A Comperative Study : Java and Koltin

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Abstract
UPDATED—May 18, 2020. This paper presents the results of a comparative study about Kotlin and Java as programming languages for realizing Android Applications. In particular we cover different fields like complexity, coding costs, and code structure. Furthermore, we undertook a closer look at the features of Kotlin and Java. Conclusively we will go over which coding language fits beginners.

Author Keywords
Java; Kotlin; Application Development; Code Complexity;

CCS Concepts
•**Human-centered computing** → **Human computer interaction (HCI);** *Haptic devices;* User studies; Please use the 2012 Classifiers and see this link to embed them in the text: https://dl.acm.org/ccs/ccs_flat.cfm

Einleitung
Derzeit werden immer mehr Applikationen mit Kotlin entwickelt.[**?**] Diese Programmiersprache ist im Gegensatz zu Java relativ neu und wurde erstmals 2016 veröffentlicht. Zugleich ist Kotlin seit dem ersten Release als Open-Source-Software erhältlich und zielt im speziellen JVM (Java Virtual Machine) und Android an. In diesem Paper vergleichen wir Java mit Kotlin in den Aspekten Code Komplexität, Aufwand und Struktur. Darüber hinaus gehen wir auch auf einige

Figure 1: JetBrains Kotlin Logo. Photo: CC0 JetBrains s.r.o.

Figure 2: Java Technologies Java Logo CC0 Java Technologies.

Sprachfeatures die Kotlin und Java bieten ein.

Kotlin

Kotlin ist gleich wie Java eine objektorientierte Programmiersprache. In dieser Sprache geschriebener Code kann in Bytecode für die JVM (Java Virtual Machine) kompiliert werden. Mit Kotlin können große Teile der Java-Boilerplate-Codes[1] verhindert werden.

Java

Java ist eine objektorientierte Programmiersprache und besteht aus den JDK (Java-Entwicklungstools) und der JRE (Java-Laufzeitumgebung). Grundsätzlich wird diese Programmiersprache für die Android Entwicklung verwendet, weil sie sehr bekannt ist.

Lesbarkeit

Viele Entwickler meinen das Kotlin eine bessere Syntax als Java hat und deshalb besser zu lesen ist. Nun ein Beispiel zu dieser Aussage, wenn man versucht einen fremdsprachigen Text zu lesen ist es schwierig einen Satz zu verstehen ohne, dass man die Bedeutung der einzelnen Wörter kennt. Versteht man aber mehrere Wörter und den Kontext ist es einfacher den Text zu lesen. Deshalb hat die Wahl der Sprache keinen Einfluss auf die Lesbarkeit, solang der Kontext verständlich ist. Was die Lesbarkeit betrifft gibt es für Programmiersprachen keine objektiven Metriken.

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Please use an 8.5-point Verdana font, or other sans serifs font as close as possible in appearance to Verdana in which these guidelines have been set. Arial 9-point font is a reasonable substitute for Verdana as it has a similar x-height.

[1] Boilerplate-Code: Sind häufig verwendete und meist unveränderte Code-Snippets mit gleicher Funktion.

Figure 3: Insert a caption below each figure.

Please use serif or non-proportional fonts only for special purposes, such as distinguishing `source code` text.

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- Briefly define or explain all technical terms. The terminology common to your practice/discipline may be different in other design practices/disciplines.

[2] Use footnotes sparingly, if at all.

		Test Conditions	
Name	*First*	*Second*	*Final*
Marsden	223.0	44	432,321
Nass	22.2	16	234,333
Borriello	22.9	11	93,123
Karat	34.9	2200	103,322

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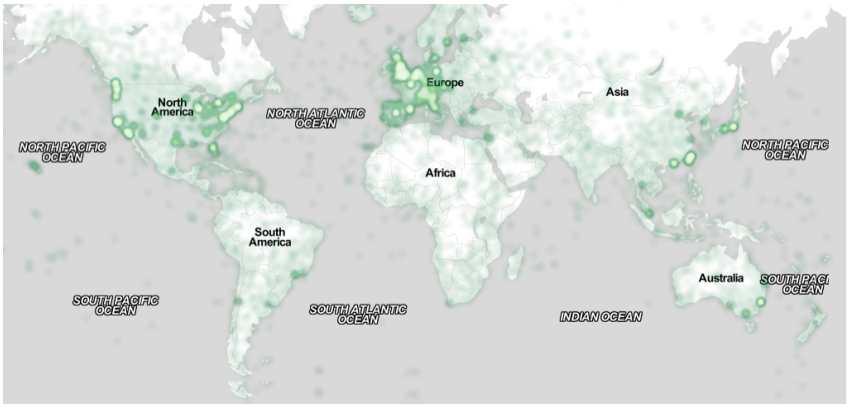

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	First	Location
Child	22.5	Melbourne
Adult	22.0	Bogotá
Gene	22.0	Palo Alto
John	34.5	Minneapolis

Table 2: A simple narrow table in the left margin space.

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