

IoT app development already has a great influence on everyday life, work, industry, transport, energy management... every sphere of our life! *Gartner's* analysts [estimate \\$235 billion](#) to be spent for IoT services in 2016. That is 22% more than in 2015, and this number will grow.

How much does it cost to make an IoT app? As a mobile app development company, we receive this question quite often. There are several building blocks of cost estimation for IoT app development and many factors that influence it. Let's view all sides of this question.

This article continues our series of posts about the cost of mobile app development. Recently published on this subject:

[How much does VR application development cost?](#)

[How much does it cost to build an app?](#)

## Before You Start

An idea of an app is a great beginning, but this is not enough. Before you start looking for a contractor for your future IoT app development, you should have a comprehensive view of what you want to obtain.

### Questions about your future IoT app

- ▶ What is the goal of your app? What is its main idea?
- ▶ Who is the user of your future IoT application? What benefit will he have from using this app?
- ▶ What hardware will be used with this app?
- ▶ What features will your IoT app have? **Be aware that more features an app has, more time and money its development will take.**
- ▶ Imagine your app. Walk through it from the first screen to the last one. **Some photos, screens and even drawings would be of great help here!**
- ▶ What can be the possible challenges and issues?

by THINKMOBILES

This stage is very important. More information and details you give to your IoT app development partner, better the result will be! Moreover, it saves time for unnecessary discussions and corrections. So give special consideration to this preparative stage.

**Need an Example? Here It Is!**

Let's assume that you have an idea of an IoT business and you decided to focus on smart fitness clothes. Your user is an amateur sportsman, not a professional athlete. He needs to track his regular workouts through a timeline and to obtain detailed data analysis on his connected device. It will help him to correct his exercises and stay healthy and fit. And the possibility to share his results with friends via social media keeps him motivated for new achievements.

Your IoT project will have a material form of t-shirts with built-in sensors measuring biometric data. The sensors will be connected to the user's device via Bluetooth. They will measure heart rate, stress rate, breathing rate, workout intensity and share this data to the user's smartphone, tablet or smartwatch. Let's say that you've decided to build this app for iOS and extend it to Android later, when you've hit critical mass, which will save you the one-time costs for IoT app development.

This IoT app will receive the biometric data from the connected sensor, analyse them and display the detailed analytics of the workout in form of linear diagrams. Imagine the screens showing the user his statistics for the last workout, for current week, month and year. Foresee some space for the friends' comments and encouragements.

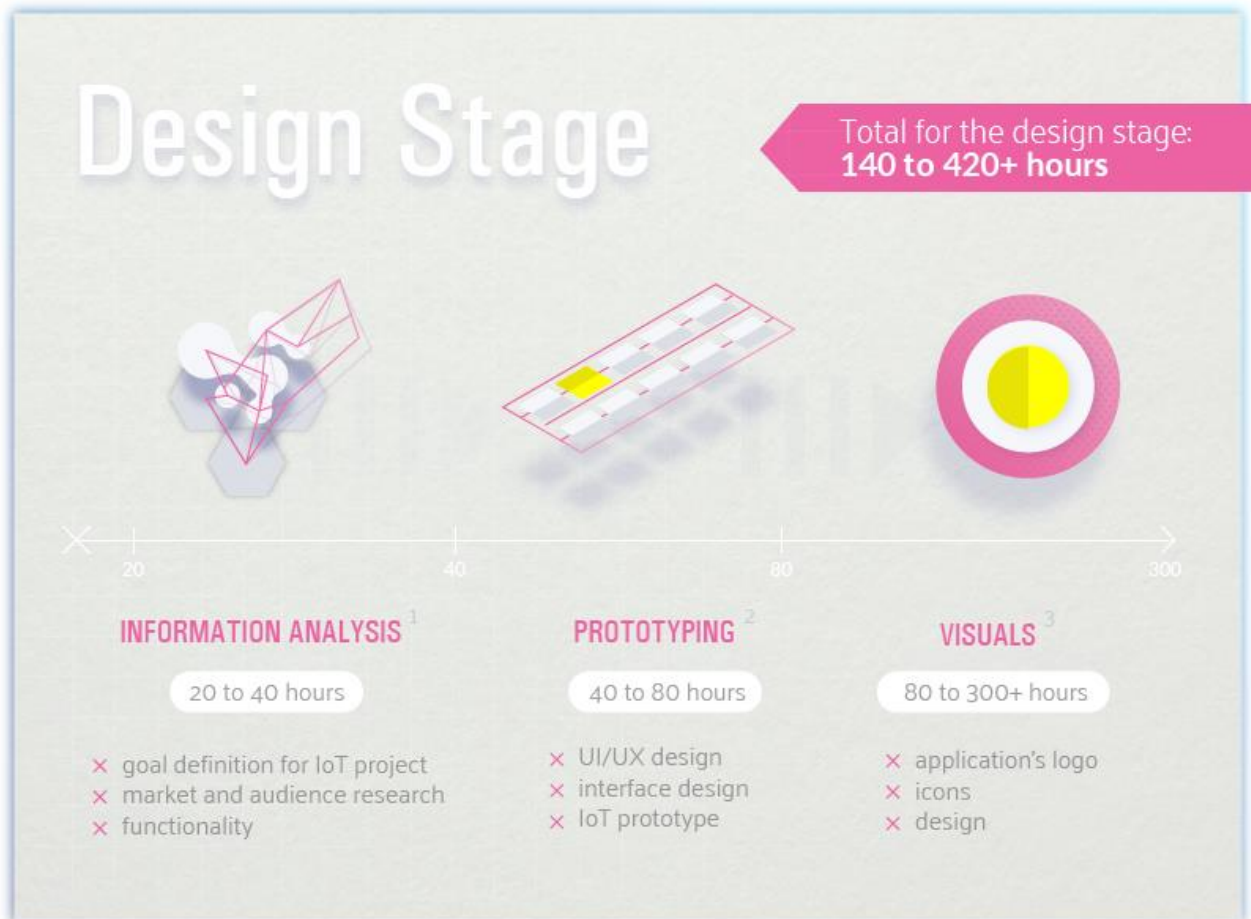
Think about the challenges that can arise during this IoT app development. As you are using Bluetooth to connect the devices, consider Bluetooth Low Energy technology in view to reduce power consumption. You should keep in mind that the development of such features as geolocation, social media and synchronization across devices requires more time than other features.

At this stage you should become acquainted with other products in this niche, such as OM bra by [OMsignal](#), smart clothes by [Hexoskin](#) and [Athos](#).

Now, when you have answers to these questions and a clear vision of the IoT application you want to create, you are ready to search for the IoT app development partner who has enough experience in these technologies, to make an estimate and to design your future IoT app.

## **Duration of IoT Design Stage**

The process of IoT app development is similar to that for other mobile apps. It begins with the following steps:



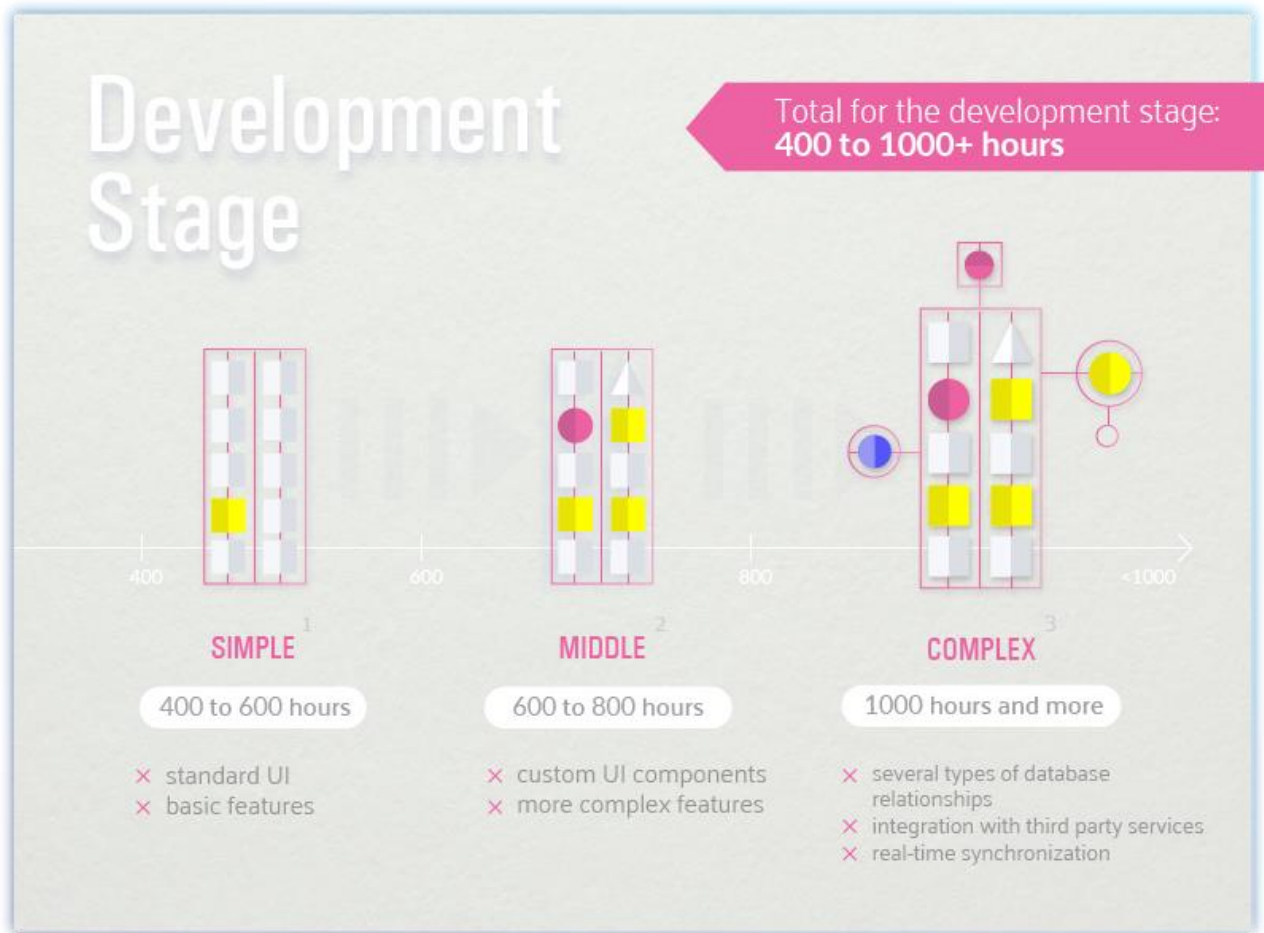
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### Time-consuming factors at this stage:

- large project size
- high number of features and screens
- uncertain requirements
- use of new technologies
- number of visual elements
- complex UI

## How Long Does IoT App Development Take

As for the timeline of IoT app development, it depends on the complexity of your project and the features you want to implement. The timeframe of this step depends a lot on the volume of the project, number of icons, features, screens and complexity of the IoT application. So, these are some estimations of how long will IoT app development take.



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Using the example of the IoT app for heating system management we've developed recently, we can say that this project's length made up 6 months. During this time we've developed an IoT mobile app on iOS and also created a landing page for the IoT application download.

Certainly, each concise project has its own requirements. However, these rough numbers can serve as reference for the question *How long does it take to develop an IoT app?* And when you contact THINKMOBILES, we can make an estimation of time and resources required for your IoT app development.

### Most time-consuming and costly features:

- geolocation
- payments
- synchronization across devices
- third-party API integration
- data encryption
- new technologies
- auto-learning feed
- content management system

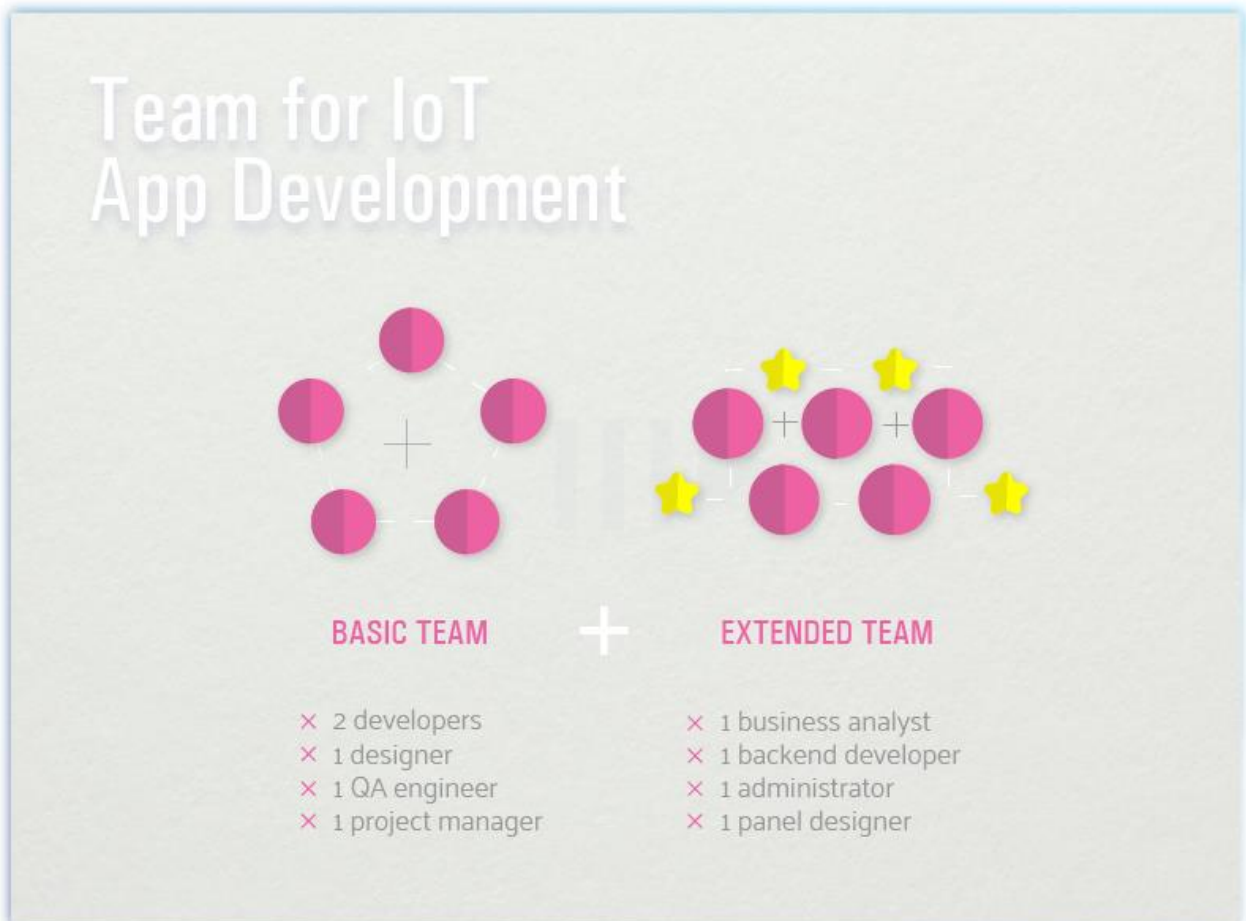
The task to build IoT software from scratch can be difficult and expensive, so IoT developers normally use reusable and pre-built components as well as selected IoT platforms to speed up development and ensure cost efficiency for the client.

Also, 40% of respondents stated they always or usually use a rapid application development (RAD) tool to build IoT apps, instead of building from scratch.

[question title="What is RAD (rapid application development)?" ]It is an approach to software development that favors prototyping instead of planning. Prototypes often complement or sometimes even replace the design specifications.[/question]

## Team for IoT App Development

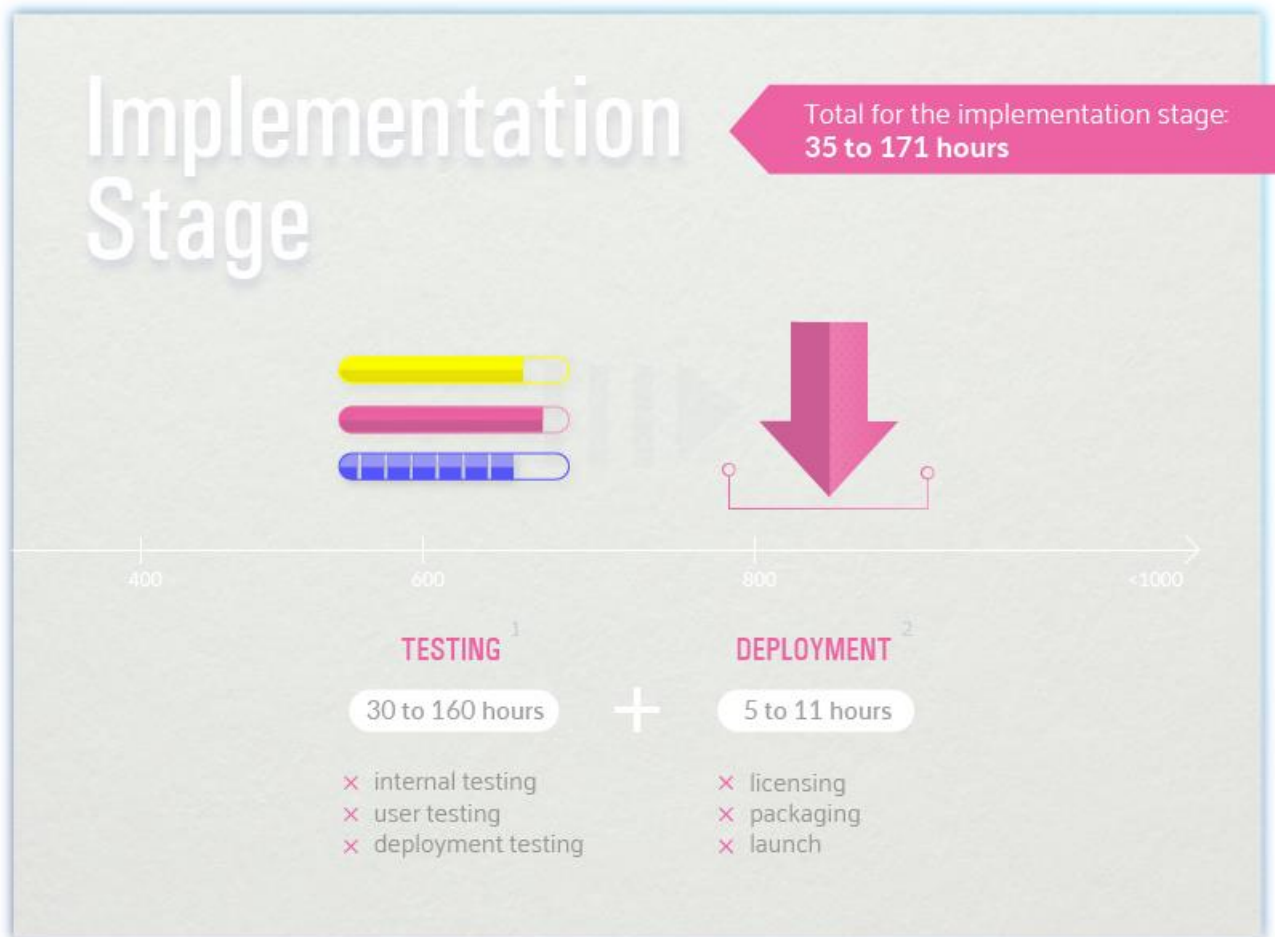
Based on our experience in IoT app development, we can suppose the basic team you'll need will be like this one:



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## What Goes After IoT App Development?





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### What factors influence the duration and cost of this stage?

- complexity of IoT project
- quantity and complexity of features
- number of screens
- interactive games
- highly secure apps
- additional operating systems and device types

## Post-Production Stage

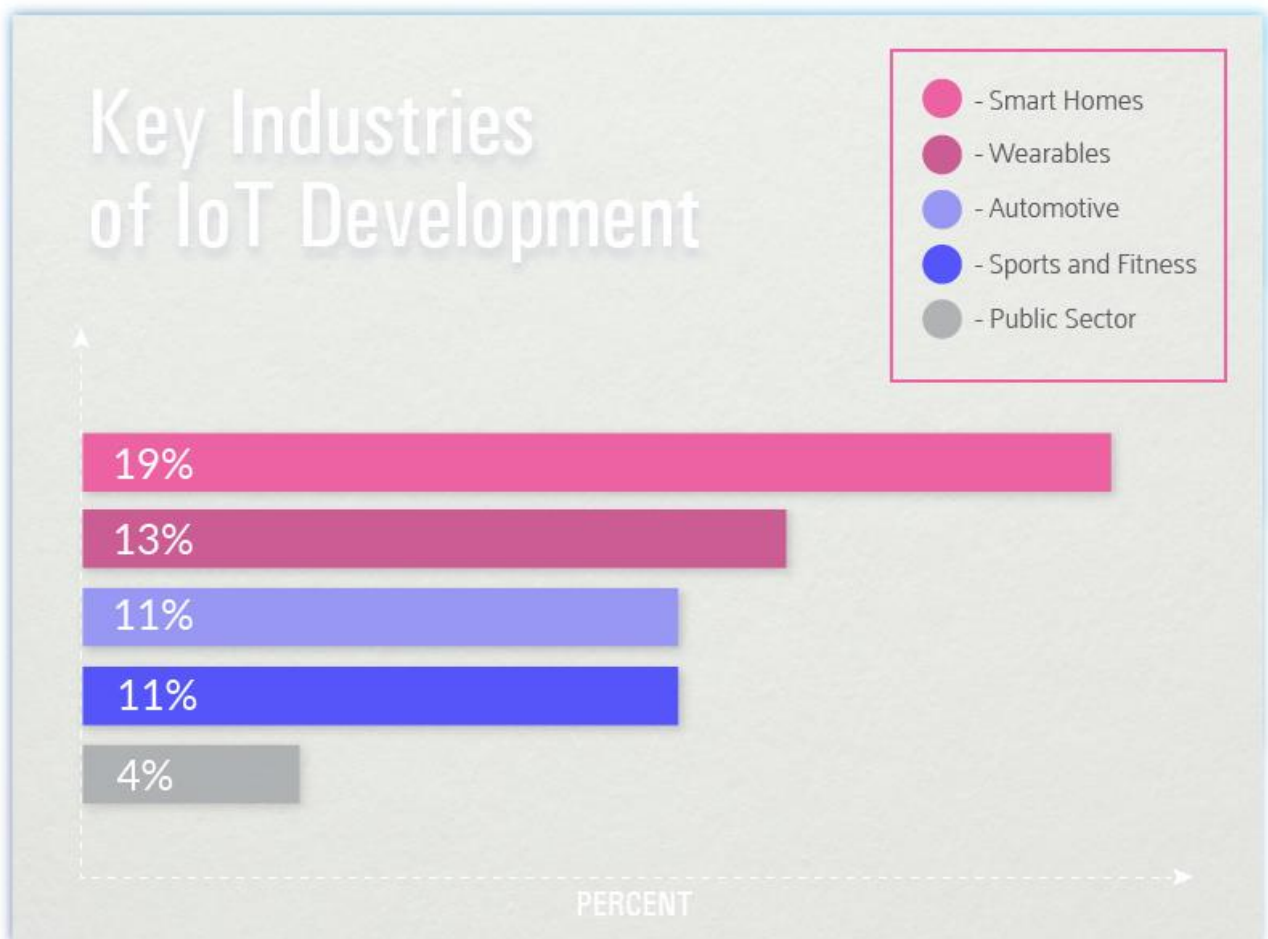
IoT app development does not end at the deployment stage. It is the first step of the long life of your IoT project. The next one will be the maintenance of your IoT app and the development of eventual new features. At this stage it is important that your code was clear and provided with readable comments. If this is the case, even if another developer introduces some changes into it, it will be easy to do. Otherwise, he will spend entire hours while trying to interpret the code that has been written before.

## Cost of IoT Apps of Different Types

The concept of IoT has been implemented in various types of apps. Certainly, the cost depends a lot on the specific type as they use different technologies and features. Let's see the approximate costs of some of them:

- **Media:** from \$10,000

- **Environmental monitoring:** from \$10,000
- **Infrastructure management:** from \$25,000
- **Manufacturing:** from \$50,000
- **Energy management:** from \$27,000
- **Medical and healthcare systems:** from \$30,000
- **Building and home automation:** from \$50,000
- **Transportation:** from \$25,000
- **Management of cities and systems:** from \$50,000
- **Consumer IoT apps:** from \$35,000



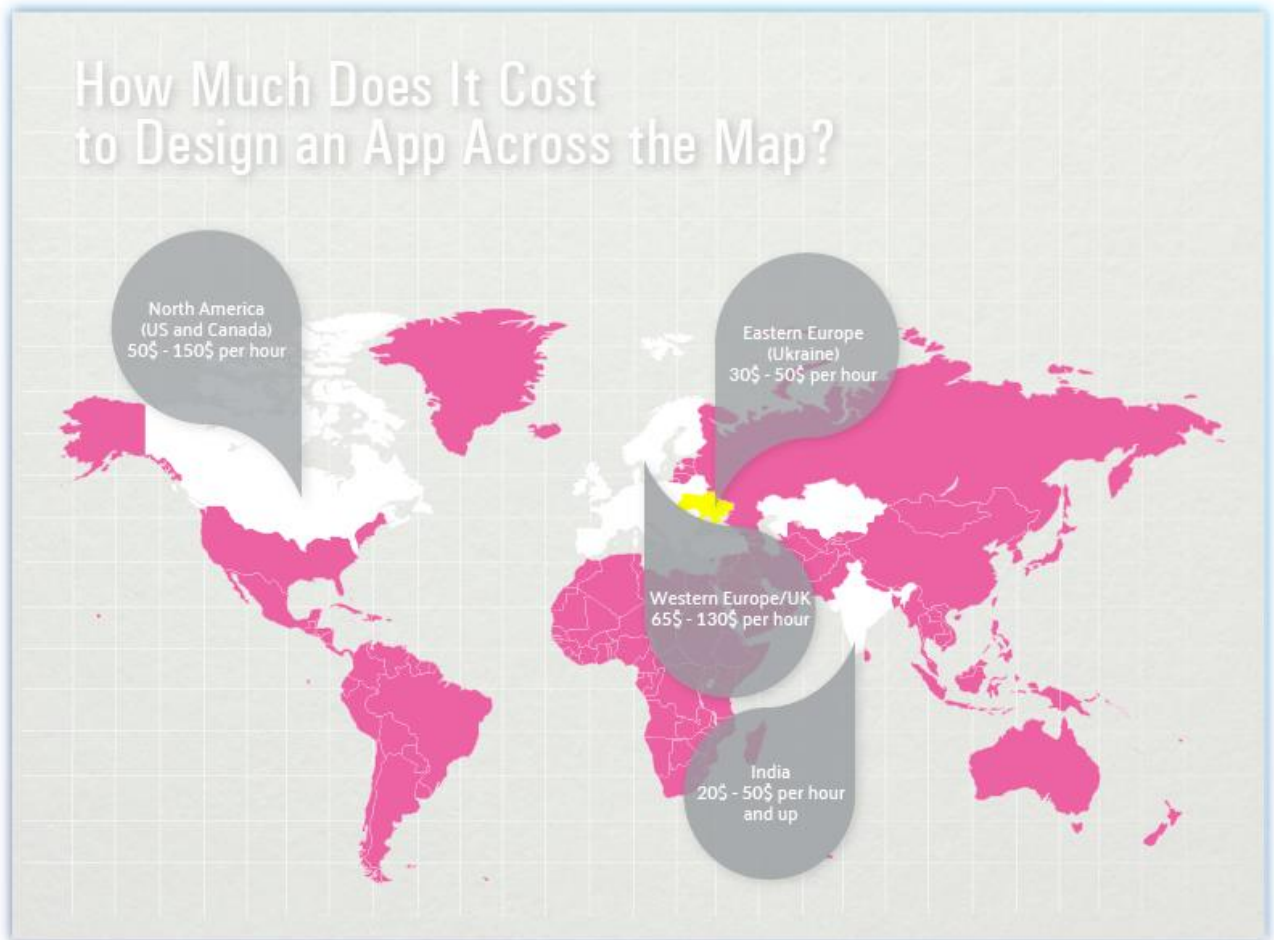
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In a global survey of 675 developers held by Harbor Research and Progress Software, the respondents enounced the industries which are key for IoT app development and have the highest revenue today. These are: smart homes (19%), wearables (13%), automotive (11%) and sports and fitness (11%). The public sector is closing this list (4%).

IoT developers expect a shift for the next three to five years. They expect healthcare (14%), smart city (13%) and automotive (12%) to be the top three industries for IoT app development and revenue generation. As for the public sector, it is also expected to grow (8%).

## So, finally, how much does IoT app development cost?

The rates for IoT app development differ significantly depending on the country of location of the app development company, its size and level of experience.



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As we know, high price doesn't always result in high quality. On the other hand, choosing a cheap contractor can be a great risk - it is quite possible that you'll waste your time and money for poor result. Outsourcing your IoT project may be the best solution to save time and money. In such case your IoT app development partner provides you full staff required for conception, design, development and maintenance of your app. And if you are looking for more quality for less money, high-skilled labor, mature IT market in a European-thinking country complying with international standards as ITIL, consider cooperation with Ukrainian development companies. They offer the best price-quality relationship and charge around **\$30-\$50** per hour of IoT app development.

Therefore, returning to our division of IoT applications by complexity and taking a rate of \$30, we can obtain the following:





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How much does IoT app development cost at THINKMOBILES? Contact us to get a free estimate!

IoT devices are rapidly seizing the market, and IoT app development is a very important part of this growth. So take advantage of high market demand of IoT solutions. Let it be your IoT project that will make the market explode!

We have recently developed an IoT app for energy management that is going to hit the market in September 2016. An article on the process of this IoT app development is coming soon! Subscribe to our blog not to miss it!