



**STATE OF THE HTML5 GAME DEVELOPMENT IN 2021**  
**Gamedev.js Survey Results**

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# INTRO

We at Enclave Games were wondering what tools and technologies people use to develop web games, how much do they earn, what monetization strategies are they using, etc. There was almost no up-to-date, solid data on the topic, so we decided to ask the community directly and publish the results afterwards.

The Gamedev.js Survey 2021 was open between February 18th and March 18th, and the report was published on March 25th 2021 - we received a total of 437 submitted results.

Thank you to every single one of you who sent a response, promoted the survey through your community, or in any other way helped make it happen - we really appreciate it! You are free to use any data listed below, but please give credit and link to the original source when using it, thank you!

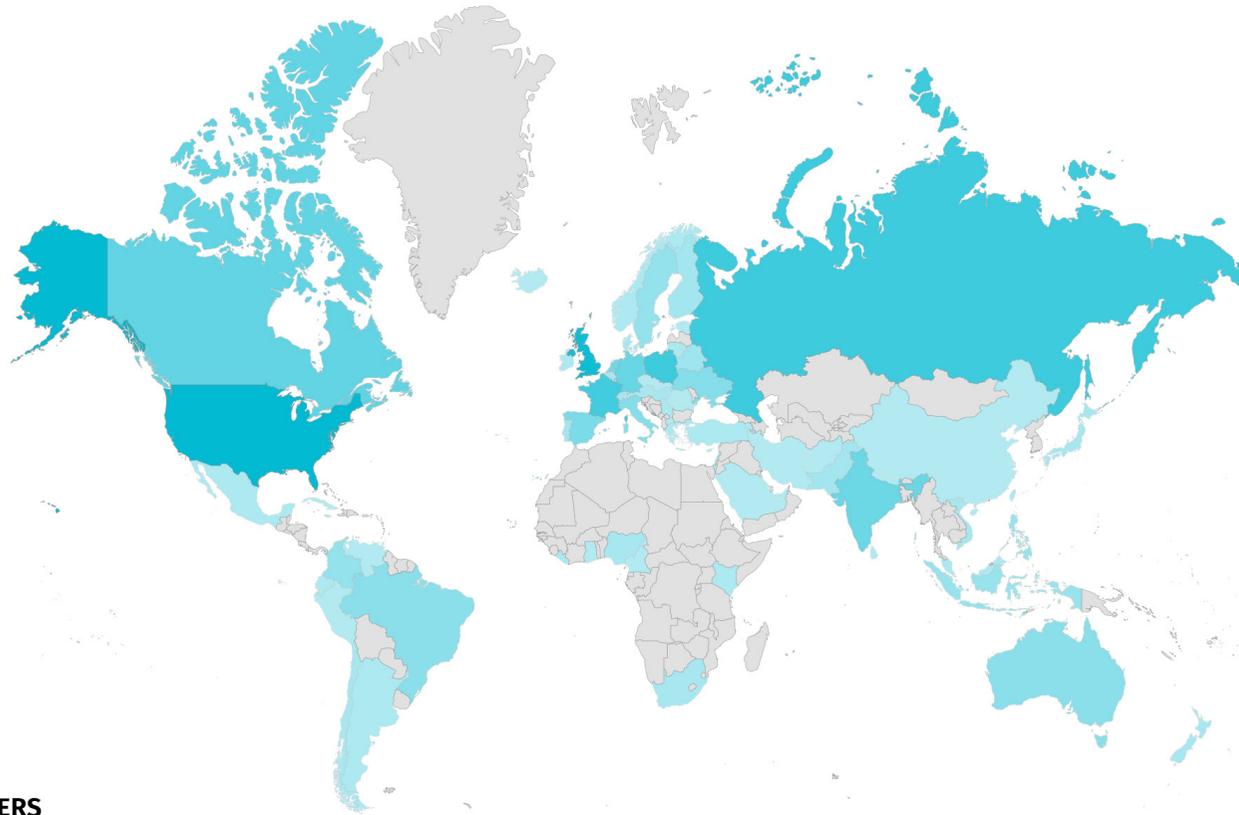
You can check all the questions and their answers below.

# SURVEY RESULTS



# DEMOGRAPHY

## 01. WHAT COUNTRY DO YOU LIVE IN AND WORK FROM?



414 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

The survey received a total of 414 answers to this question, with top 10 being USA (14,5%), UK (8,9%), Russia (5,8%), Poland (5,8%), France (5,6%), Canada (4,1%), Germany (3,9%), India (3,6%), Netherlands (3,4%), and Spain (2,9%). There were 72 different countries selected, with many unique and exotic ones, which shows a good geographical diversity.

# DEMOGRAPHY

## What country do you live in and work from?

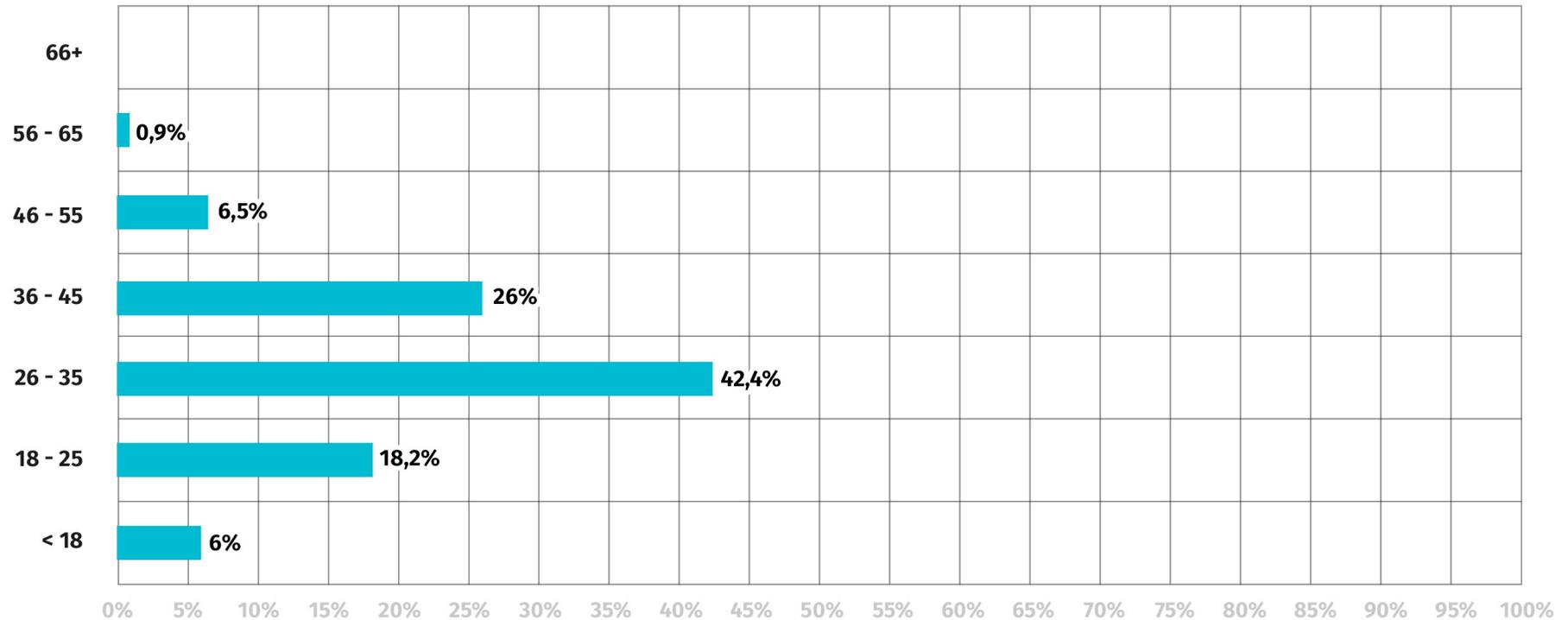
United States 60  
United Kingdom 37  
Poland 24  
Russian Federation 24  
France 23  
Without answer 23  
Canada 17  
Germany 16  
India 15  
Netherlands 14  
Spain 12  
Italy 10  
Ukraine 10  
Australia 9  
Brazil 9  
Colombia 7  
Sweden 7  
Indonesia 6  
Philippines 6  
Belarus 5  
Finland 4  
Jamaica 4  
Pakistan 4  
Portugal 4

Austria 3  
Belgium 3  
Chile 3  
Denmark 3  
Hungary 3  
Japan 3  
New Zealand 3  
Nigeria 3  
Singapore 3  
South Africa 3  
Switzerland 3  
Vietnam 3  
Argentina 2  
Ecuador 2  
Greece 2  
Ireland {Republic} 2  
Israel 2  
Kenya 2  
Latvia 2  
Liberia 2  
Malaysia 2  
Mexico 2  
Norway 2  
Serbia 2  
Taiwan 2  
Turkey 2  
Afghanistan 1  
Andorra 1

Armenia 1  
Cameroon 1  
China 1  
Cuba 1  
Cyprus 1  
Czech Republic 1  
Estonia 1  
Ghana 1  
Iceland 1  
Iran 1  
Lebanon 1  
Macedonia 1  
Nepal 1  
Peru 1  
Romania 1  
Saudi Arabia 1  
Slovakia 1  
Sri Lanka 1  
Trinidad & Tobago 1  
United Arab Emirates 1  
Venezuela 1

# DEMOGRAPHY

## 02. HOW OLD ARE YOU?



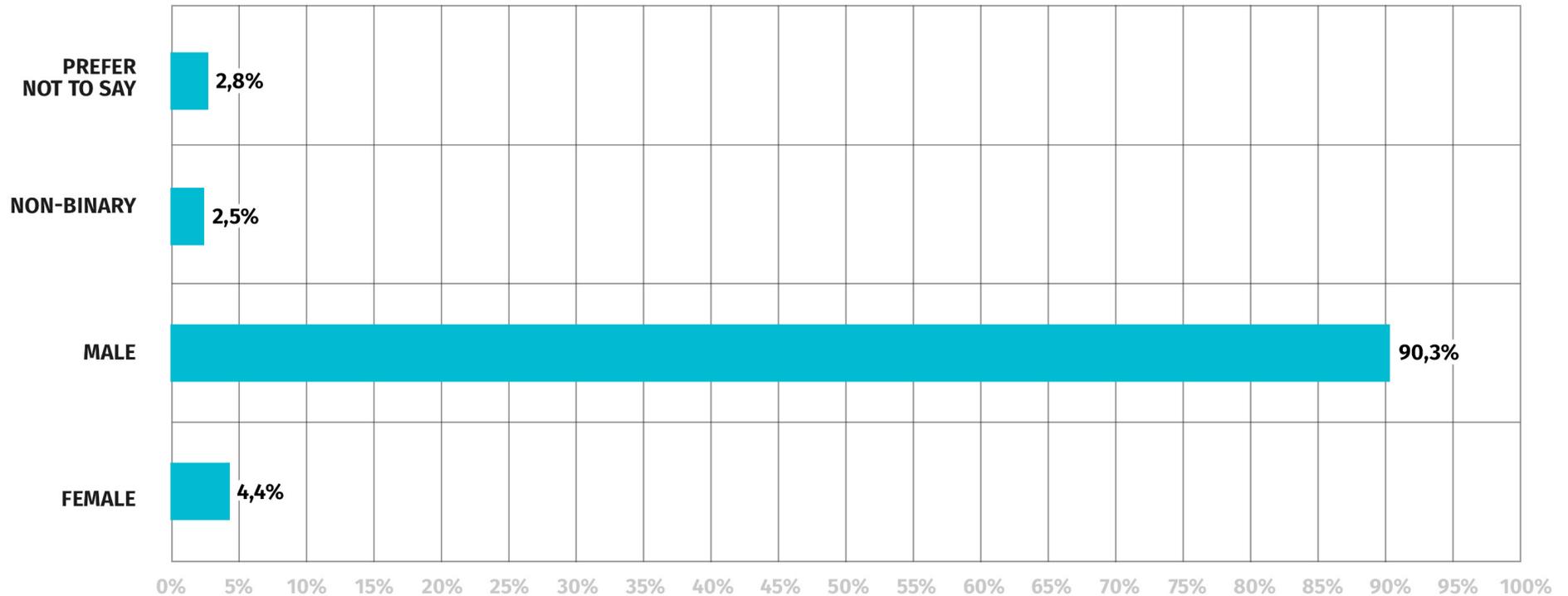
434 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

With 434 total answers, top responses were 26-35 (42,4%), followed by 36-45 (26%), 18-25 (18,2%), and 46-55 (6,5%). We had 6% of the responses from people below 18 years old, 0,9% of those 56-65, and none 66+.

# DEMOGRAPHY

## 03. WHAT IS YOUR GENDER?



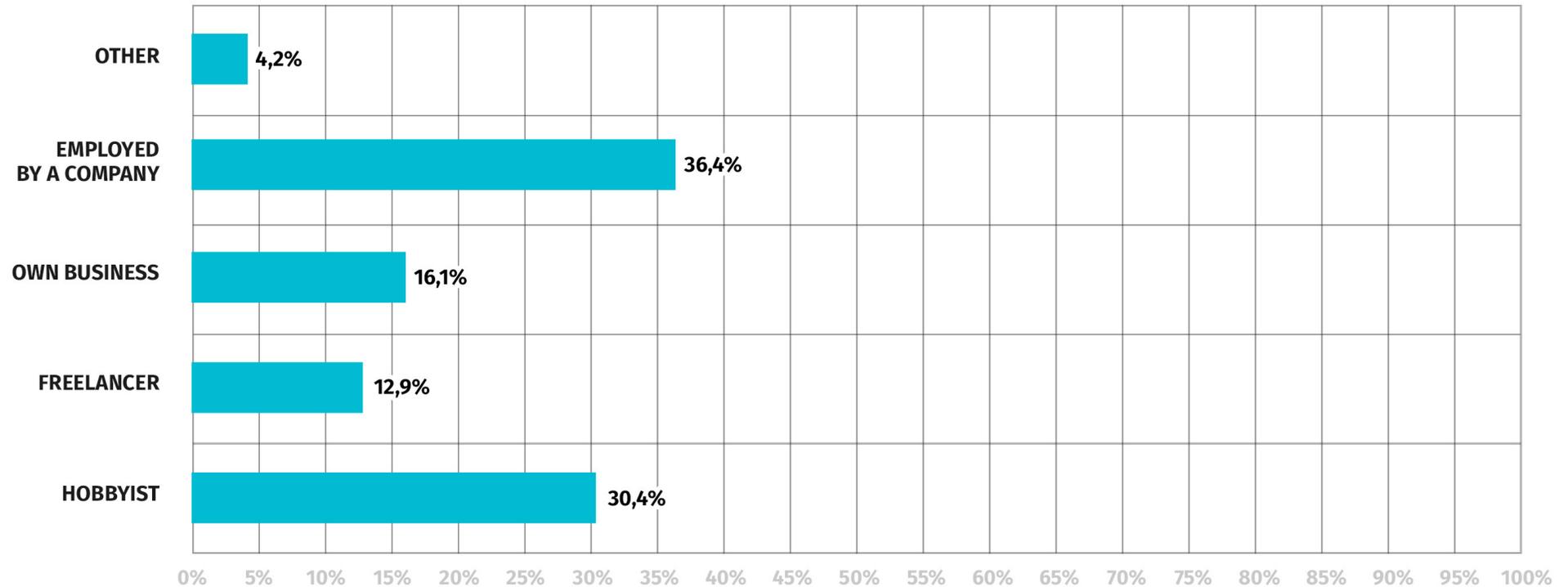
435 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Males are the majority with 90,3% of the 435 answers, followed by 4,4% from females, and 2,5% (11 responses) non-binary. Also, 2,8% (12 responses) preferred not to say.

# WORK EXPERIENCE

## 04. YOUR JOB STATUS



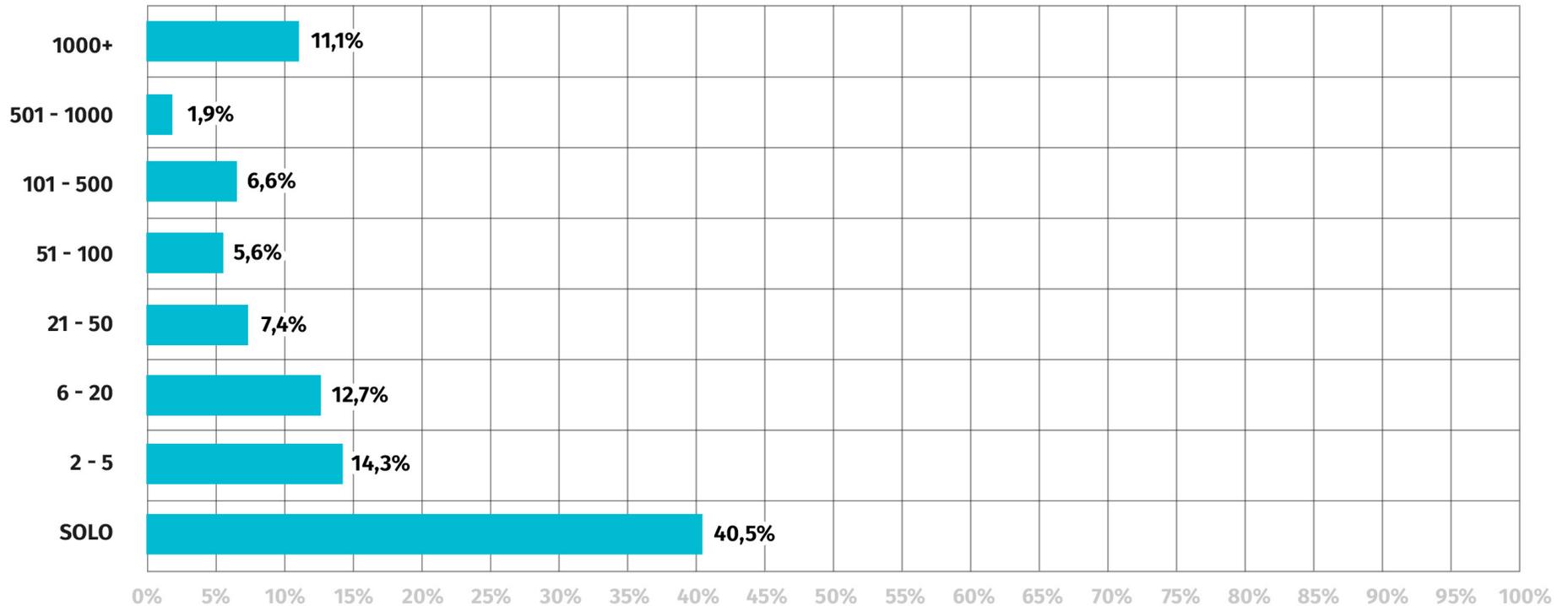
434 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

More than one third of the 434 answers went for being employed (36,4%), followed by hobbyists (30,4%), those running their own businesses (16,1%) and freelancers (12,9%). There were a few answers about being a student, some professors and teachers as well, and even one “all of the above”.

# WORK EXPERIENCE

## 05. IF YOU WORK PROFESSIONALLY, WHAT IS THE SIZE OF YOUR COMPANY?



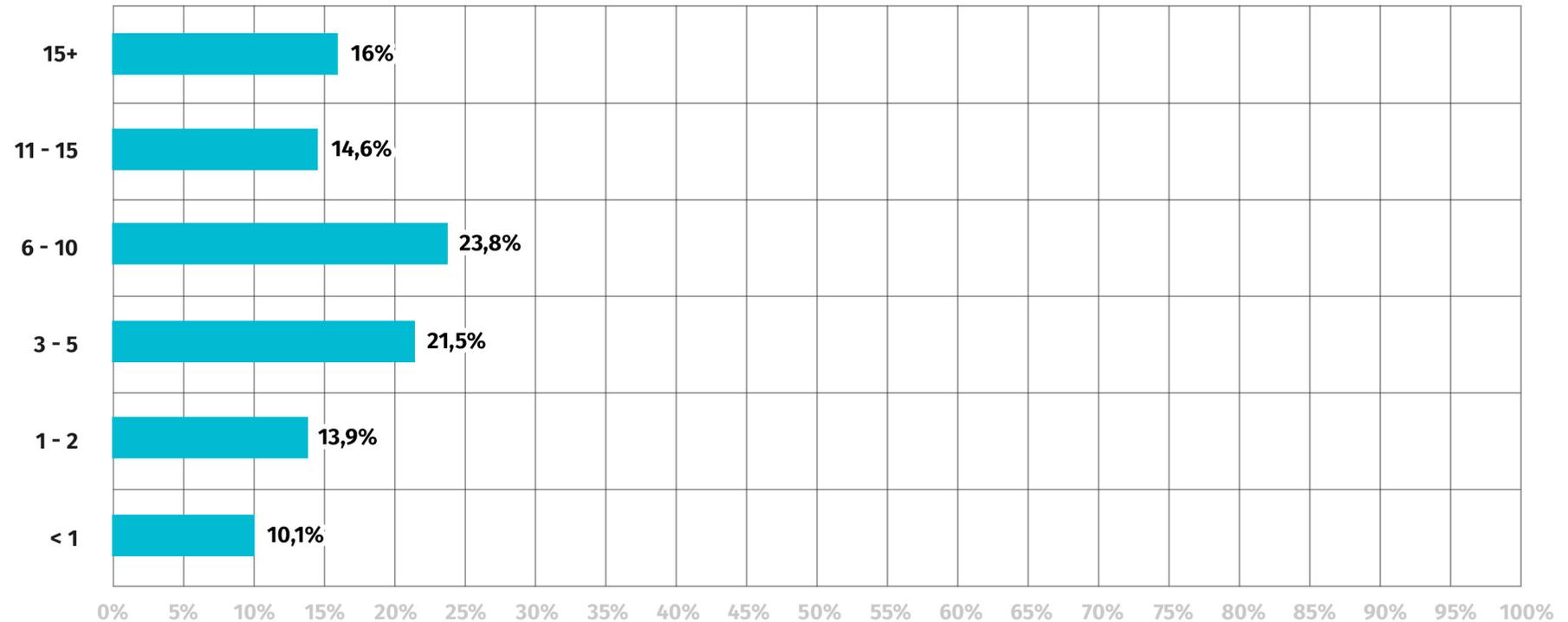
378 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Out of 378 answers, 40,5% claim to be solo devs, with the second place being a team of 2-5 people (14,3%), and third 6-20 (12,7%). It's interesting to see the 1000+ companies taking fourth place with 11,1% answers.

# WORK EXPERIENCE

## 06. YEARS OF WORK EXPERIENCE



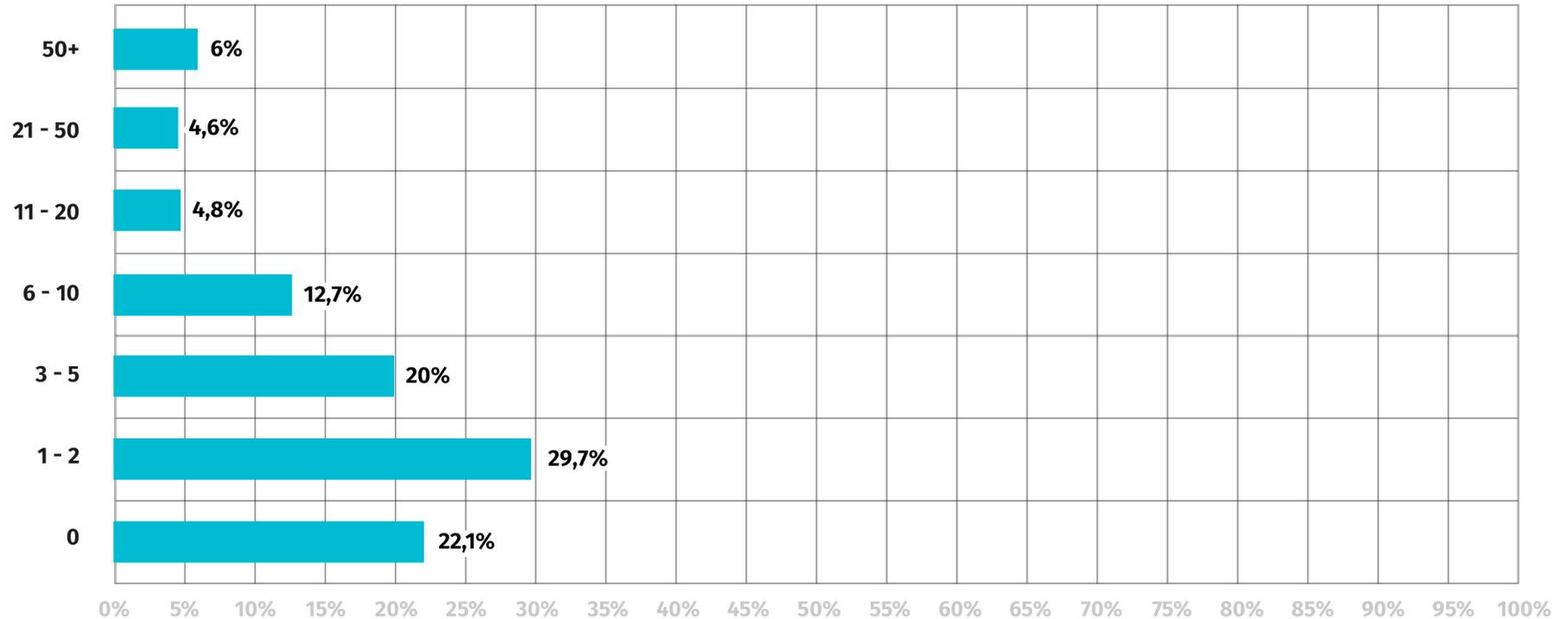
424 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Answers to this question were spread evenly: out of 424 replies, the most popular one was 6-10 years (23,8%). People having less than one year of work experience totaled up to 10,1%, and more than fifteen years to 16%.

# WORK EXPERIENCE

## 07. HOW MANY GAMES HAVE YOU RELEASED SO FAR?



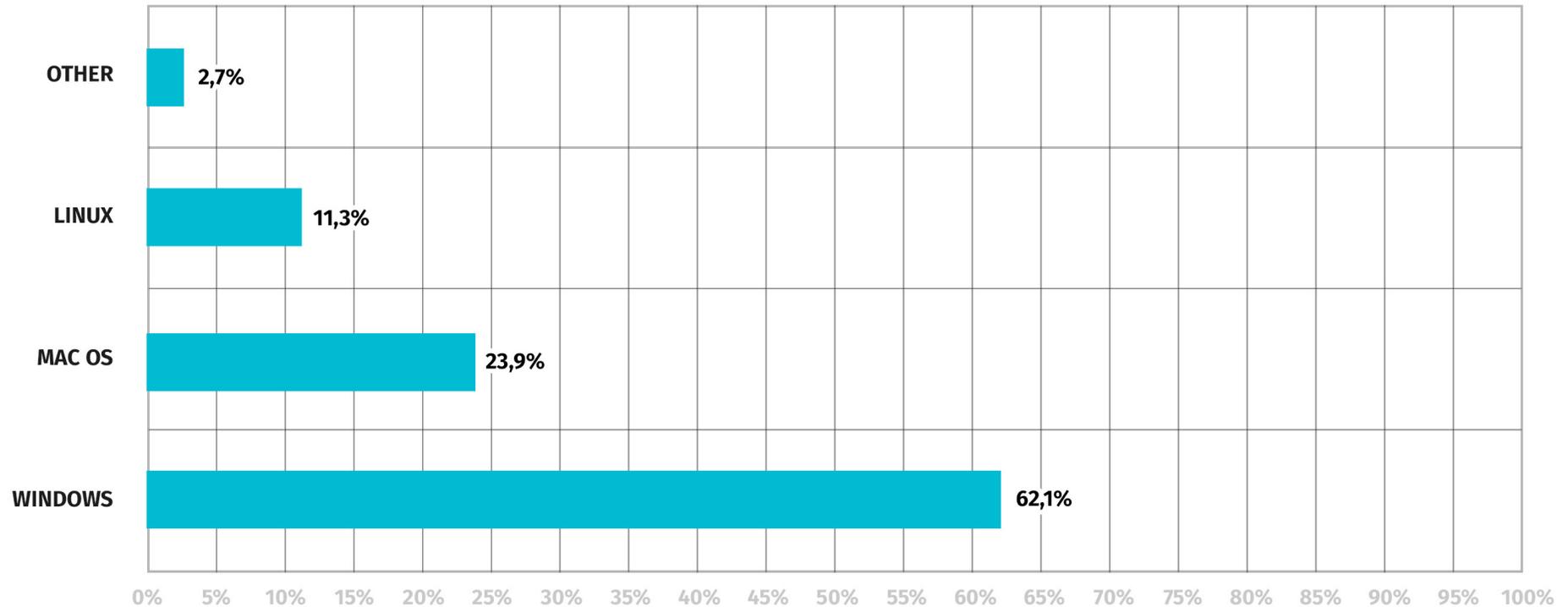
434 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Most popular answer among 434 replies was 1-2 (29,7%), with 0 being second (22,1%), and 3-5 third (20%). It might be a big surprise to see 96 game developers answer they haven't released a single game yet. On the other hand, 26 of the devs taking part in the survey (6%) released more than 50 games, wow!

# DEVELOPMENT

## 08. WHAT OPERATING SYSTEM ARE YOU MAINLY USING TO DEVELOP YOUR GAMES?



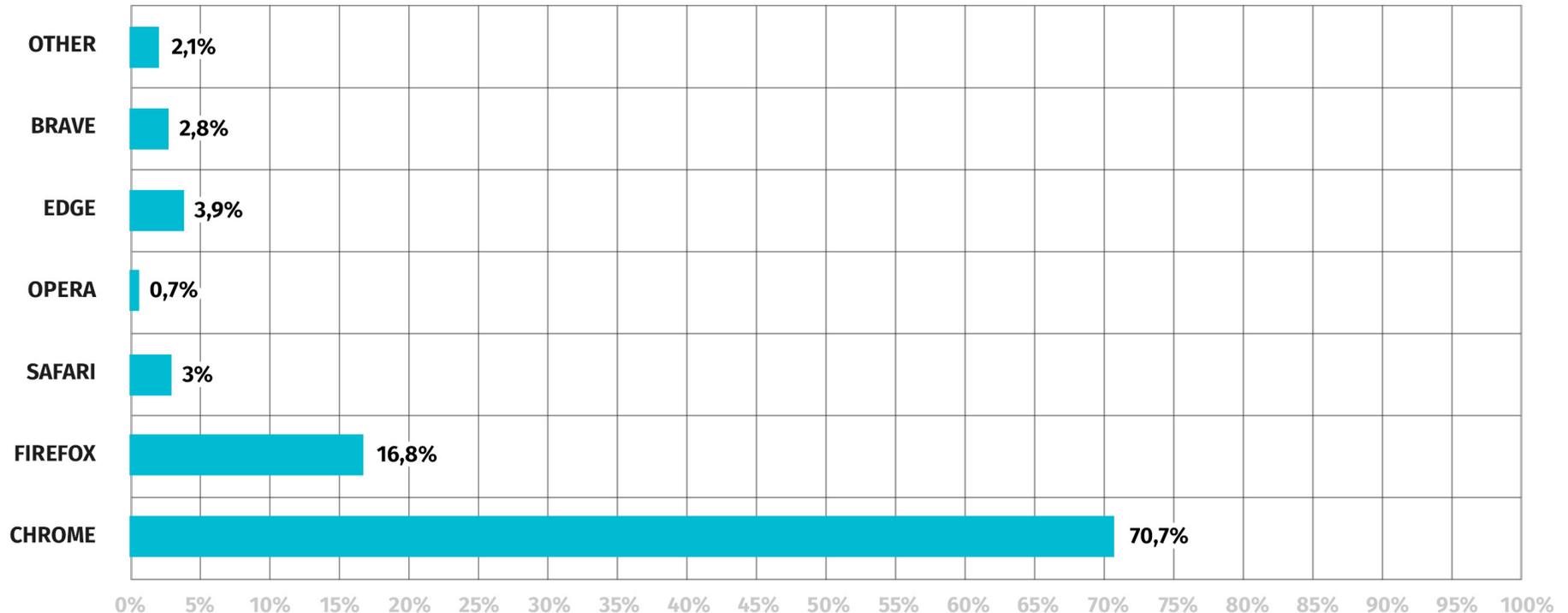
435 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

There was 62,1% out of 435 answers for Windows, 23,9% for MacOS, and 11,3% for Linux. Other noticeable answers include “anywhere where the Web goes”, and one for Chrome OS.

# DEVELOPMENT

## 09. WHICH BROWSER ARE YOU USING AS A MAIN DEVELOPMENT ONE?



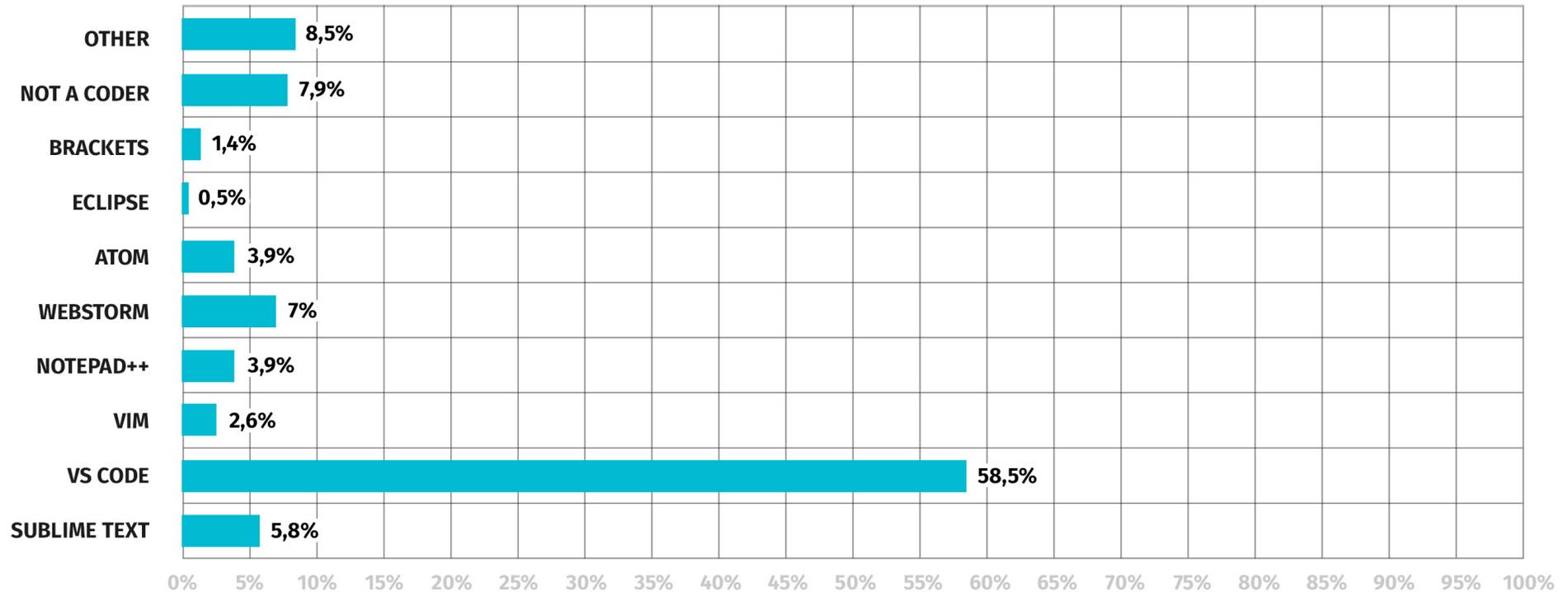
434 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

The sentiment is similar to the front-end development community: 70,7% for Chrome, 16,8% for Firefox, and then Edge (3,9%), Safari (3%), and Brave (2,8%), totaling in 434 answers. The long tail contained five people using Vivaldi and five as well using Opera (two of them - Opera GX specifically).

# DEVELOPMENT

## 10. WHAT EDITOR ARE YOU USING TO CODE (THE MOST)?



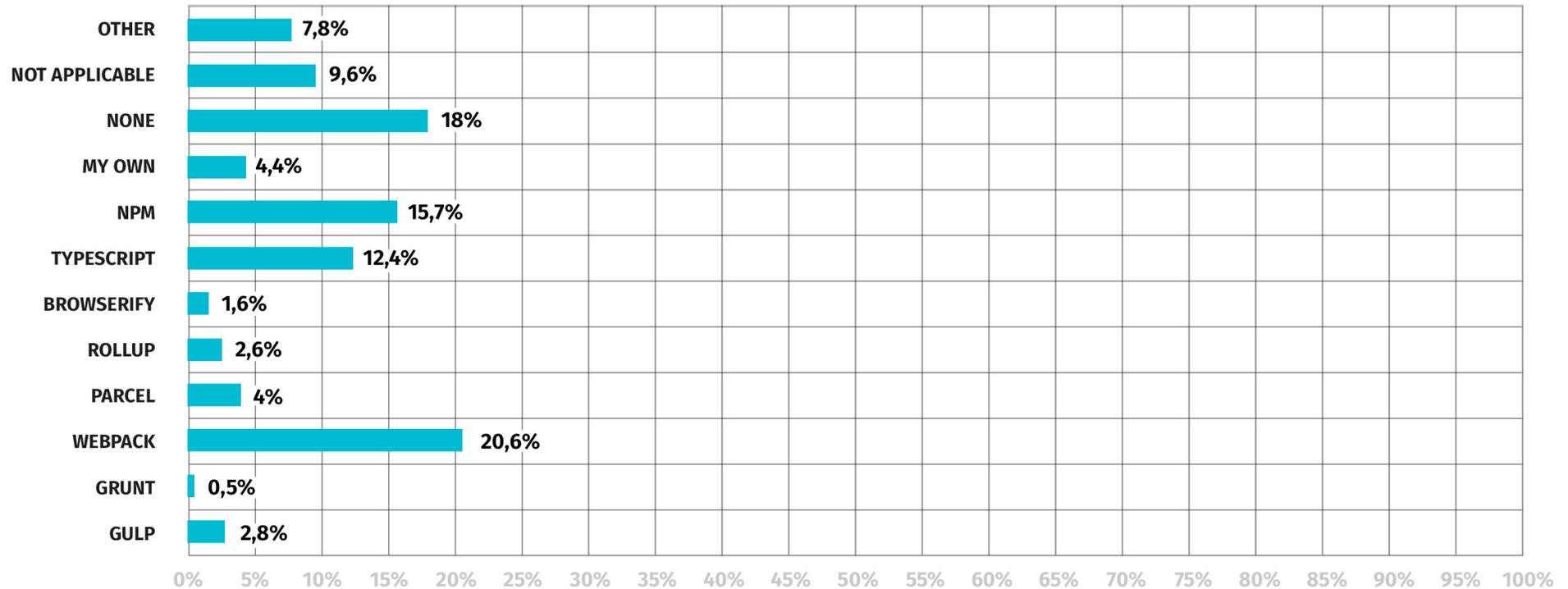
431 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

The most popular editor is definitely VS Code (58,5%) being in more than half of the answers, followed by WebStorm (7%) and Sublime Text (5,8%). There were 34 answers (7,9%) out of a total of 431 stating the person submitting the survey is not a coder. Single answers included Vim, Emacs, Nova, Monaco, and even... Dreamweaver.

# DEVELOPMENT

## 11. WHAT BUILD TOOLS ARE YOU USING (THE MOST)?



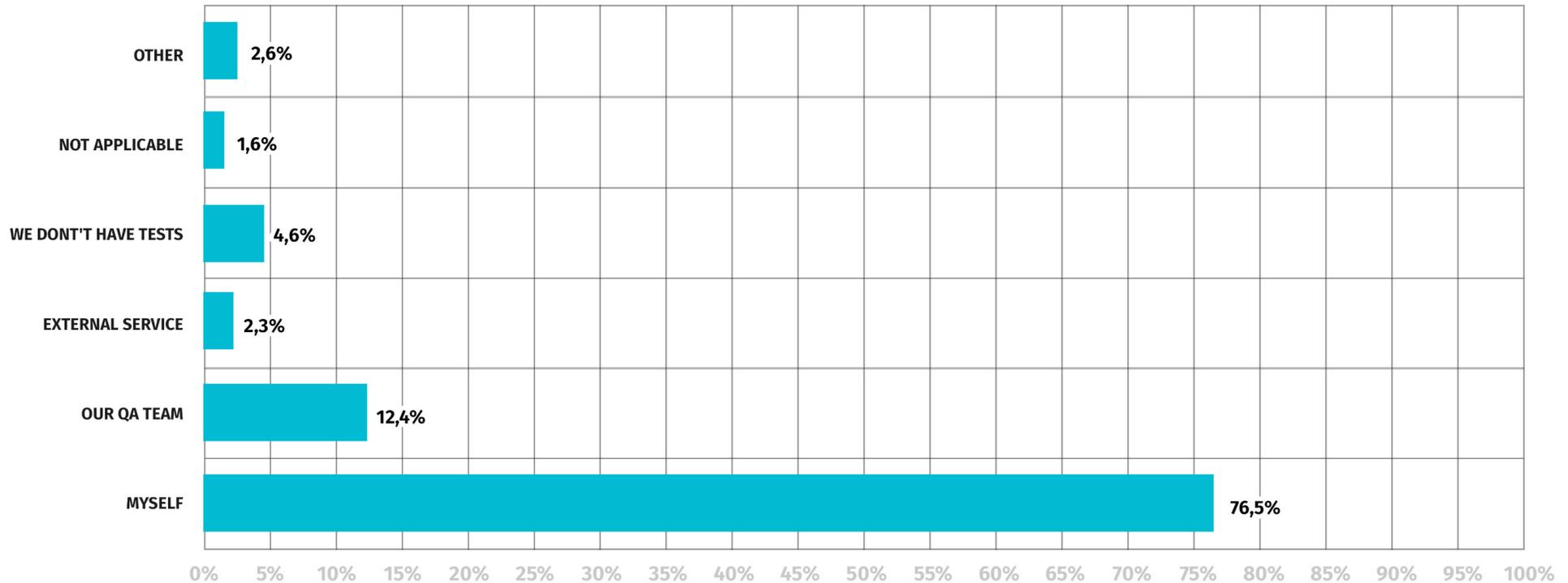
428 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

The most popular answer was Webpack (20,6%), with “none” being the second (18%), and NPM the third (15,7%). There’s a long tail of various tools people are using: from Snowpack, Haxe and Emscripten, through engine-specific tooling, to Bash.

# DEVELOPMENT

## 12. HOW DO YOU TEST YOUR CODE?



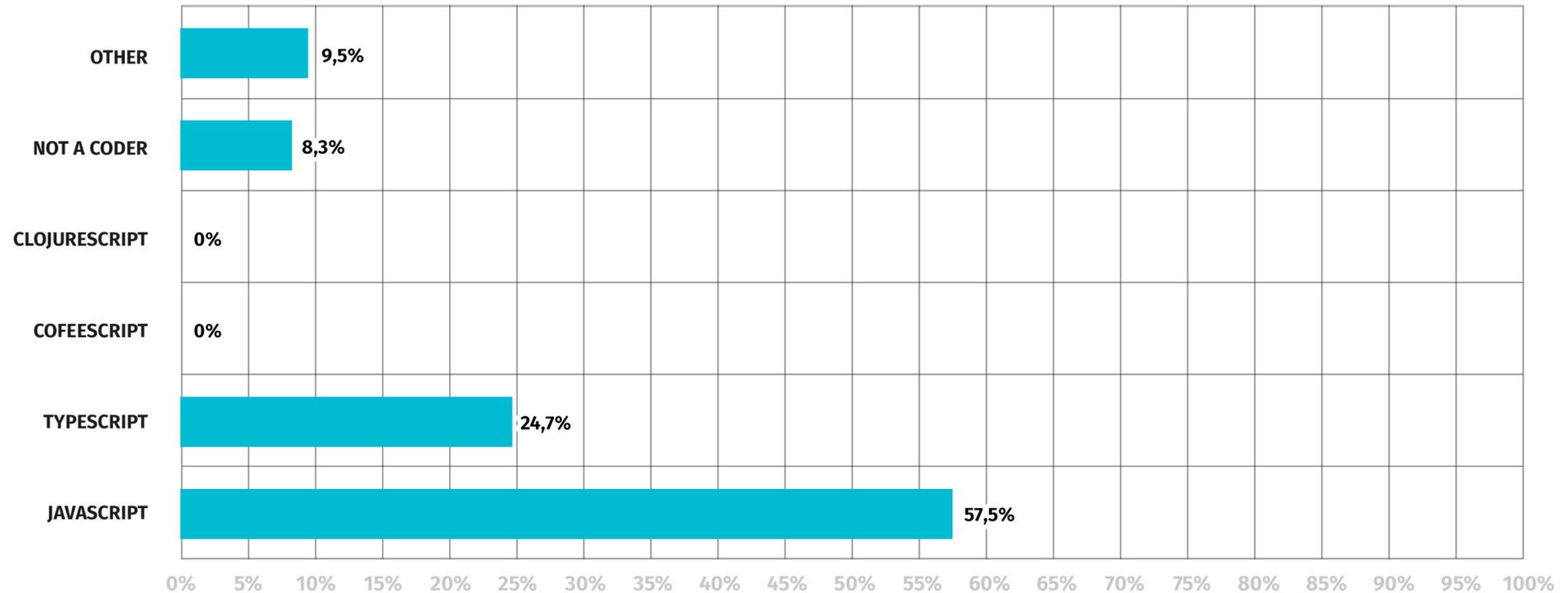
434 ANSWERS

 **GAMEDEV.JS**  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

More than three quarters of all the answers (76,5%) went for “myself”, with only 12,4% having their own Quality Assurance team, and 4,6% not having tests at all. There were answers like community, automated and unit tests, continuous integration, friends, to “random kids”.

# DEVELOPMENT

## 13. WHAT LANGUAGE ARE YOU USING TO WRITE CODE?



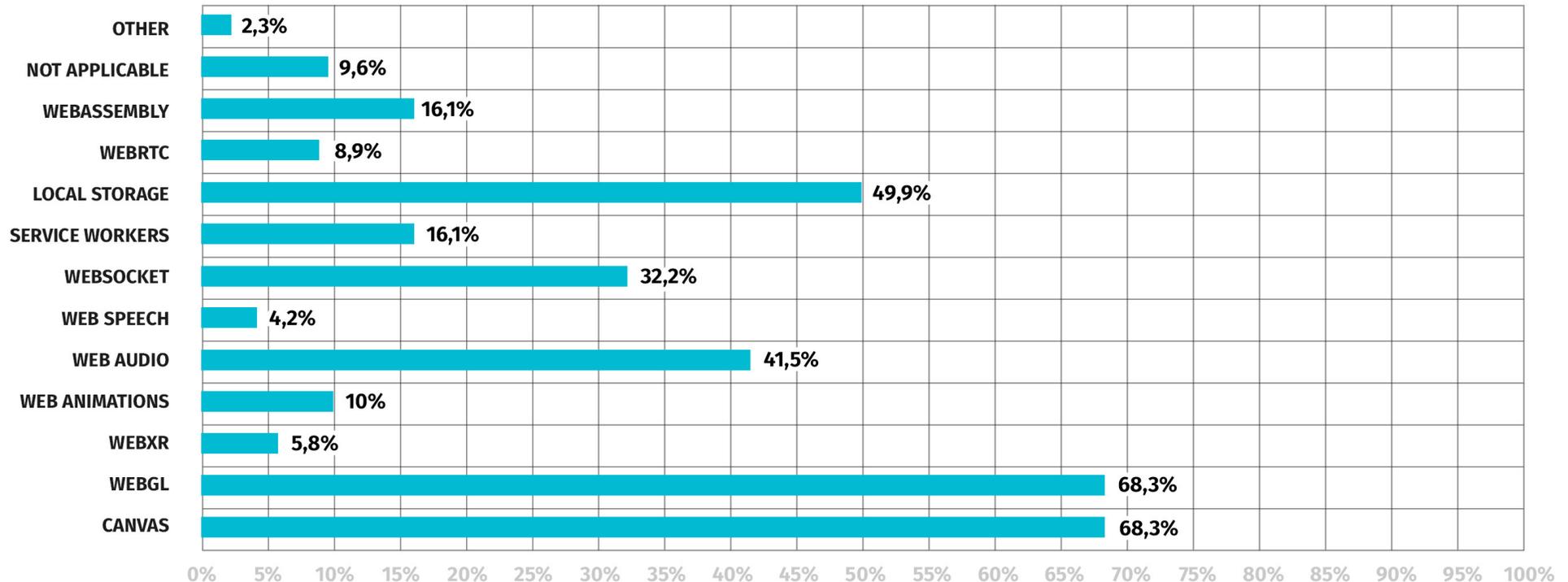
433 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

A bit more than a half (57,5%) is programming in JavaScript, while 24,7% is doing that in TypeScript, and 8,3% are not coders. Other answers included Lua, Rust, Haxe, Dart, and even C/C#/C++ or jQuery.

# DEVELOPMENT

## 14. WHAT TECHNOLOGIES / APIS ARE YOU USING? MULTIPLE CHOICE



429 ANSWERS

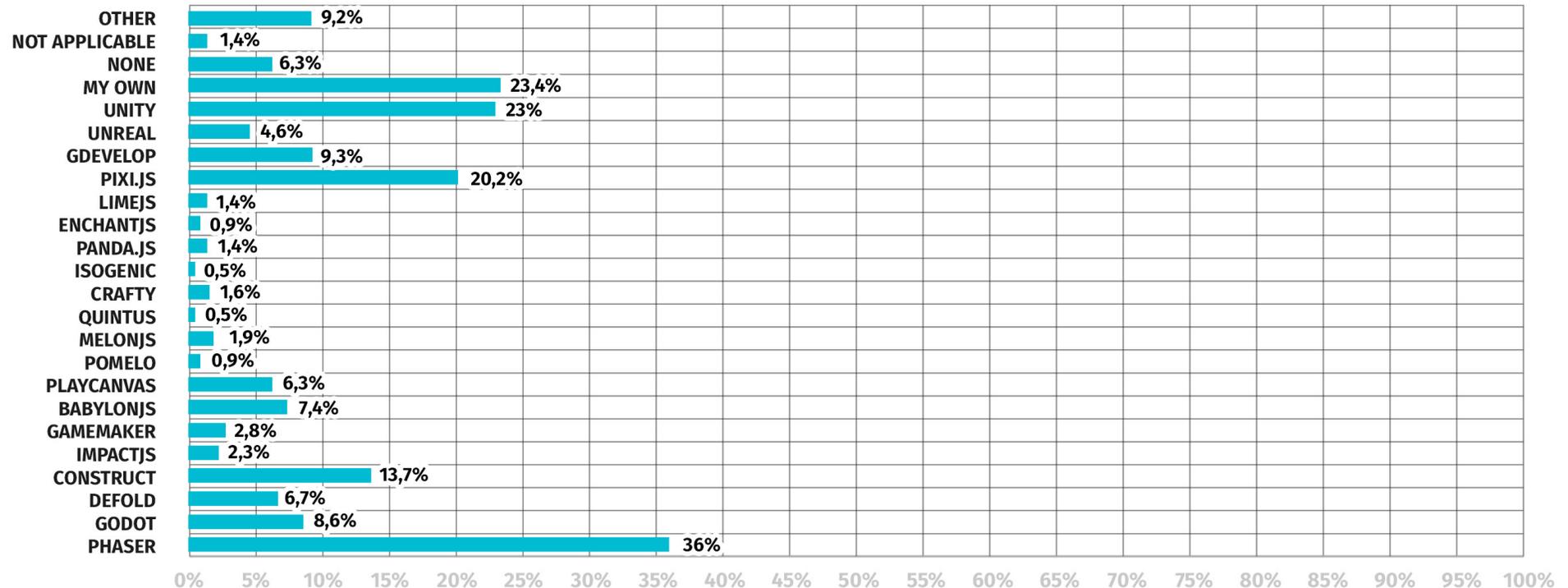
 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

In this multiselect question, Canvas and WebGL got the exact same number of answers (68,3%), with Local Storage being the third (49,9%), Web Audio (41,5%), and Web-Socket (32,2%) closing top five. WebXR was picked by 5,8%, and Web Speech 4,2%. Among the other answers you could find WebGPU and Good Old Fashioned DOM (I bet that's the jQuery person).

# DEVELOPMENT

## 15. WHICH FRAMEWORKS / ENGINES ARE YOU USING?

MULTIPLE CHOICE



431 ANSWERS

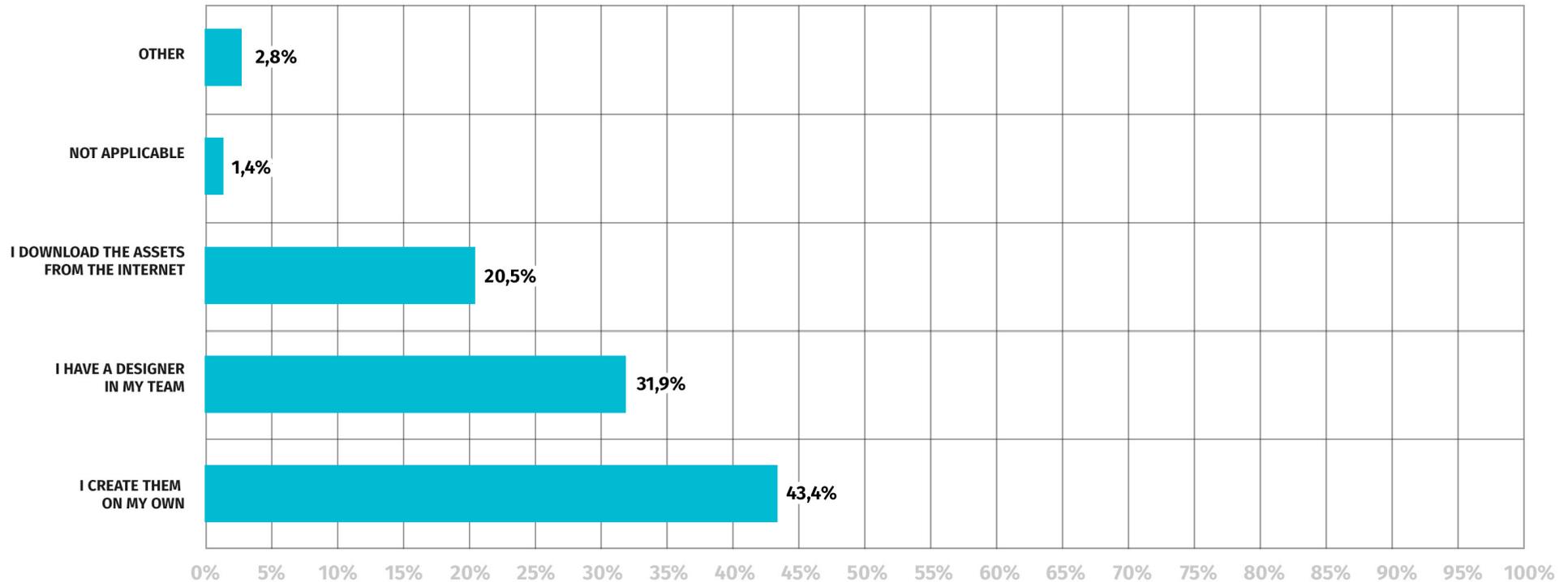
 GAMEDEV.JS

[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

The first place was taken by Phaser (36%), followed by “my own” (impressive 23,4%), and quite surprising - Unity (23%). Pixi.js was fourth (20,2%), and Construct fifth (13,7%). A long tail of answers included A-Frame, React, Roblox, Cocos2D, and even Kontra.js, Goodluck, or... Drupal.

# GRAPHIC DESIGN

## 16. WHERE ARE YOU GETTING YOUR GRAPHIC DESIGN ASSETS FROM?



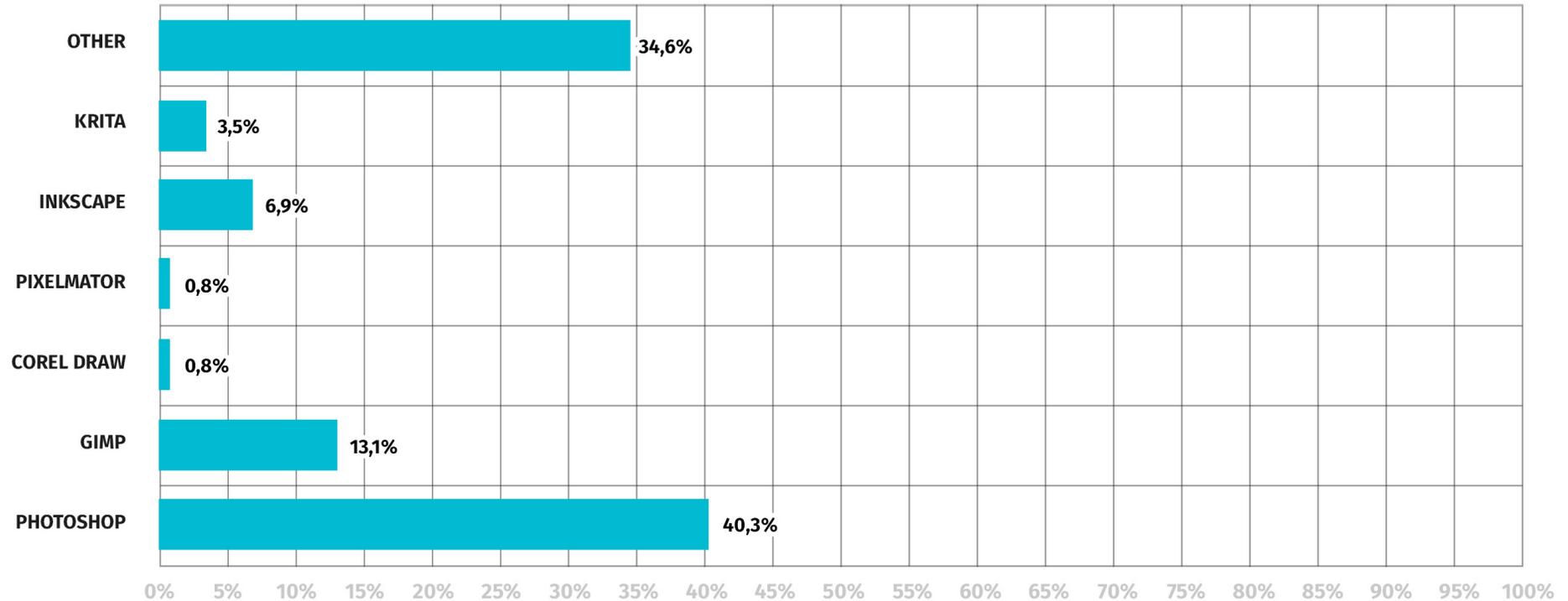
429 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Most of the graphic design assets are created by the developers themselves (43,4%), followed by having a designer in the team (31,9%), and downloading the assets from the Internet (20,5%). Other answers include hiring contractors and freelancers.

# GRAPHIC DESIGN

## 17. IF YOU CREATE GRAPHIC DESIGN ASSETS, WHAT TOOL ARE YOU USING (THE MOST)?



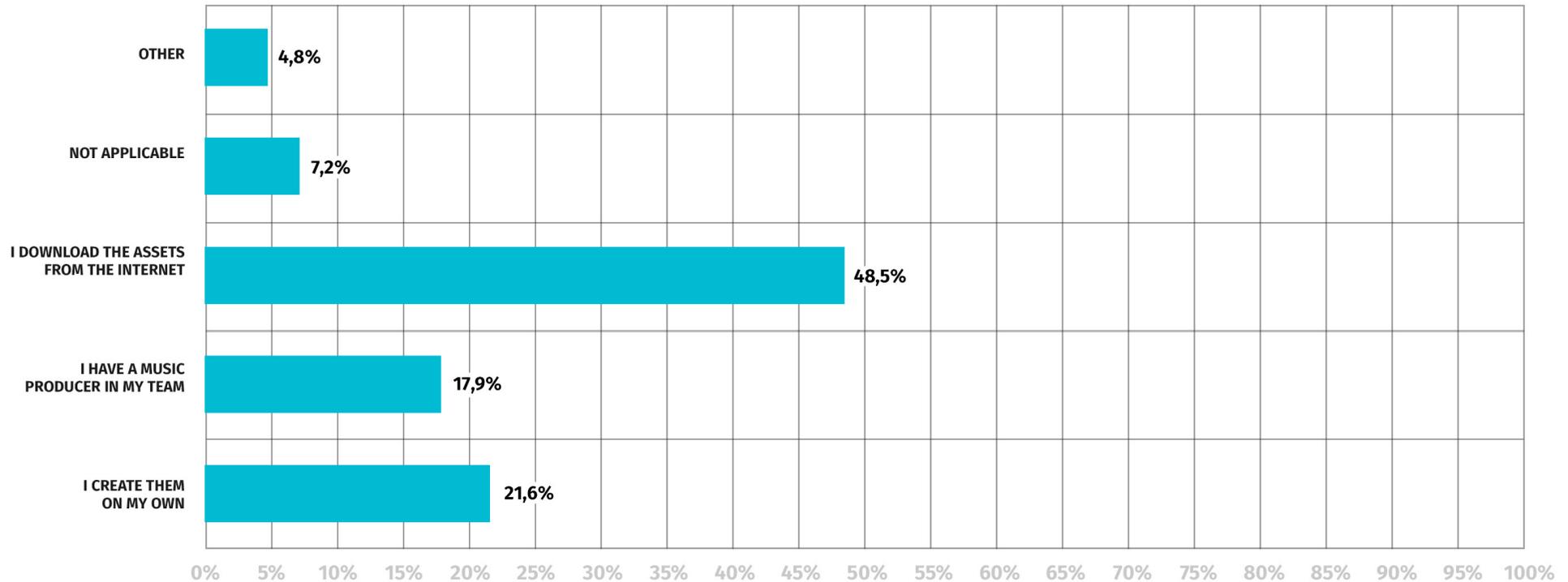
375 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Given 375 answers to this question out of 437 submitted total, the most popular tool is definitely Photoshop (40,3%), with GIMP (13,1%), Aseprite (9,1%), and Inkscape (6,9%) right after. There's a whole variety of other tools used by the devs: they gave 68 different answers to this question!

# SOUND AND MUSIC

## 18. WHERE ARE YOU GETTING YOUR SOUND AND MUSIC ASSETS FROM?



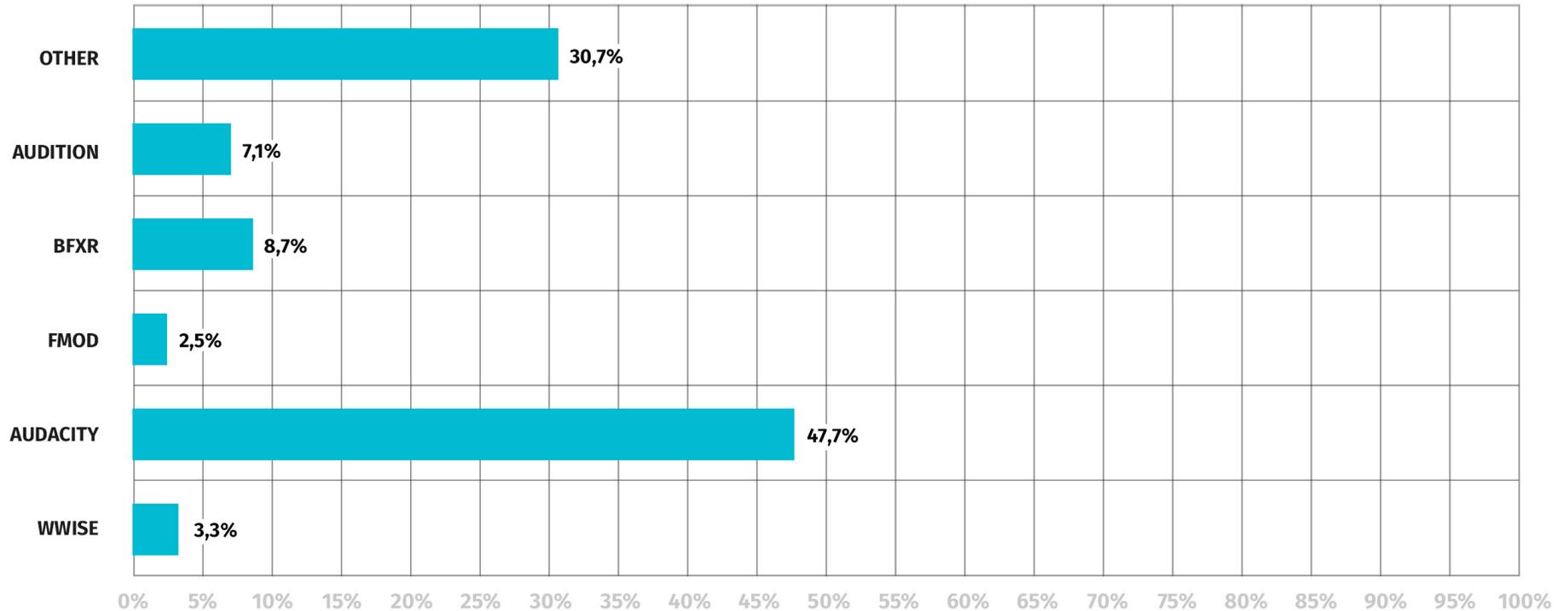
431 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Almost half of the sound and music assets are downloaded from the Internet (48,5%), while more than one fifth is created by the developers themselves (21,6%), and the third answer was having a producer in the team (17,9%). Freelancers were the most popular answer among the others.

# SOUND AND MUSIC

## 19. IF YOU CREATE SOUND AND MUSIC ASSETS, WHAT TOOL ARE YOU USING (THE MOST)?



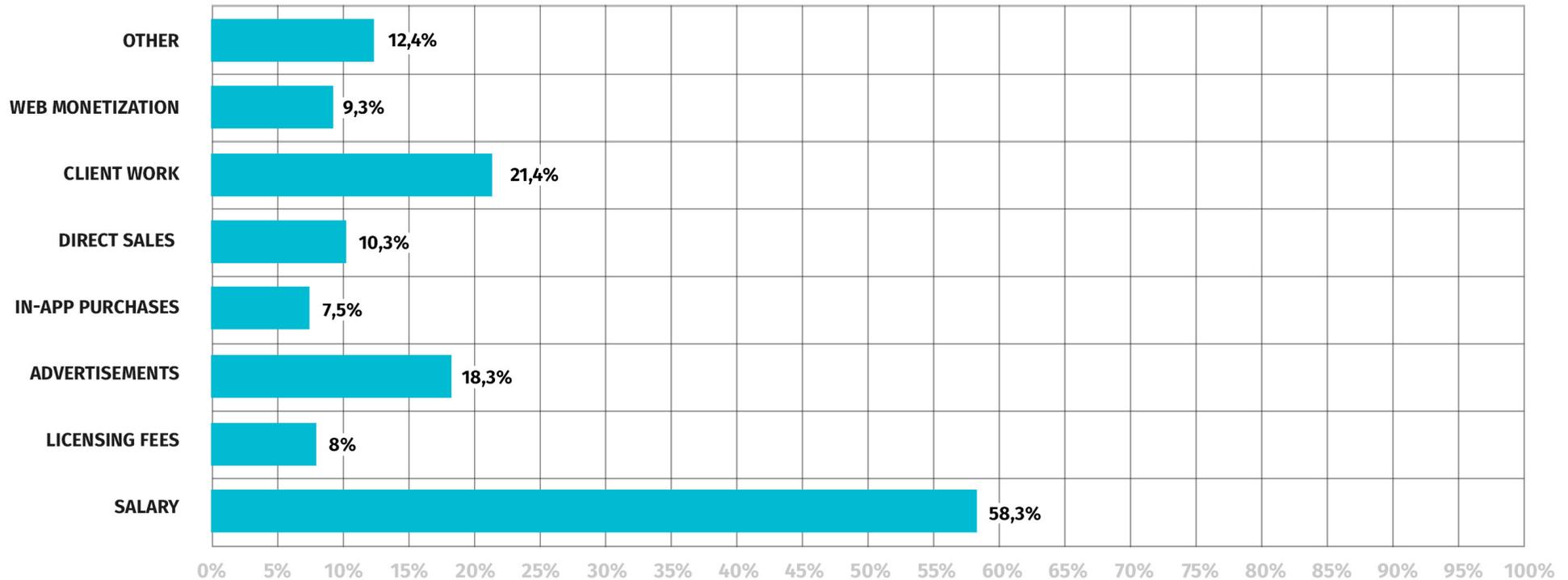
241 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Out of the 241 answers, almost half is using Audacity (47,7%), with the second Bfxr taking only 8,7%, and Audition 7,1%. There's a whole lot of tools to use as this question received a total of 67 different answers.

# MONETIZATION

## 20. WHAT IS YOUR SOURCE OF INCOME? MULTIPLE CHOICE



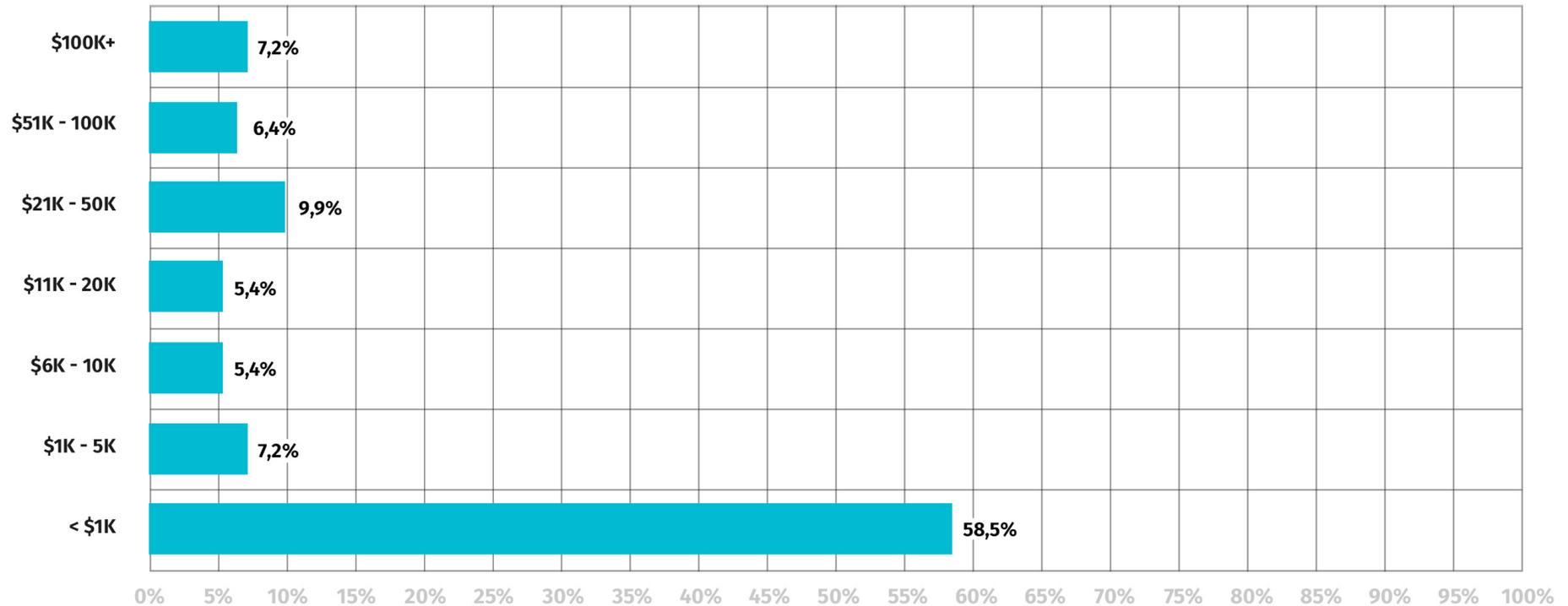
398 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

In this multiselect question we received a total of 398 answers, out of which the majority is earning money off of their salary (58,3%), while client work was second (21,4%), followed by advertisements within games in third (18,3%). Web Monetization is quite high on the list - 5th place with 37 answers (9,3%). Other options include “none”, “my parents”, donations, and teaching among the most popular ones.

# MONETIZATION

## 21. HOW MUCH MONEY ARE YOU EARNING FROM GAME DEVELOPMENT (YEARLY ESTIMATE)?



405 ANSWERS

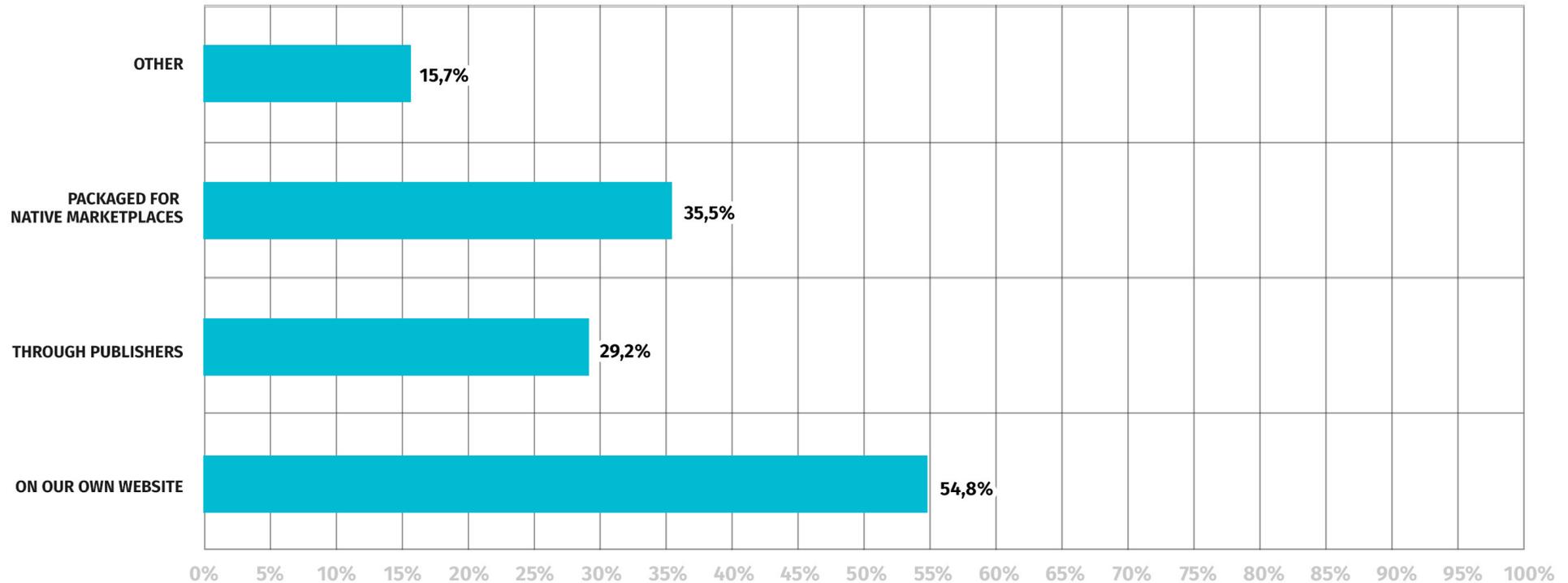
 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

It's quite sad to see the majority (58,5%) earning less than \$1000 a year - that's 237 answers out of the 405 total. The rest of the answers were spread more or less evenly, including 7,2% (29 answers) earning \$100k+ a year - those might be the ones that made more than 50 games, or are working for a 1000+ employee company.

# PUBLISHING

## 22. HOW DO YOU PUBLISH YOUR GAMES?

MULTIPLE CHOICE



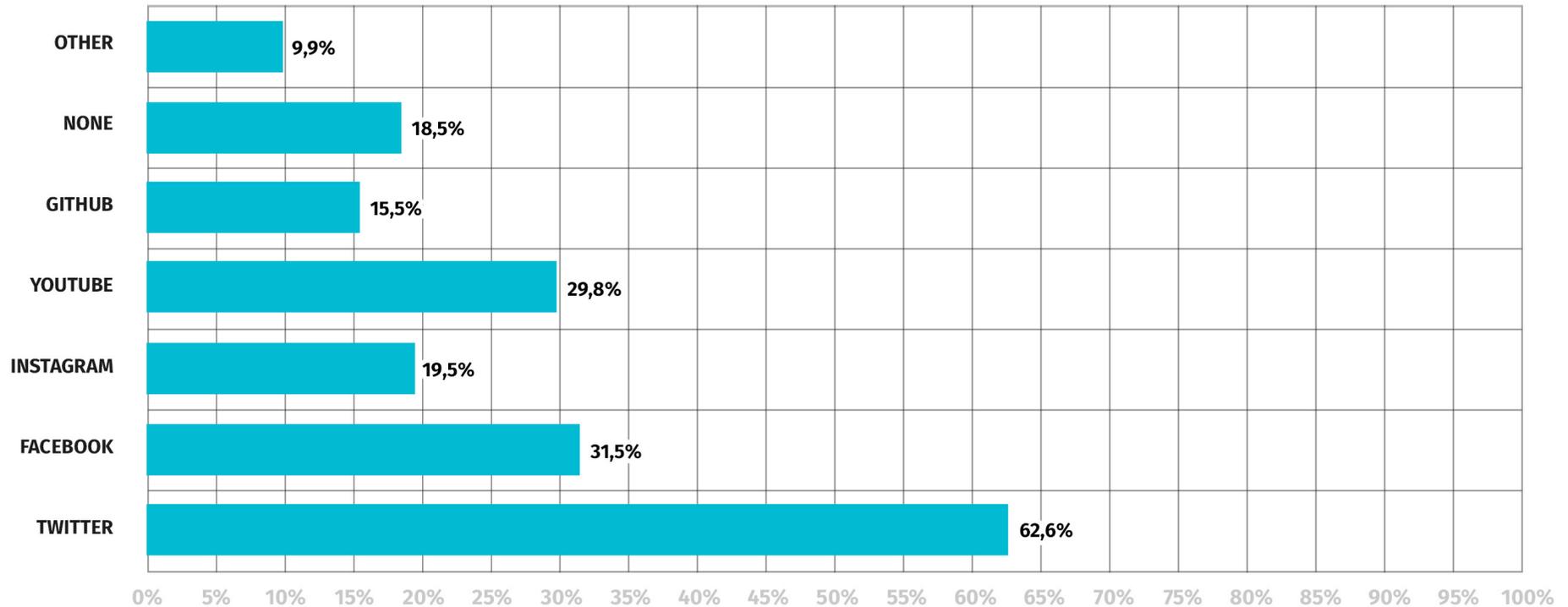
383 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Another multiselect question, with more than a half publishing on their own website (54,8%), where native marketplaces took 35,5%, and publishers 29,2%. The most popular other answers were Itch.io along with “nothing published”, but also client websites.

# PUBLISHING

## 23. WHICH (SOCIAL) PLATFORMS DO YOU USE TO PROMOTE YOUR ACTIVITIES? MULTIPLE CHOICE



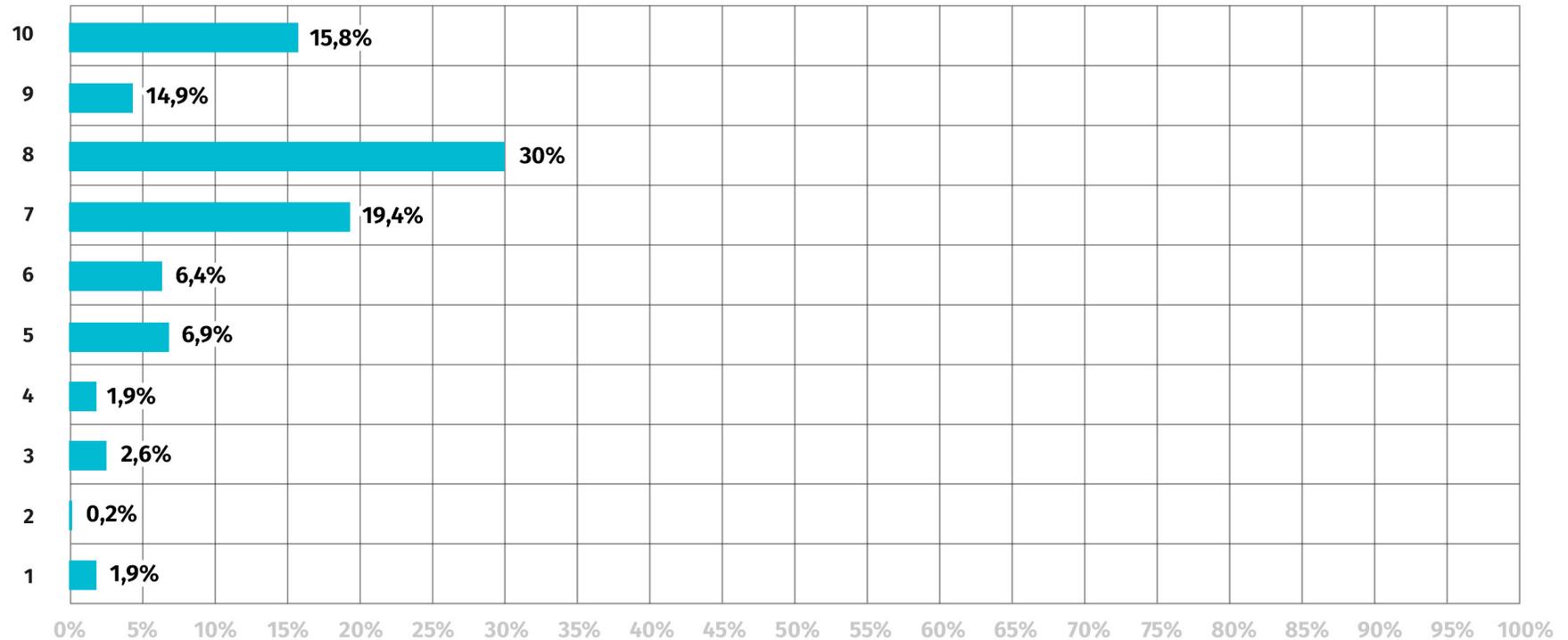
406 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

Twitter is the most popular platform (62,6%), with Facebook (31,5%) and YouTube (29,8%) behind, while “none” selected 75 people (18,5%). Long tail include Discord, Reddit, Twitch, LinkedIn, Cinnamon, Telegram, and even TikTok.

# HAPPINESS

## 24. WHAT'S YOUR OVERALL HAPPINESS OF WHAT YOU DO AS A GAME DEVELOPER (10 - THE HAPPIEST)?



423 ANSWERS

 GAMEDEV.JS  
[gamedevjs.com/survey/2021/](https://gamedevjs.com/survey/2021/)

It's really great to see more than 85% of all the 423 answers being positive about their happiness and answering between 6 and 10. The happiest are 67 people (15,8%), while the most popular answer was 8 (30%), and only 8 people (1,9%) answered with 1 (if you did, please get in touch - we'd like to help!).

# HAPPINESS

## Question #25: Are there any specific issues or struggles you're having when developing games?

Out of the 210 answers to this open question, many mentioned lack of free time, but also missing motivation to start or finish the project, poor documentation, browser compatibility issues, need to support older devices, monetization struggles, lack of work-life balance, even depression, and much more. Those answers have to be studied more to help devs with their problems.

# CLOSING REMARKS

## Question #26: Anything else you'd like to add?

This was set up to receive anything related to the survey, and it was usually used to send good vibes our way, for which we're really thankful! Out of the 78 answers, some mentioned that the HTML5 game development is going in the right direction, some reiterated their struggles from the previous question, but in general the message was that we need to work as a community to make our lives easier, team up with random folks from the Internet, and build great games together.

Also, exactly 284 people out of those 437 left their email addresses to be notified about the results, which is cool!

# SUMMARY

Thank you again for being involved! If you have any questions, feedback about the survey itself, or any other inquiries, please get in touch via email. You can also follow @Gamedevjs on Twitter, or join our Discord server.

Don't forget to take part in the Gamedev.js Jam 2021 and subscribe to the Gamedev.js Weekly newsletter as well.

This Survey was supported by the Grant for the Web program. See you next year!