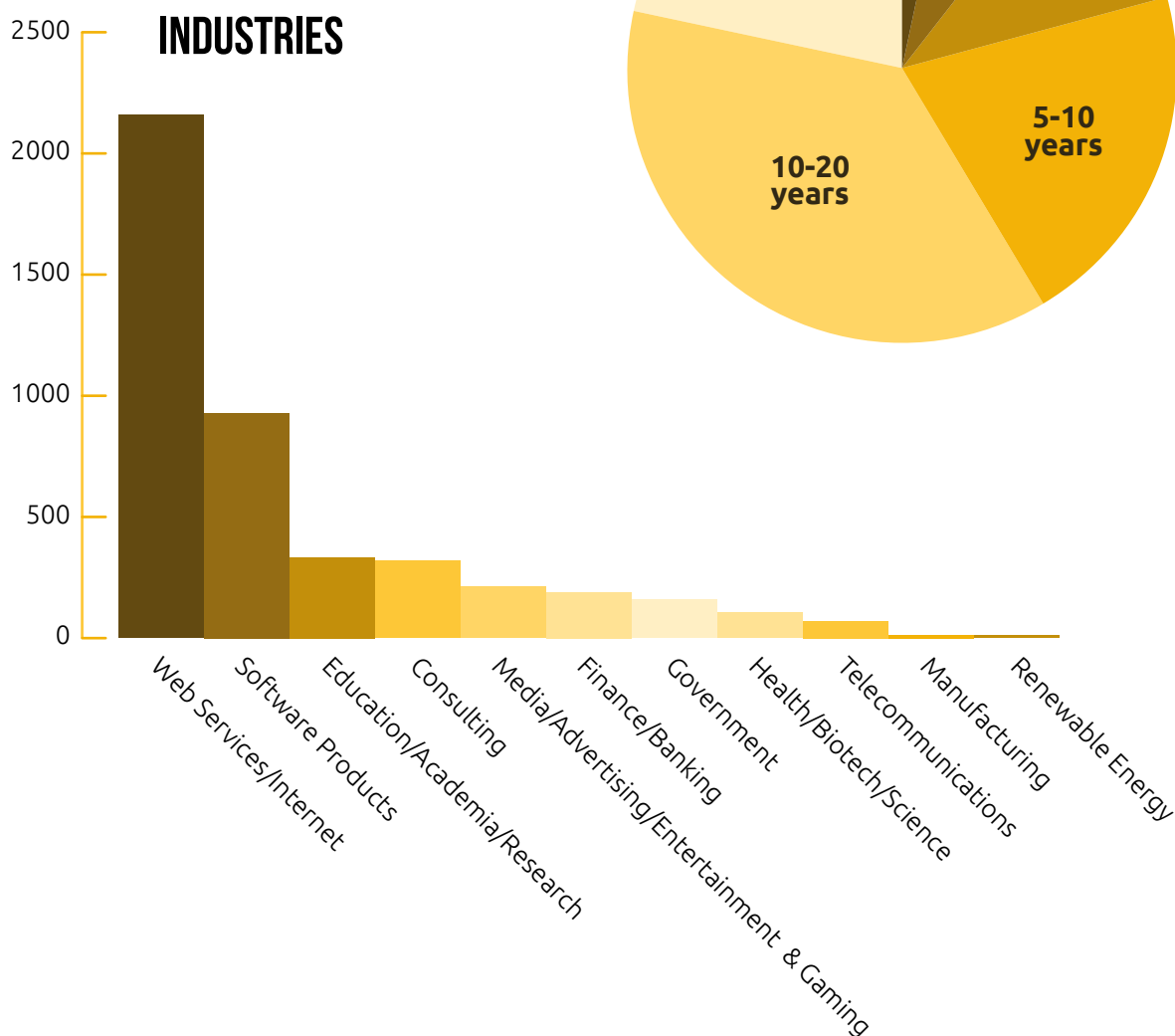
INDUSTRIES

As we can see, the web developer world is filled with developers from a number of different industries and experience levels, and from this combined wealth of knowledge we've discovered several interesting facts about particular industries that we'll look into further on.

WHICH SKILLSETS ARE TOP FOR WEB DEVELOPERS / DESIGNERS?

Breaking down the role of web developer depending on the core skills they offer, there has grown a difference in average salary for each sector.

The following graph shows the average global salary for each type of web developer, converted into US dollars:

TOP U.S. JOBS BY SALARY
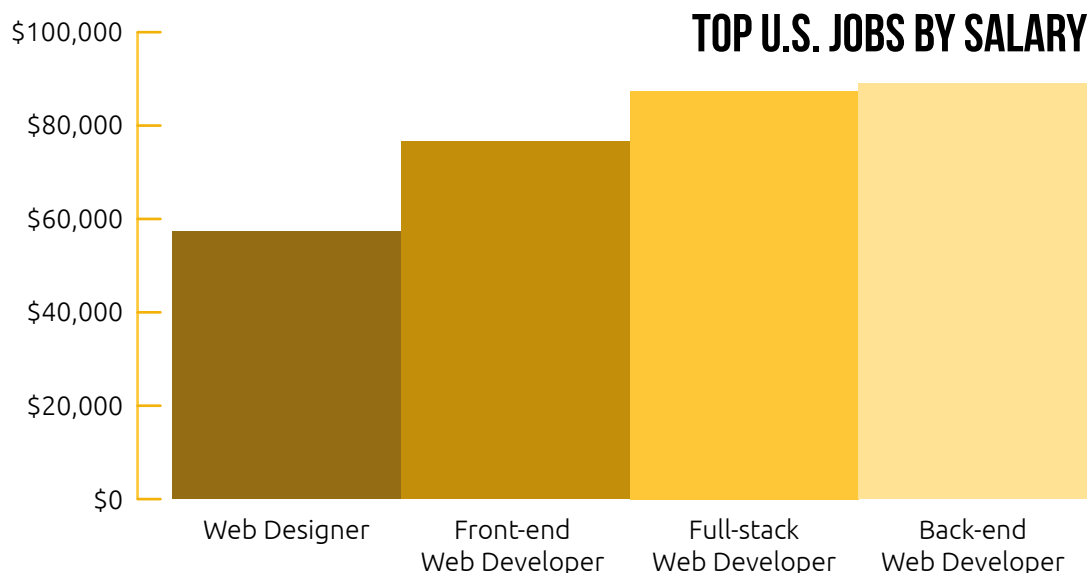
Back-end Web Developers have taken the top spot, but Full-stack Developers are catching up. Given the desire for employers to have someone who can handle multiple aspects it's likely that this may increase in the future.

Don't miss out on what Full-stack Development can do for your job prospects now! Here's a bundle of some of our hottest and best titles to make sure you've got the skills you need:

- **MEAN Web Development**
- **Node.js Design Patterns**
- **Learning Web Development with Bootstrap and AngularJS**
- **Web Development with Node.JS and MongoDB**
- **Mastering MEAN Web Development [Video]**

WHAT INDUSTRIES ARE BEST FOR WEB DEVELOPERS TO GET INTO?

Now we've seen the average wage of web developers, we also need to look at what industries are the best for developers. Here are the top industries by company type and their average salaries.

TOP SALARIES BY COMPANY AND INDUSTRY

Legend:
- Start-up
- SME
- Self employed
- Enterprise
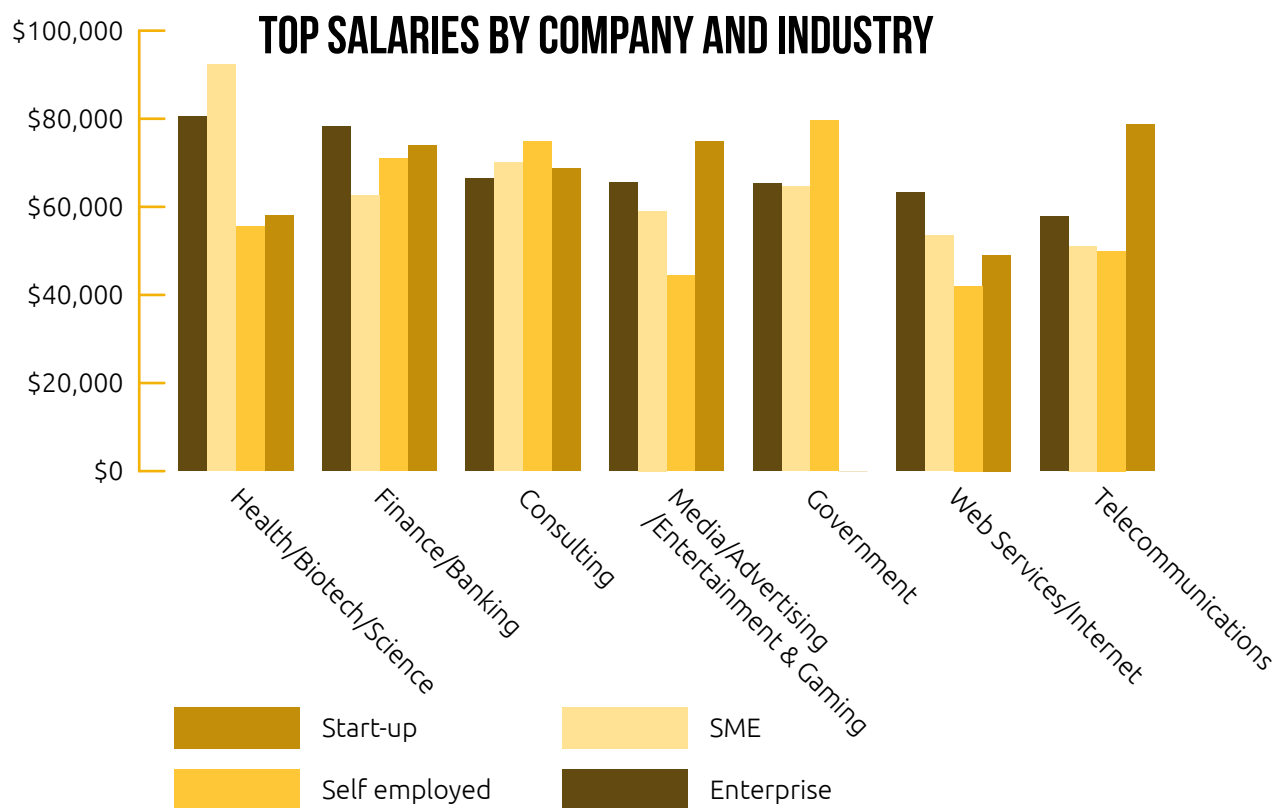
What if you're new to the industry? Would you be best going to an Enterprise company, making your own way, joining a start-up, or finding an SME?

Let's compare the average salaries for less experienced people across company types and find out:

SALARIES FOR LOW EXPERIENCE

(For employees with less than 1 year)

Summing up everything so far:

- Industrial sectors tend to pay very well.

- Start-ups in the Entertainment sector pay very well.

- Generally, SMEs are on a par with Enterprise companies for web workers.

- The Entertainment industry pays well for people with less experience, and offers a good proportion of roles at this level.

- Full-stack developers are incredibly valuable.

So Enterprise still tops all on average. What about industries? Which industry should you get into?

INDUSTRIES FOR LESS EXPERIENCED PEOPLE
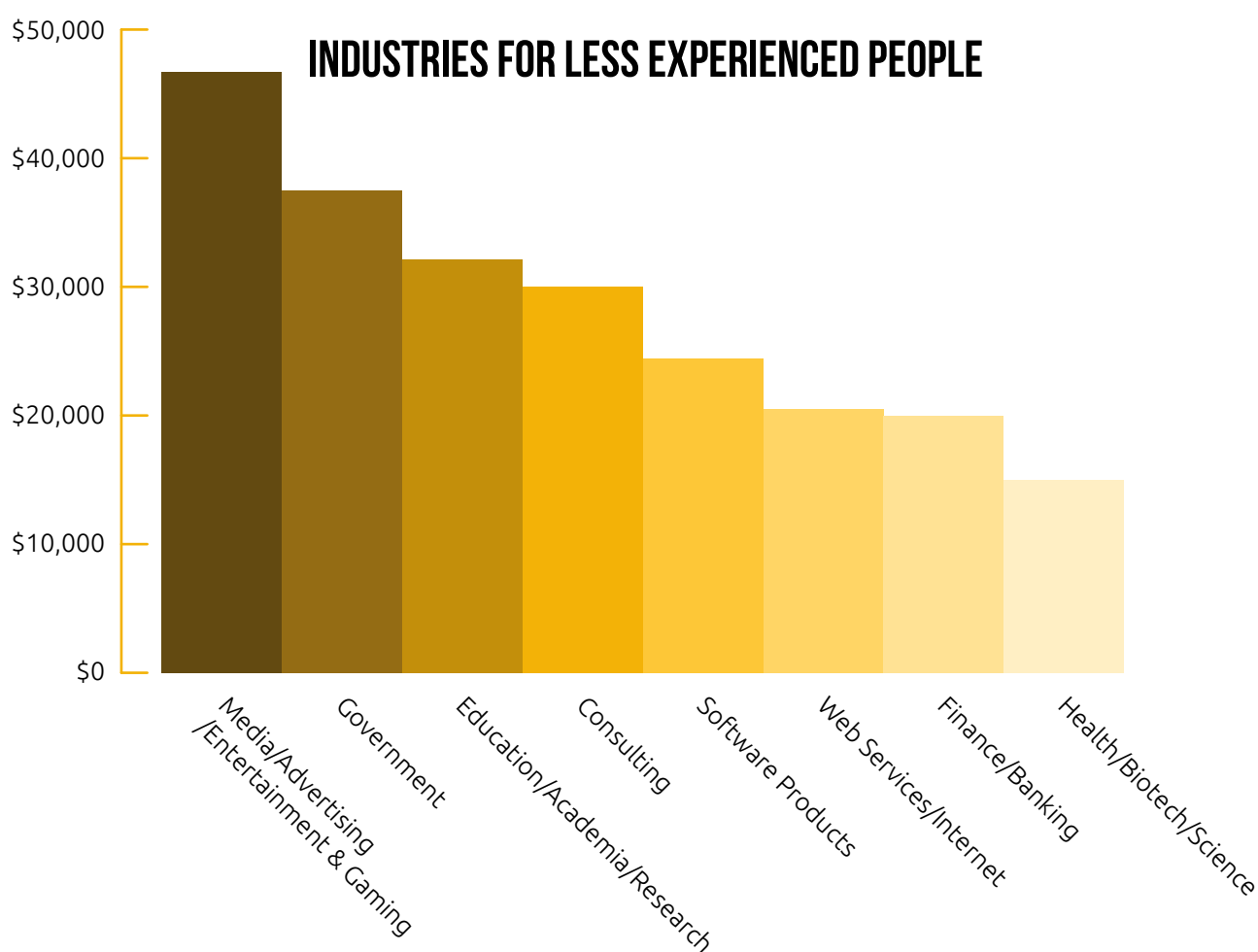
From these graphs we can draw two key conclusions:

- Working in the Entertainment industry has benefits.

- Working for a general web based company will, on average pay less.

COMPETITION ACROSS INDUSTRIES

INDUSTRY BREAKDOWN BY EXPERIENCE

Legend:
- Less than 1 year
- 1-3 years
- 3-5 years
- 5-10 years
- 10-20 years
- More than 20 years
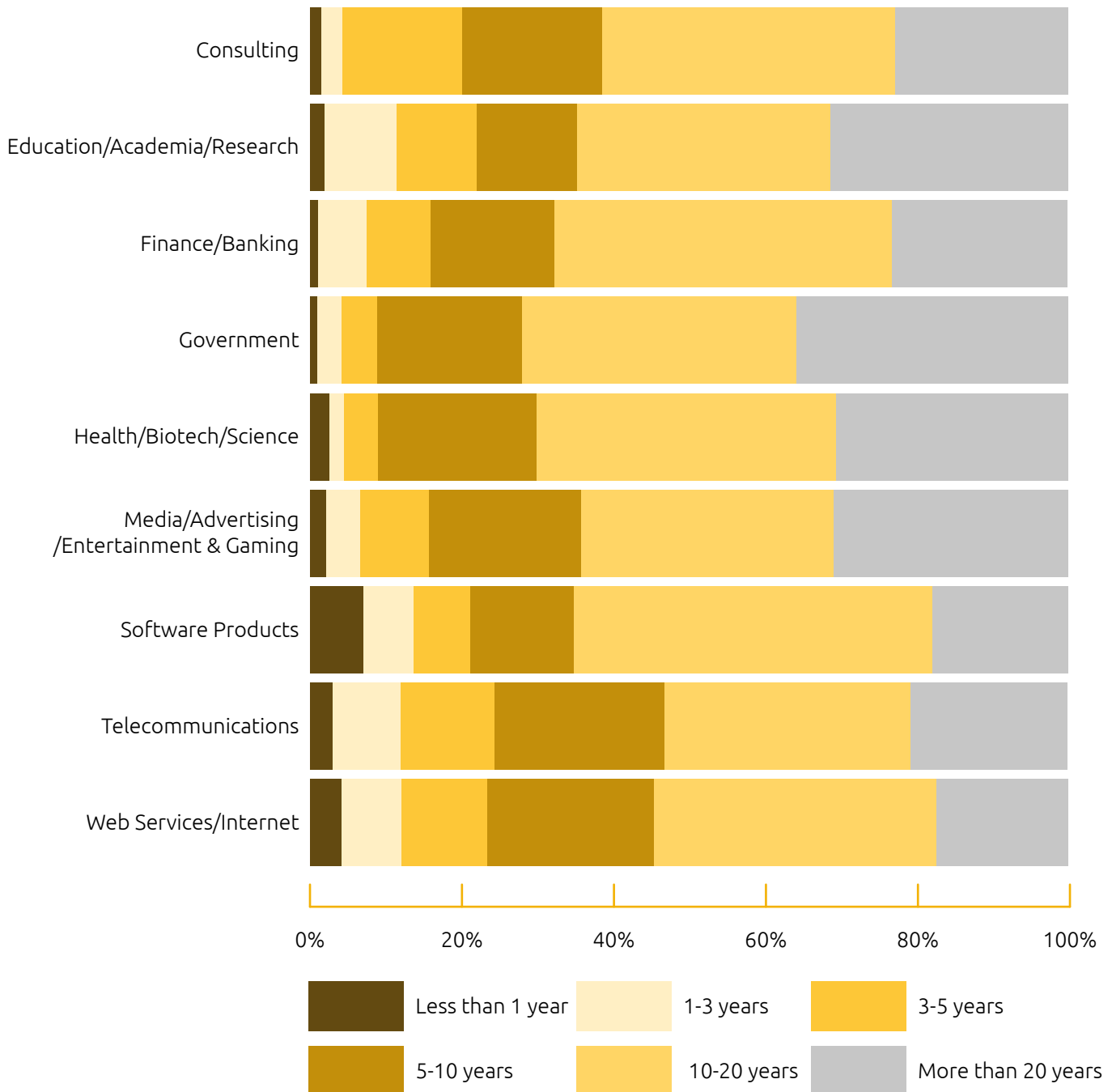
So all industries are still dominated by more experienced players, but again, Media/ Entertainment has a good proportion of less experienced people, and with the salaries offered, it seems like a good proposition (the opportunity to gain experience, as well as a variety of projects to work on too)!

Let's take a more detailed look at the populous industries and see what the average salary looks like across them.

AVERAGE SALARY BY COMPANY AND JOB ROLE
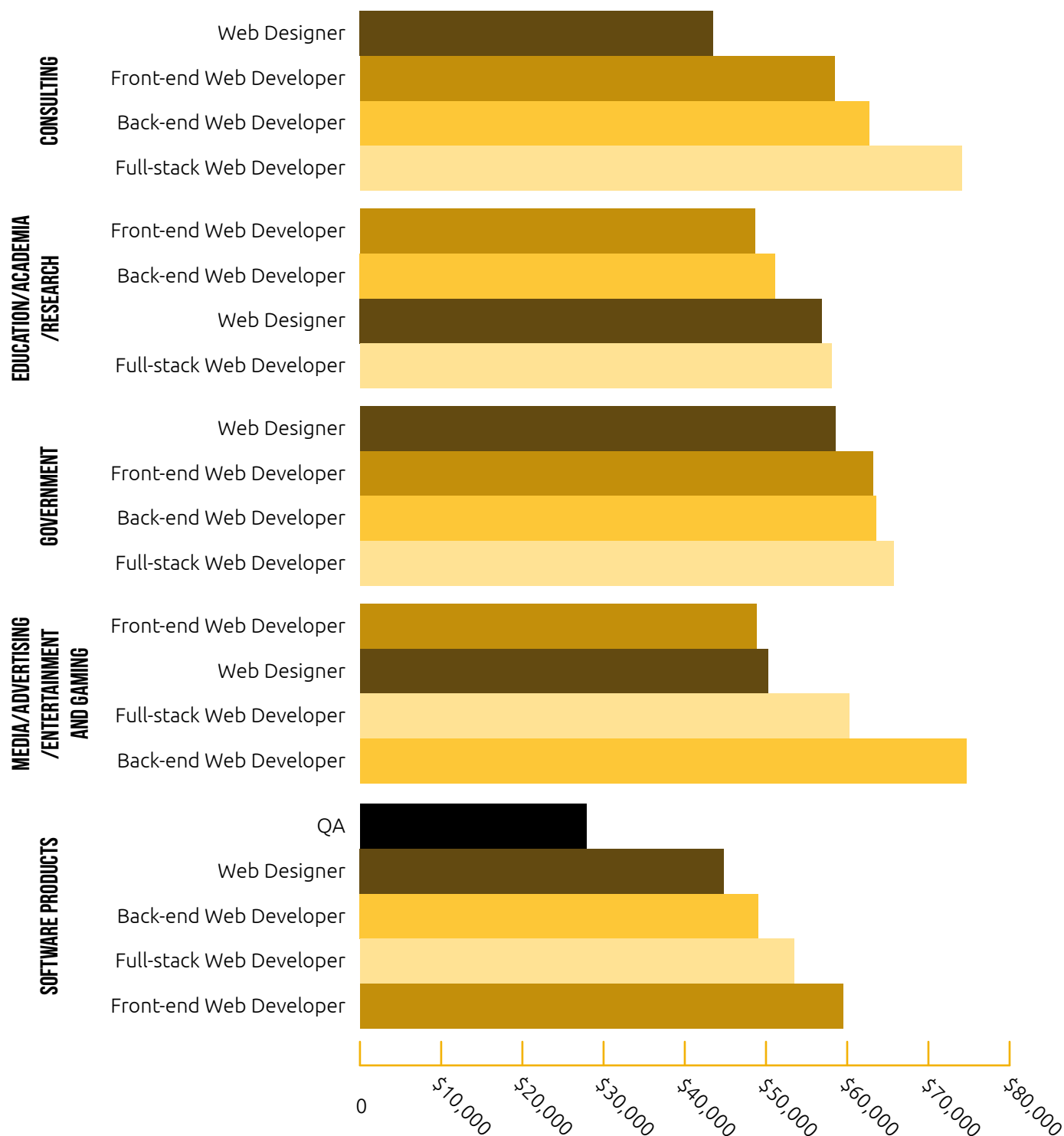
So, once again it pays on average to be a Full-stack Developer!

WHAT TECHNOLOGY ARE DEVELOPERS USING THE MOST?

Now we have a good breakdown of the various industries that make up the web development world, we can look at the next step, the technology. As a developer you need to not only know the skills that you are expected to use every day, but to have a good eye for the Next Big Thing, so you stand out from the rest of the crowd.

Let's start with current technologies. We asked all of our 6,000 web developer respondents 'What are people using on a daily basis?' Let's split these results into three graphs: Front-end, Back-end, and Full-stack Developers to get a better overview of the key skills in each category.

FRONT-END WEB DEVELOPERS

FRONT END DEVELOPERS TECHS
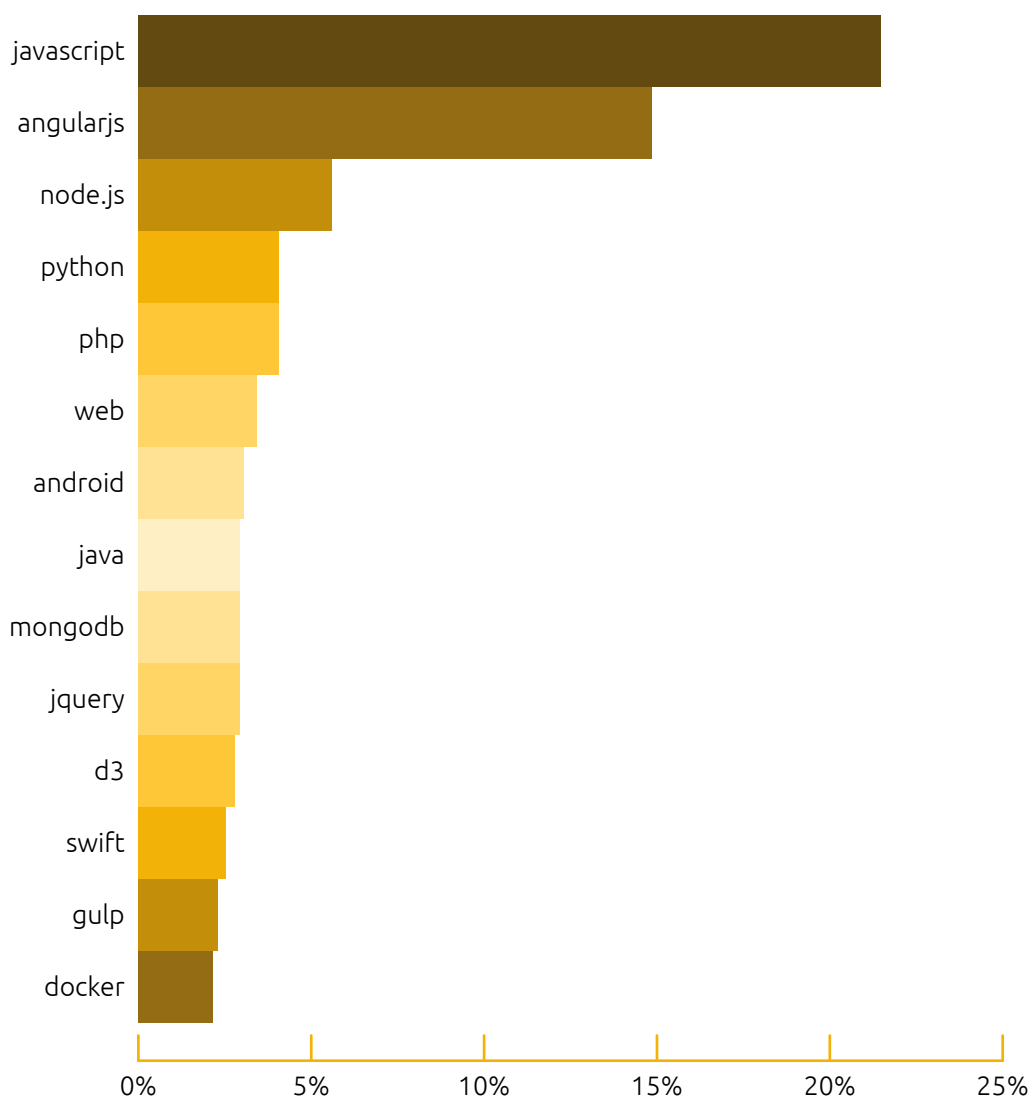
Not many surprises here! JavaScript, HTML, and CSS reign supreme; jQuery is also the most prevalent framework here, though Angular is following not far behind. Most surprising is the fact that PHP, despite many discussions on its future, is still used by over 20% of all our Front-end Developers!
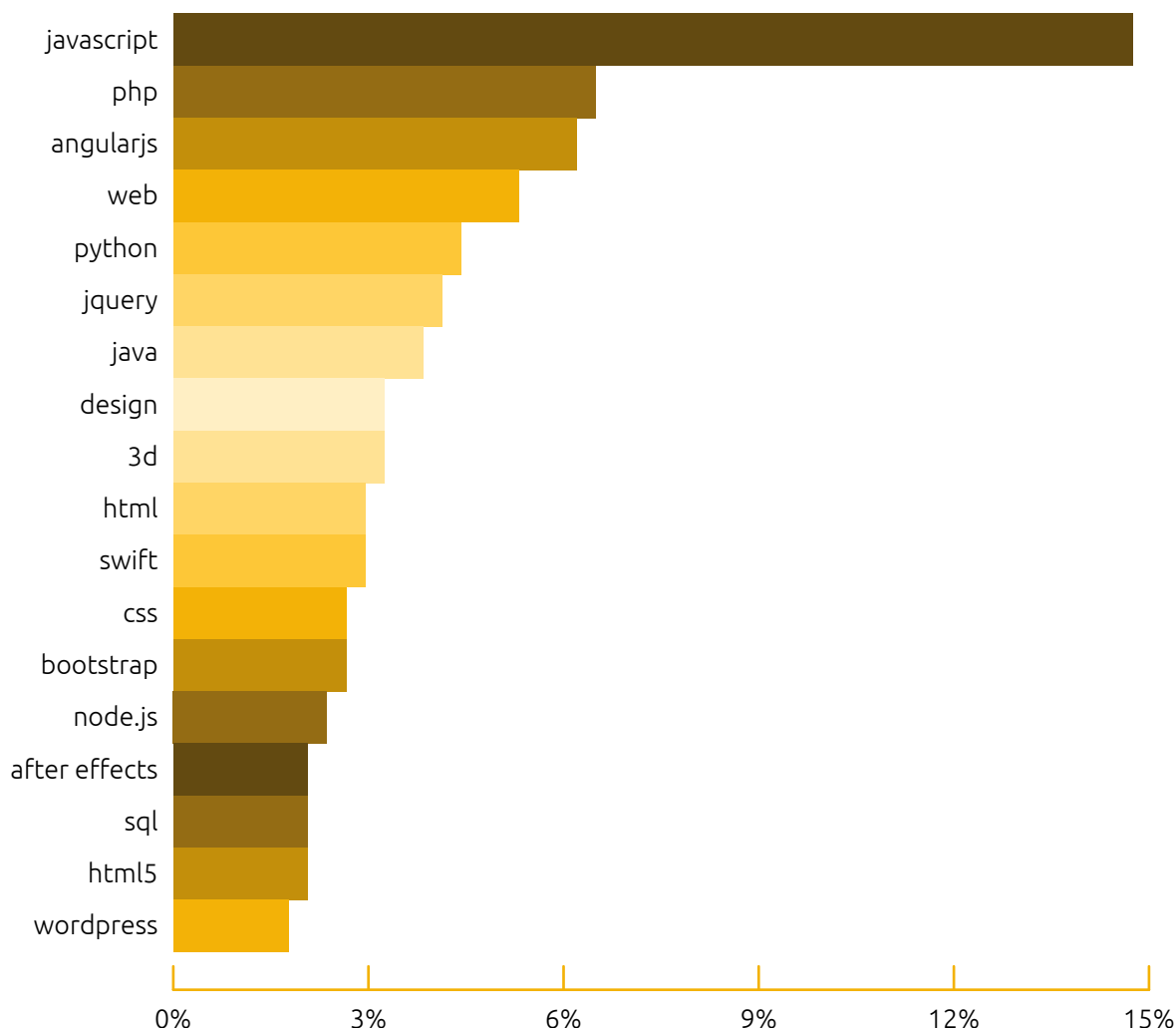
WEB DESIGNERS

WEB DESIGNERS TOP TECHS

Technology	
javascript	
php	
angularjs	
web	
python	
jquery	
java	
design	
3d	
html	
swift	
css	
bootstrap	
node.js	
after effects	
sql	
html5	
wordpress	

0%   3%   6%   9%   12%   15%
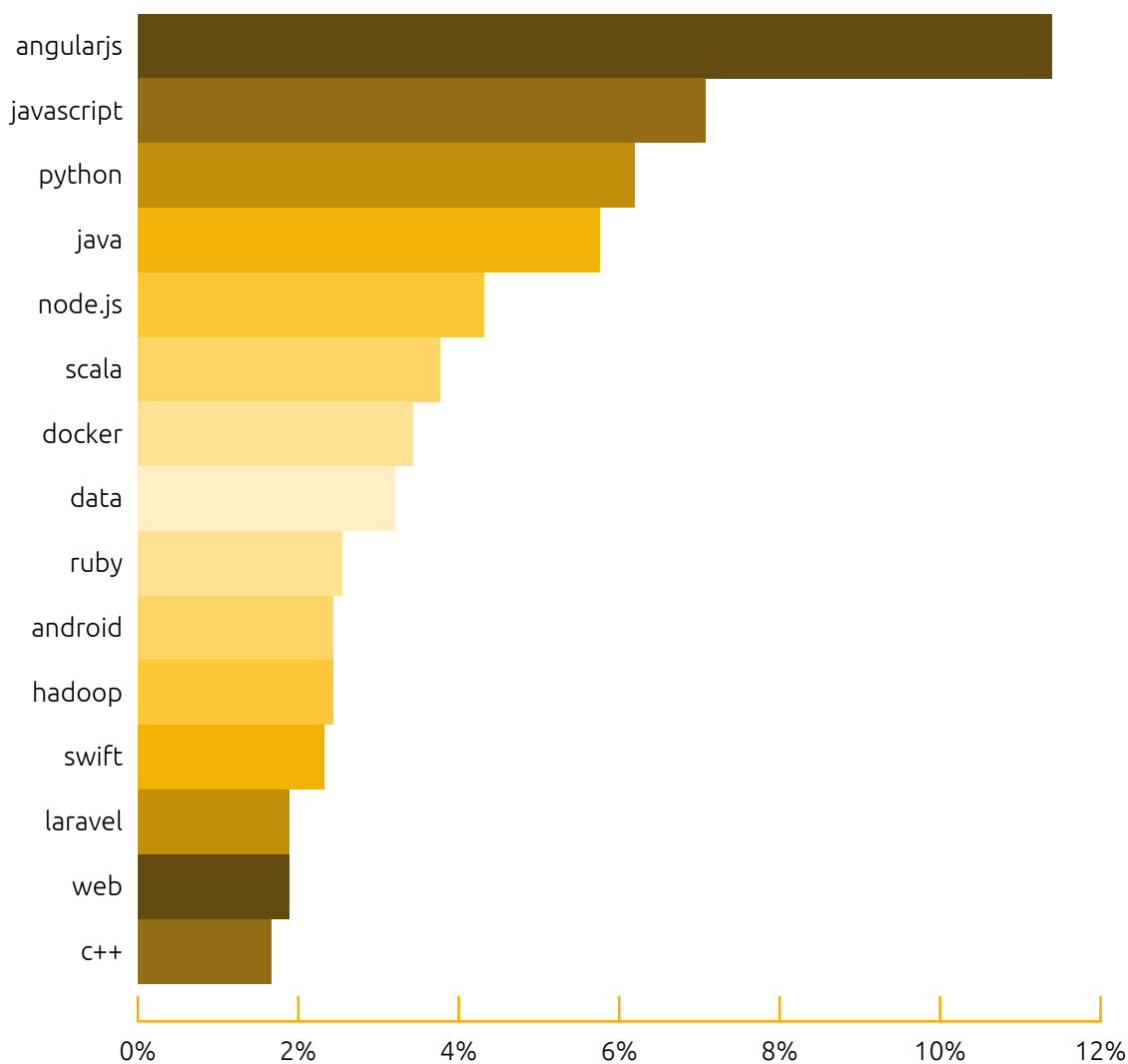
Another very obvious selection of technology here. An interesting trend however is the rise of Python. Frameworks such as Flask are becoming a great way for developers who know Python to hone their skills in the web developer world. It is likely that the percentage of Python users will only grow, as those frameworks become better known. Web development isn't just for JS users now!

BACK END DEVELOPER TECH USAGE

| Tech	Usage
angularjs	~11.4%
javascript	~7.1%
python	~6.2%
java	~5.7%
node.js	~4.3%
scala	~3.8%
docker	~3.5%
data	~3.2%
ruby	~2.6%
android	~2.5%
hadoop	~2.4%
swift	~2.3%
laravel	~1.9%
web	~1.9%
c++	~1.6%

One of the most interesting selections of tech so far! Everything from Angular and Python to Node and JS are being used by our Back-end Developers. Lots of modern tech is being used by the majority too.

FULL-STACK WEB DEVELOPERS

FULL STACK DEVELOPERS TECH USAGE
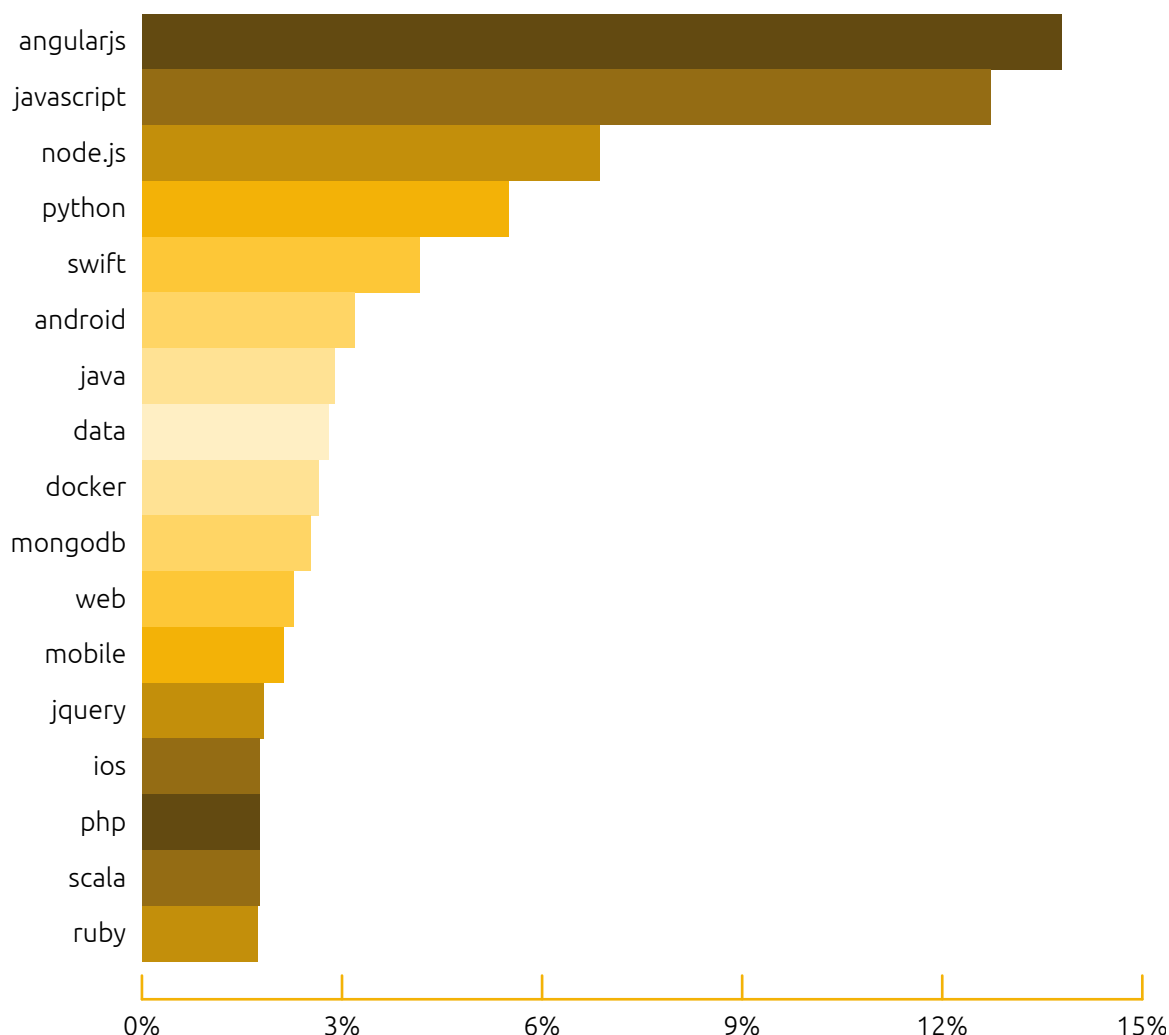
Unsurprisingly, Full-stack Developers look like a combination of Front-end and Back-end Developers when it comes to the tech they use. Angular is dominant in the world of the Full-stack, though it's also interesting to see Python and Docker make an appearance too.

Listing tech by overall appearance is always going to be limited in this context as much of the interesting information lies in the bottom third of this graph. It is the small frameworks that are of most interest. We want to find out which tools you should look out for!

WEB DESIGNERS - TAG CLOUD

To find the common usage statistics from your responses, we put all the following results into a tag cloud and extracted the words, weighted by salary. The following word charts are the original results. These are the tools that the highest earners in this sector are using every day.

Unsurprisingly WordPress is still very much the top dog for Web Designers with its host of options for any design need. CMS systems like Drupal also make a large showing, and frameworks like Bootstrap and SASS are well represented for when designers want to make their work stand out, and bring in some modern design aspects.

FRONT-END DEVELOPERS - TAG CLOUD

A very obvious selection here, with established tools like Java and PHP coming up top, as well as a full panoply of JavaScript libraries for any situation.

BACK-END DEVELOPERS - TAG CLOUD

Lots of diverse languages featuring here, especially Python and Django which has gained traction over the last year. With NoSQL databases like Mongo, Memcached, and Redis also appearing, there's a good selection of technology for the aspiring Back-end Developer to look into.

Python and Django are some of the biggest names that appeared in our survey, and it's no wonder why, with flexible code to create powerful server-side apps. We've created a special Back-end Python bundle so you too can learn how to bring this great language into your toolkit, or even take your existing Python skills to the next level. The bundle has the following guides for all your back-end Python needs:

- **Python Network Programming Cookbook**

- **Flask Framework Cookbook**

- **Web Development with Django Cookbook**

- **Django Essentials**

- **Learning Django Web Development**

FULL-STACK DEVELOPERS - TAG CLOUD

A very interesting selection here, along with the really established tools we're seeing a full range of languages and packages. Developers seem to know what they like, and whether it's established or new, everything seems to be used, creating the perfect toolkit for developers.

So with all this information what conclusions can we make from these graphs?

Well, for starters:

- As reported by our respondents, Angular is here to stay.

- Mobile development is at the forefront of everyone's minds as the world starts to interact with the web more and more on mobile devices.

- The Internet of Things is poised to change how we interact with the world, and how the world interacts back!

WHAT COMES NEXT?

Now we know what skills and tools are used every day, we asked what technologies our respondents were planning to learn over the next 6 months. The tag cloud below is based on your responses and is weighted by frequency overall:
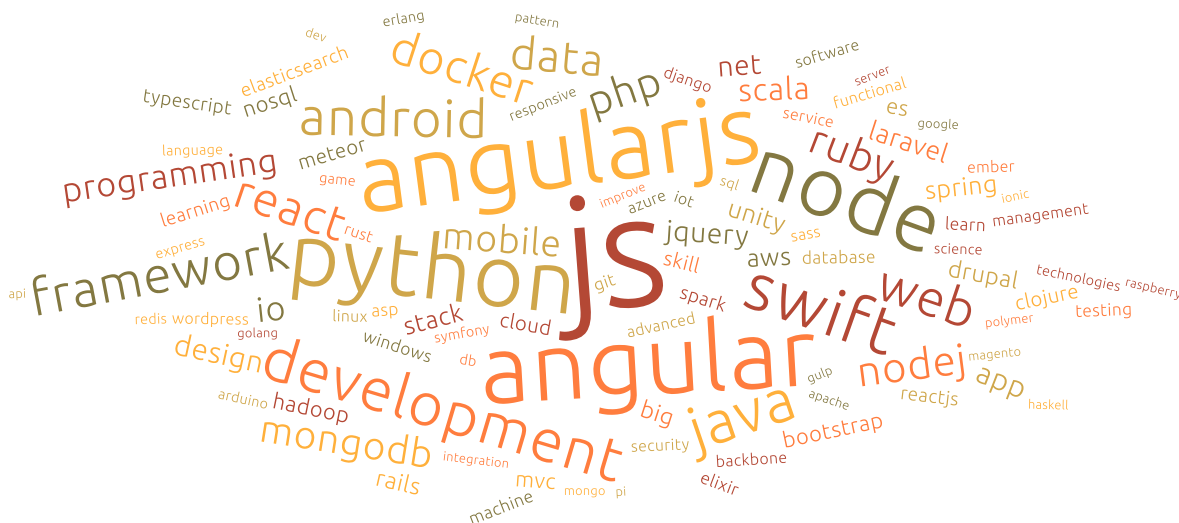
A lot of interesting ideas from these results:

- Angular is basically poised to be everywhere.

- New languages seem to be the main focus outside of Angular. Python, Swift, Java, and even Scala feature here.

- Lots of mobile technologies are mentioned, which continues to support the notion that mobile is going to be very hard to ignore.

- Docker is going to be one of the bigger new additions to a developer's toolkit in the coming months.

- React is making several appearances as it begins to gain prominence.

- Lots of NoSQL databases feature too, as well (Redis, Mongo, Neo4j).

We think it's pretty obvious from these results that Angular is the essential tool for all developers right now, so it's a great time to Get Going with Angular.

If it's going to be everywhere, then make sure you have the skills needed to make the most of it. Start creating great apps with our Angular bundle:

- **AngularJS by Example**
- **AngularJS Web Application Development Cookbook**
- **Mastering Web Application Development with AngularJS**
- **AngularJS Web Application Development Blueprints**
- **AngularJS UI Development**

WHAT IS THE HOTTEST THING COMING UP IN THE NEXT 12 MONTHS?

We asked what you thought would be the Next Big Thing in 2015-16. Would it be a rise in Cloud development, perhaps a new language or maybe a new paradigm?

Here's how you responded, again, weighted by salaries:

Interestingly, 'software containerization systems' came out on top. Many other container systems appear in the tag cloud as well. If we dig deeper into the results we can draw the following conclusions:

- Mobile is overwhelmingly on top.
- Internet of Things is poised to change how the web interacts with the consumer.
- Microservices also make quite a large appearance.

- Native JS outside of the browser seems to be what many developers see as one of the hottest things this time next year.

So it seems that multi-functional code and practices are the direction the Web Developer world will move towards over the coming year. Given the number of new and hot technologies on the horizon, with React and web components gaining ground it should be an exciting year!
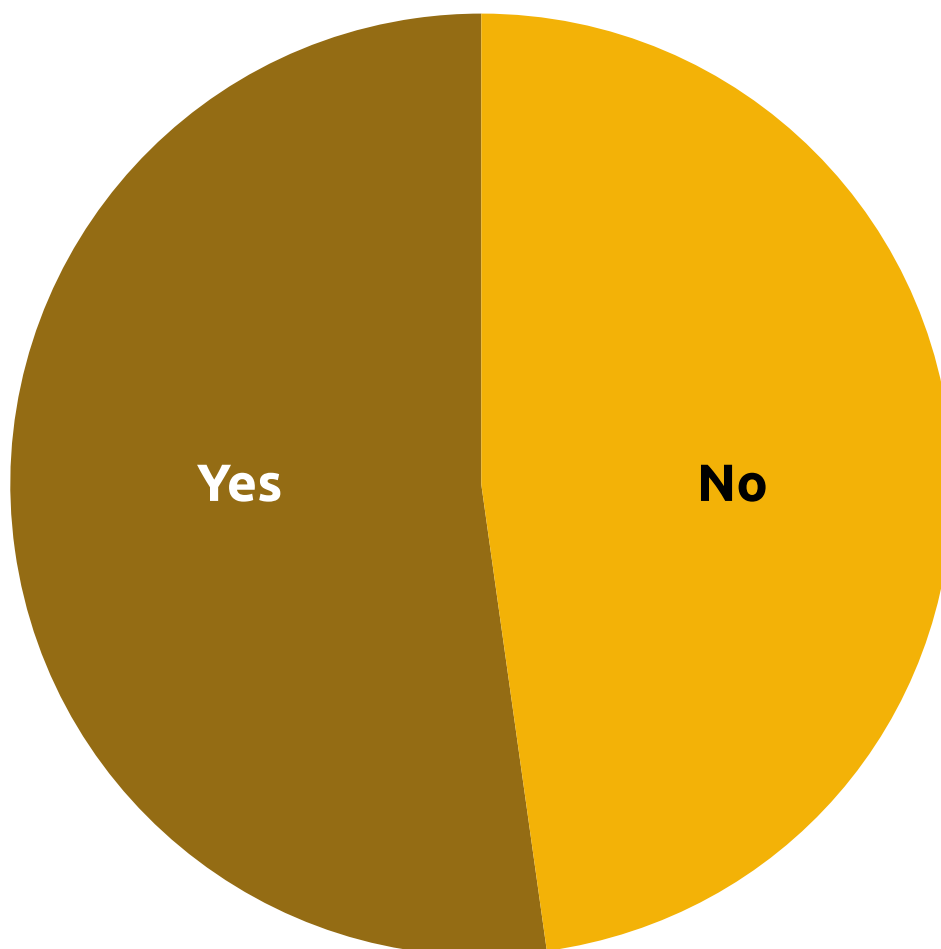
HOT TOPIC ANALYSIS

To finish our survey we asked about the more interesting emerging trends in the ever-widening world of the web.

The first trend on the horizon was Angular 2.0. With it being so different to the Angular that developers know and love, would it be worth switching over?

The results are quite interesting…

### FULL STACK DEVELOPER - SWITCH TO ANGULAR 2.0?

Yes   No

It's a tentative 'Yes' overall, though it seems many developers would like to see what it really offers, waiting for a few months after its release before deciding if they want to take the time to get to grips with its myriad of features. It's interesting to know that the 'Yes' is a lot more concrete when limited to just Full-stack Developers, as you can see above.

DO YOU THINK REACTJS WILL OVER-TAKE ANGULAR AS THE JS FRAMEWORK OF CHOICE IN 2015?

2015 is shaping up as Google and Facebook go head to head with Angular vs React. We asked our developers if they thought React would be able to take over the grip that Angular has on the web developer world.
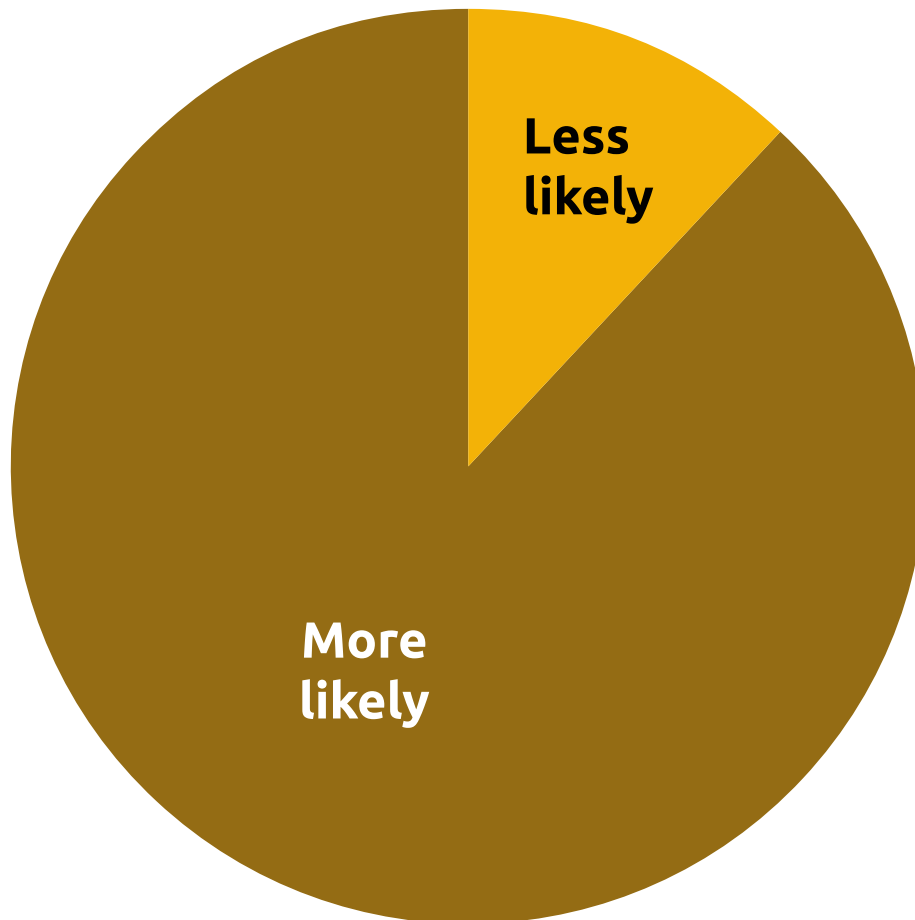
Here are the results:
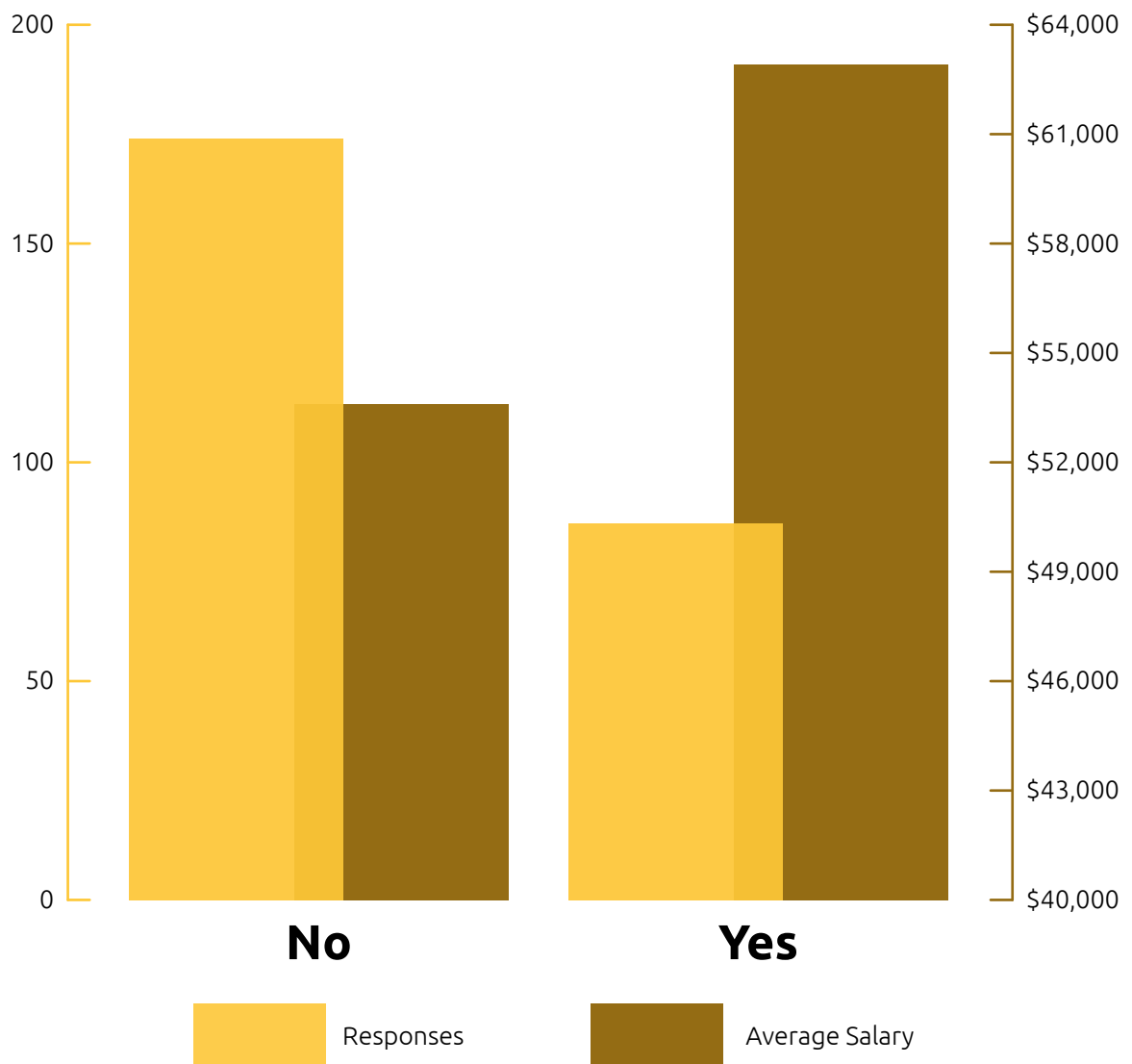
Across our entire cohort… it's a 'No'!

Limiting it to the Full-stack Developers' response, it's still a 'No', however those responding 'Yes' are earning on average $10k more. Perhaps they know the real score?

HAS THE RECENTLY ANNOUNCED MERGER BETWEEN IO.JS AND NODE.JS MADE YOU MORE OR LESS LIKELY TO USE NODE IN THE FUTURE?

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With io.js and Node once again joining together we asked you all whether you were more interested in using Node or not. In the end, did the merger make the final product stronger?

The answer? Well, it's a resounding 'Yes'!

HAS THE RECENTLY ANNOUNCED MERGER BETWEEN IO.JS AND NODE.JS MADE YOU MORE OR LESS LIKELY TO USE NODE IN THE FUTURE?

DO YOU AGREE WITH THE ASSERTION THAT JAVASCRIPT HAS WON THE BATTLE AGAINST PHP FOR THE SERVER SIDE SCRIPTING LANGUAGE OF CHOICE?

It seems every few months PHP is declared dead and another language will rule the back-end scripting. Full-stack development has grown over the last year so we asked whether you thought the battle was well and truly over.
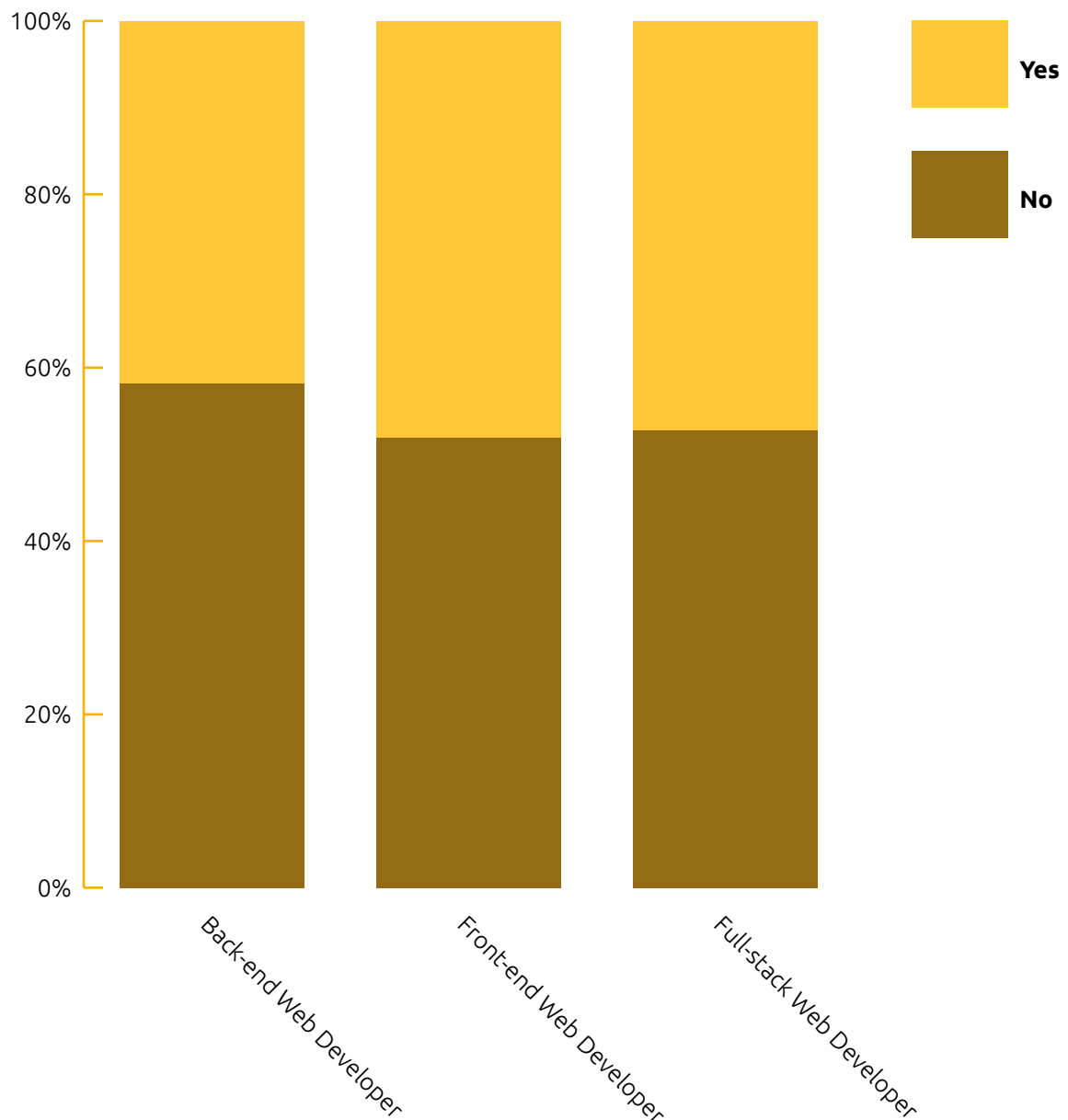
So it appears that the battle will still be waged for some time. Our respondents were evenly split, though unsurprisingly Back-end Developers are more likely to believe PHP is very much alive and well. It looks like everyone will have to wait a while longer before we stop seeing this conversation pop up!

ARE YOU ALREADY USING ECMASCRIPT 6 IN PRODUCTION?

This question led to a resounding 'No' across the board, though not surprisingly, considering the standard for 6 was only finalized a few weeks ago. It will be interesting to see how this changes over the coming months! For now though, just like Python 2.7, ECMAScript 5 is here for a while yet.

DO YOU PLAN ON USING WEB COMPONENTS IN THE FUTURE?

A resounding 'Yes', with 90% of our respondents planning to use web components. Excitingly, web components have the potential to be The Next Big Thing in web development. With Polymer 1.0 officially released more people will use web components; there may even be universal adoption!

But why wait to use web components when you can use them right now? Don't be left behind, grab our Ready for the Future bundle, which features great books and videos on the hottest and newest web developments:

- **Learning Web Component Development**

- **Mastering CSS [Video]**

- **Meteor Cookbook**

- **Node.js By Example**

- **WebSocket Essentials**

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AND FINALLY

Overwhelmingly, people see the wisdom of using pre-existing frameworks, compared to writing their own. Saving time for what needs to be done, some developers seem to write their own when looking for something special, that's not readily available in the marketplace.
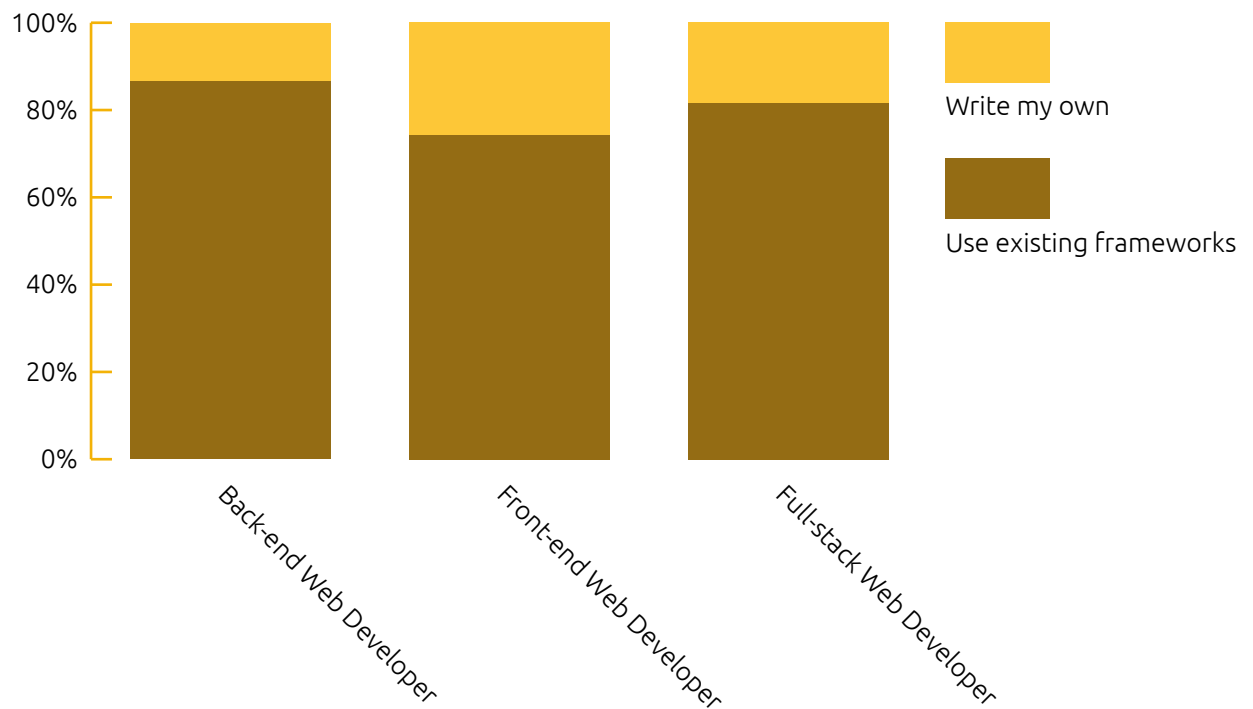
WHAT'S NEXT?

After everything this survey has uncovered in the world of web developers and designers, what they use, what they want to learn, and what they think will be the biggest developments in the next year, what can you do as a developer?

- New options in technology have opened up a world of possibilities. Do you know JavaScript? Why not learn Python and see if you prefer it instead? What about the same language but a new paradigm? Packt can help with a host of languages when you are ready to try a different way to code.

- With a new language, a host of new frameworks open up too. Flask, Django, Bootstrap, Angular, and React. Each one brings a host of different benefits for different situations.

- The future's bright in the web developer world. Docker, the Cloud, Native and JavaScript outside your browser, and even web components are changing how we develop applications. If you're interested but don't know where to start then try out our Ready for the Future bundle.

- Full-stack currently has the best of both worlds when it comes to options, so maybe it's time to look at the half of the web development world you're missing out on? Our Full-stack bundle is a great place to start.

No matter what path you choose in the world of web development many options are open for you. Our range of books and videos means you have the support you need to make sure you can make full use of your own skills!

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PUBLISHING

HELPING IT PROFESSIONALS TO PUT SOFTWARE TO WORK IN NEW WAYS

Founded in 2004 in Birmingham, UK, Packt's mission is to help the world put software to work in new ways, through the delivery of effective learning and information services to IT professionals.

Working towards that vision, we have published over 3000 books and videos so far, providing IT professionals with the actionable knowledge they need to get the job done –whether that's specific learning on an emerging technology or optimizing key skills in more established tools.

As part of our mission, we have also awarded over $1,000,000 through our Open Source Project Royalty scheme, helping numerous projects become household names along the way.

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