## **Assignment 5: Product Analytics and Research Methods**



## 1. Number of software developers in USA

According to U.S. Bureau of Labor Statistics report <u>National employment and wage data from the Occupational Employment Statistics survey by occupation</u>, May 2014, there are total 1 492 040 developers, splitted in programmers (302 150), application developers (686 470), systems developers (382 400) and web developers (121 020) on Fig. 1. Total software developers are 1 068 870 people.



Fig. 1. - Software developers in USA.

#### 2. Estimate number of C# developers in the world

We used the following estimations to detect number of C# developers:

Search frequency. This is a fairly crude approximation of popularity, however, it's worth including.
 Taking the most popular c#-related keywords from stackoverflow API, we get following statistics from Google Adwords in Table 1, we can assume, that number of regular C# developers is ~5.42 millions of people.

Table 1. Google search average month requests for c#-related tags.

.net	c#	c-sharp	dotnet	visual- c#	csharp	c#.net	c#-6.0	c#-5.0	c#-langua ge	c#-4.0	c#-3.0	c#-2.0	Total avg month requests	
5000000	301000	49500	27100	12100	9900	9900	3600	3600	1600	720	390	170	5419580	

- 2. **Surveys and extrapolation.** According <u>stackoverflow developers survey</u> **31.6%** of auditory uses C#. We get upper limit as 31.6% × 7 200 000 000 (total worldwide software developers estimation) = 2 275 200 000 = ~2 275 millions of people. Developers estimation, who regularly use C#, is 31.6% × 32 000 000 = 10 112 000 = ~10.1 millions of people. We are free to start private exploration If we do not trust to external surveys..
- 3. **Public reports.** JetBrains <u>assumes</u>, that there are ~7.9 millions of C# developers. The same estimations is in report <u>Empirical Analysis of Programming Language Adoption</u>.
- 4. **Dynamics.** In order to get the dynamics, we accumulated <u>Google trends</u> (Fig. 1.), <u>githut.info</u>, <u>redmonk.com</u> (Fig. 2.) and can estimate, that c# has decreasing commitment.

So, our estimations that there are [5.4, 10.1] millions of C# developers with falling trend.

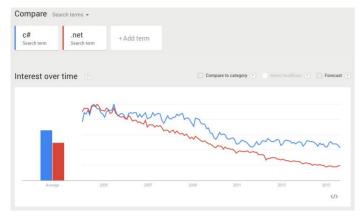
Lower Upper Trend

C# 5.4M 10.1M

Comparison of C# index with other languages could be found at <u>languages.com</u>, <u>TIOBE.com</u>, <u>openhub.net</u>. Demographic values could be found in report by <u>developermedia.com</u>.

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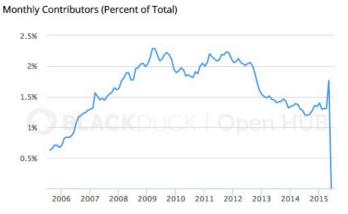


Fig. 2. - Openhub.net trends for C# contributors.

### 3. Singaporeans survey for IntelliJ IDEA meetup

This survey should be localized. Data cleaning could be made by name, age, filling time if required.

Question Field type Optional Variants Validation		Question	Field type	Optional	Variants	Validation
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#### Web Page 1. IntelliJ IDEA Meetup

你可以找到關於中國本次調查<u>在這裡</u>。 You can find this survey on Chinese <u>here</u>.

Hello, There! JetBrains invites the IDEA people to meetup and want to organize it ultimate way. That is why we would like to ask your opinion within 5 questions. By the way, we will have the drawing for cool presents to participants, so hurry up.

The information collected is for internal research purposes only and will not be publicly associated with your account.

1. Good place for IntelliJ IDEA Meetup is	Checkboxes + Other	Yes	Conference rooms Restaurant Cinema stage Coworking zone Open air Other (please specify)	No
2. Good time for IntelliJ IDEA Meetup is	Checkboxes + Other	Yes	Weekend, midday Weekend, evening Working day, evening Other (please specify)	No
3. What would you hope to get out of a IntelliJ IDEA Meetup?	Checkboxes + Other	Yes	Features demo Community members usecases Tips and best practices Free food and drinks Networking opportunities Hot news Souvenirs Pricing information Other (please specify)	

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4. Would you like to hear special guests?	Checkboxes	Yes	Yes, some presentations are interesting No, I would like to communicate directly	No			
5. Would you like to help us?	Checkboxes	Yes	Yes, sure)) No, I'm busy((	No			
Web Page 2. Please tell us a bit about yourself							
Name:	Text	No	No	Length > 3			
Company / Organization:	Text	No	No	Length > 3			
Email Address:	Text	No	No	Email			
Age:	Number	No	No	Value > 0			
Do not hesitate to put your additional ideas according IntelliJ IDEA Meetup or propose some help. We appreciate your commitment.	Text	Yes	No	No			
I agree to send personal data	Checkbox	No	Disclaimer:  By participating in a survey, you consent to the transfer of the information you submit to JetBrains s. r. o. The information collected is for internal research purposes only and will not be publicly associated with your account.	Checked			

### Web Page 3. Thank you!

Your opinion influences IntelliJ IDEA Meetup. We will notify you as soon as possible by your {%usermail%} address, so stay in touch. See you!

Best regards, IntelliJ IDEA Team