SE 216 – SOFTWARE PROJECT MANAGEMENT
SOFTWARE TOOLS DOCUMENT

PROJECT NAME: RecipeBank

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TASK #	PROJECT TASKS WHICH REQUIRE SOFTWARE TOOL SUPPORT
1	Programming Language
2	Database
3	Cloud Service
4	User Interface
5	IDE (Android & IOS)
6	IDE (Web)

SOFTWARE TOOLS FOR TASK 1:

Tool Cost/Training/Functionality Data

Tool	Java	Kotlin	Javascript	Python
Cost	0$	0$	0$	0$
Training Days	30	20	10	10
Functionality	80	60	40	70

Normalized Cost/Training/Functionality Data

Tool	Java	Kotlin	Javascript	Python
Cost	**100**	100	100	100
Training Days	**100**	66,7	33,4	33,4
Functionality	**100**	75	50	87,5

Normalized Tool Graph
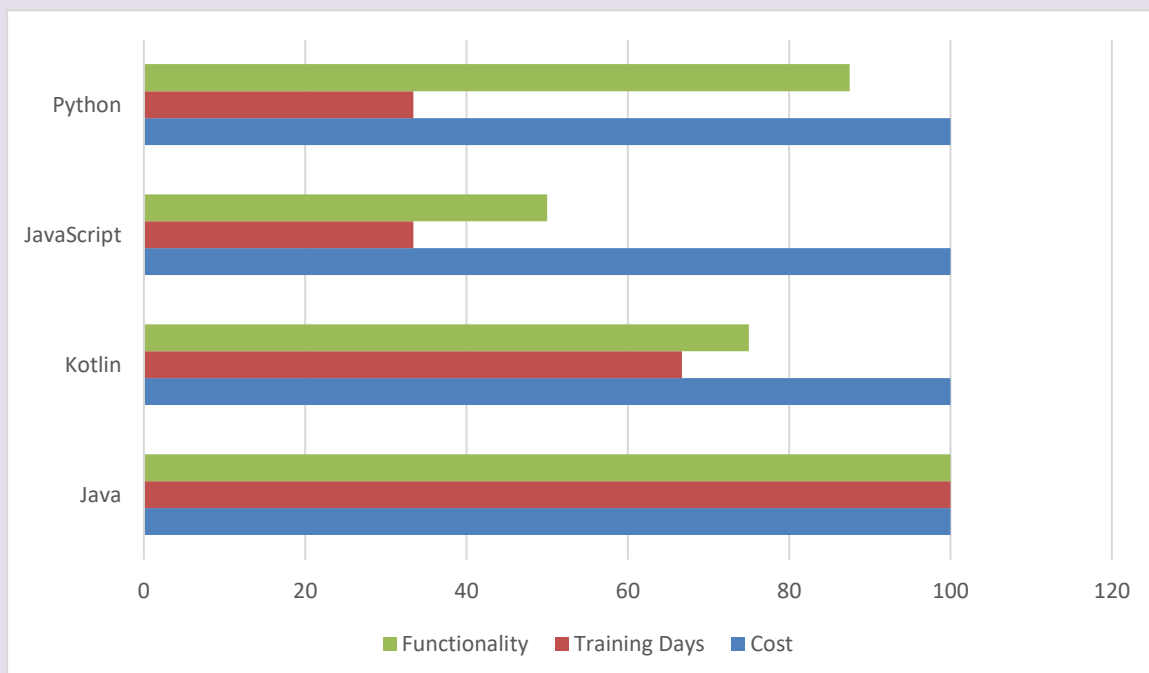
Which tool has been selected? Why?
Kotlin is an ideal choice for Android and IOS development because it is officially supported by Google, offers more concise and readable code compared to Java, encourages safe coding practices, and boasts advanced IDE integration. JavaScript, on the other hand, stands as the cornerstone language of the web, being supported by all modern browsers, compatible with various frameworks. Both languages are easy to learn, provide the best features of modern programming languages, and are continuously being developed and improved.

SOFTWARE TOOLS FOR TASK 2:

Tool Cost/Training/Functionality Data

Tool	Firebase	Cloudinary	Amazon S3
Cost	2040$	2240$	2800$
Training Days	20	50	40
Functionality	60	40	80

Normalized Cost/Training/Functionality Data

Tool	Firebase	Cloudinary	Amazon S3
Cost	72,8	80	**100**
Training Days	40	**100**	80
Functionality	75	50	**100**

Normalized Tool Graph
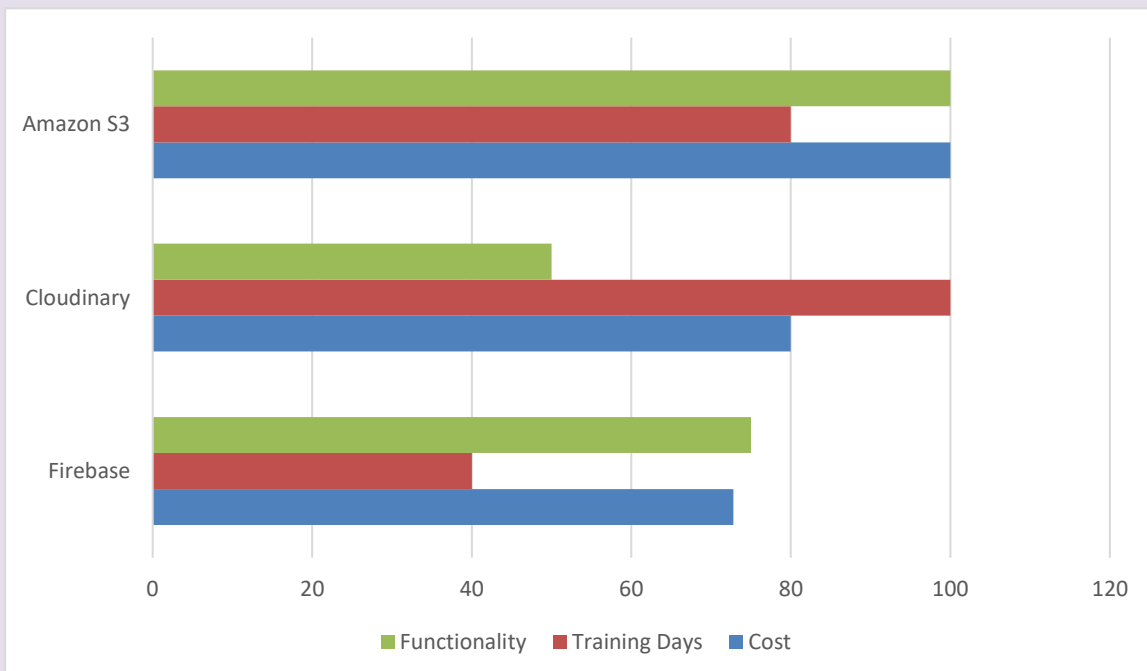
Which tool has been selected? Why?
While Firebase might be slightly more expensive than Cloudinary and requires more initial learning time, it offers the best overall value for the project. Firebase's functionality specifically targets mobile and web app development and its integration with other Google Cloud services streamlines your development process. This can potentially save time and money in the long run compared to cobbling together functionality from separate services.

SOFTWARE TOOLS FOR TASK 3:

Tool Cost/Training/Functionality Data

Tool	Firebase	AWS	Azure	GCP
Cost	2040$	720$	1392$	1408,8$
Training Days	20	20	20	15
Functionality	60	80	60	70

Normalized Cost/Training/Functionality Data

Tool	Firebase	AWS	Azure	GCP
Cost	**100**	35,3	68,23	69
Training Days	**100**	66,7	66,7	50
Functionality	75	**100**	75	87,5

Normalized Tool Graph
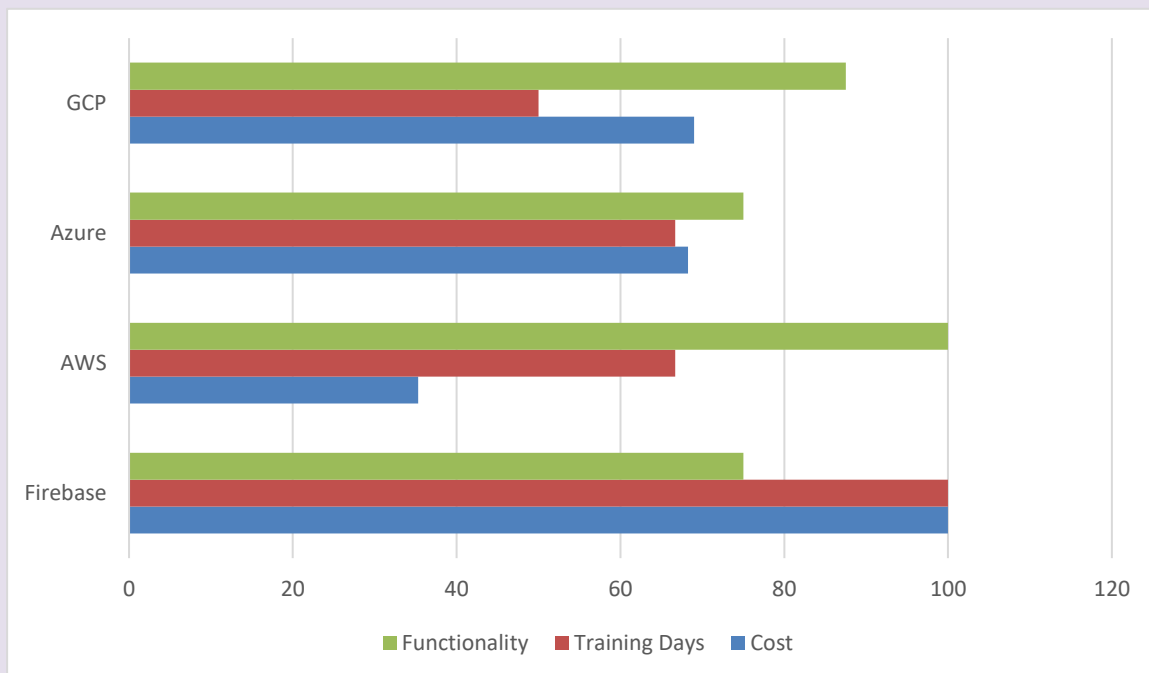
Which tool has been selected? Why?
For mobile and web app development, Firebase offers a compelling combination of ease of use, rapid development, and built-in functionality. Its focus on these areas aligns well with the project's needs, potentially saving time compared to piecing together services from broader cloud platforms like AWS, Azure, or GCP.

SOFTWARE TOOLS FOR TASK 4:

Tool Cost/Training/Functionality Data

Tool	React Native	Flutter	Xamarin	Ionic
Cost	0$	0$	0$	0$
Training Days	20	30	40	20
Functionality	70	70	50	50

Normalized Cost/Training/Functionality Data

Tool	React Native	Flutter	Xamarin	Ionic
Cost	**100**	100	100	100
Training Days	50	75	**100**	50
Functionality	**100**	100	71,42	71,42

Normalized Tool Graph
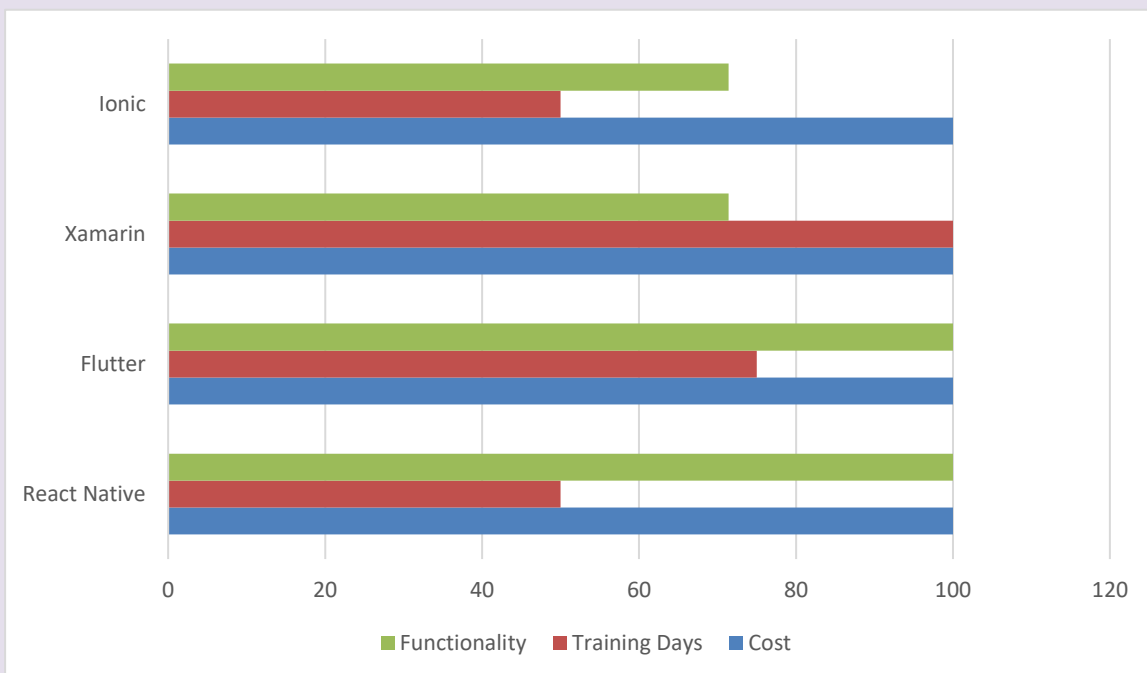
Which tool has been selected? Why?
React Native leverages existing JavaScript knowledge, reducing initial learning hurdles.
React Native also boasts a large, active community and a wealth of learning resources,
making it easier to find support and solutions. Additionally, its focus on native UI
components delivers a smooth and responsive user experience on both Android and iOS
platforms.

SOFTWARE TOOLS FOR TASK 5:

Tool Cost/Training/Functionality Data

Tool	Android Studio	VSCode	IntelliJ	XCode
Cost	0$	0$	600$	0$
Training Days	30	6	12	10
Functionality	80	60	75	60

Normalized Cost/Training/Functionality Data

Tool	Android Studio	VSCode	IntelliJ	XCode
Cost	0	0	**100**	0
Training Days	**100**	20	40	33,4
Functionality	**100**	75	83,3	66,7

Normalized Tool Graph
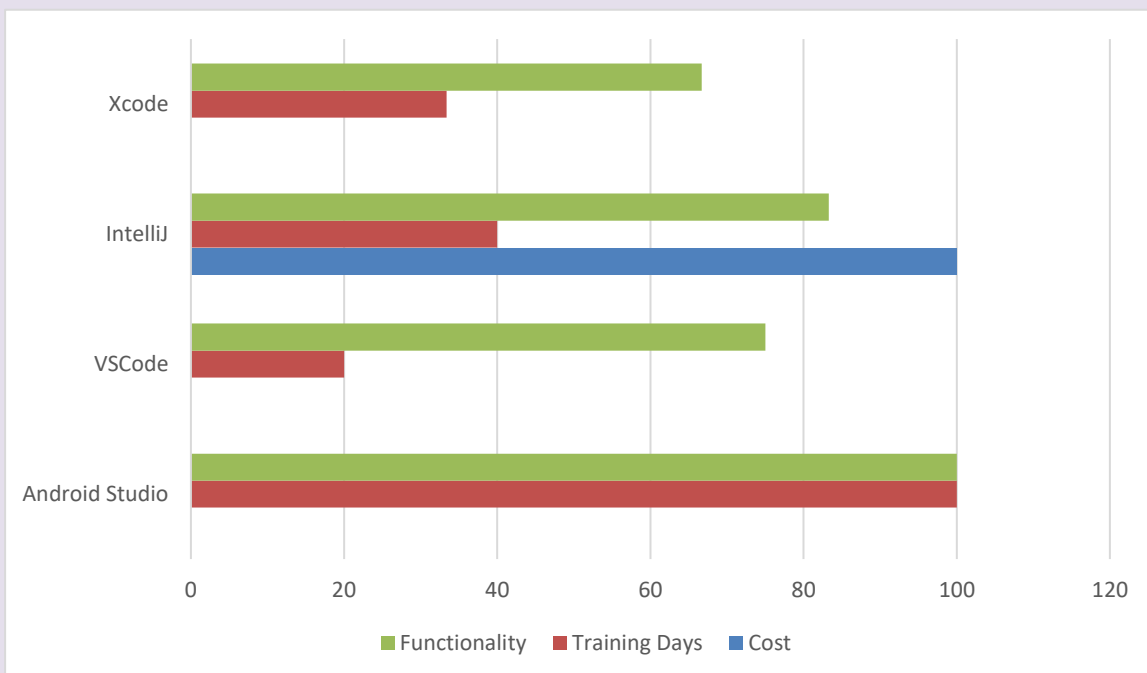
Which tool has been selected? Why?
For multi-platform mobile app development, VSCode is a great choice. It's completely free and offers extensive extensibility through plugins, allowing to customize it for the specific needs. VSCode is lightweight and runs well on most machines, making it a versatile option. While it might not have the same level of mobile-specific features as Android Studio or Xcode, its flexibility and ease of use can be advantageous.

SOFTWARE TOOLS FOR TASK 6:

Tool Cost/Training/Functionality Data

Tool	WebStorm	VSCode	IntelliJ
Cost	160$	0	600$
Training Days	15	6	12
Functionality	80	50	40

Normalized Cost/Training/Functionality Data

Tool	WebStorm	VSCode	IntelliJ
Cost	26,67	0	**100**
Training Days	**100**	40	80
Functionality	**100**	62,5	50

Normalized Tool Graph
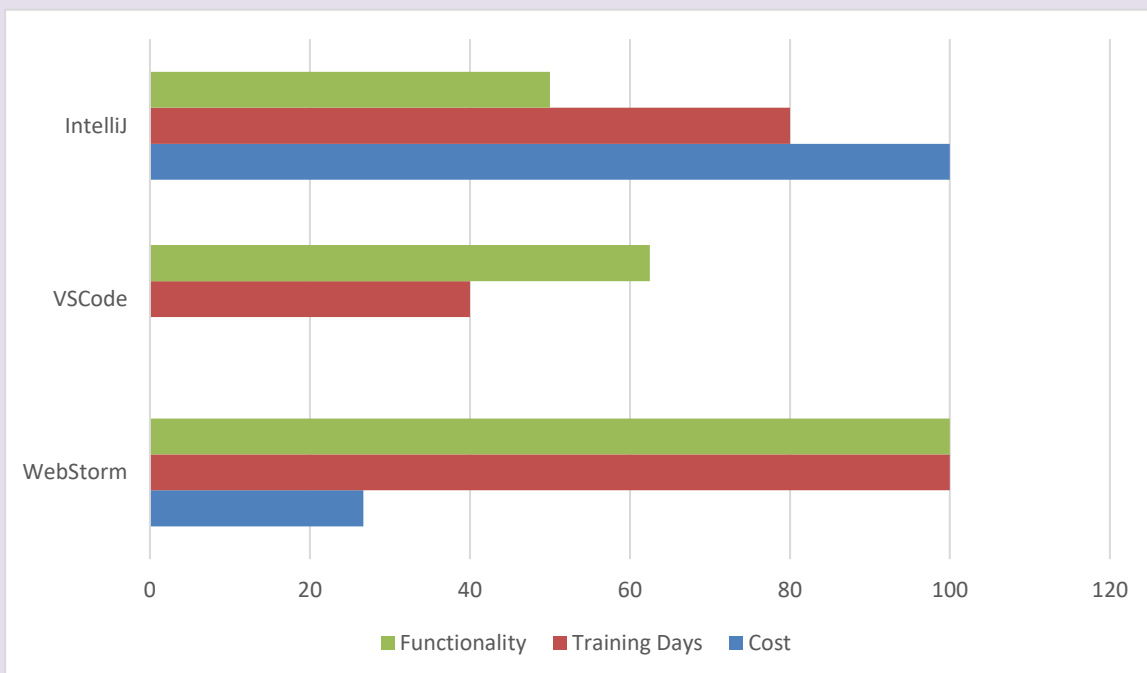
Which tool has been selected? Why?

For web development, WebStorm stands out as a powerful option specifically tailored for the task. It offers deep integration with popular web technologies like JavaScript, HTML, and CSS, providing intelligent code completion, error checking. WebStorm goes beyond VSCode's capabilities with features like built-in debugging for client-side and server-side code, making it ideal for complex web applications. While it has a cost compared to VSCode, WebStorm's specialized features and development efficiency can significantly boost productivity and code quality.