TheSpin™

Real-Time, Dynamic, Hyper-localized, High-Penetration Mobile Advertising

- by Bike!

Advertiser

↓

The Spin™

↓

AdSpinner™
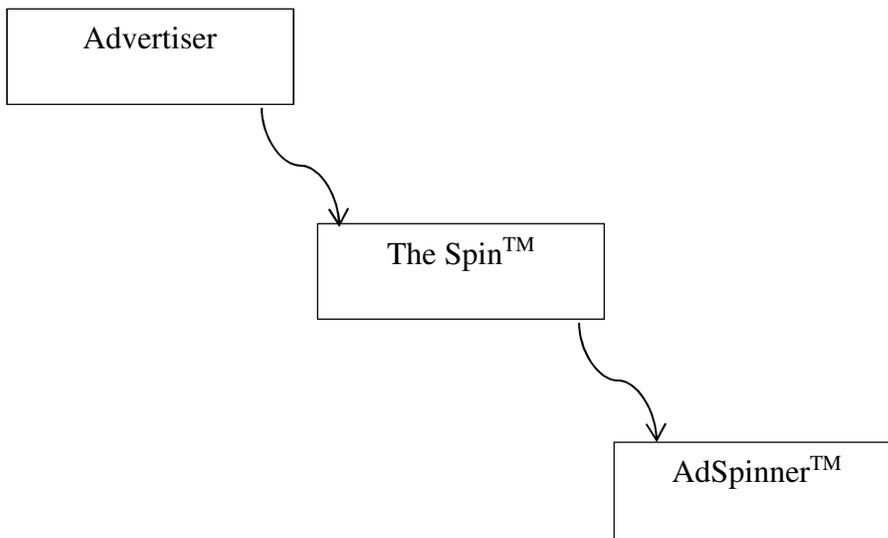
Executive Summary

The Spin^{TM} provides Advertisers with Real-Time, Dynamic, Hyper-localized, High-Penetration Mobile Advertising by allowing Advertisers to display advertising on the spinning (and notice-grabbing!) wheels of local cyclists. Bikes can go places that billboards and other types of advertising can't – and with our GPS-enabled system, Advertisers can hyper-locally select geographic locations where their ads will be displayed. Advertising can also be updated in real time as new ads are seamlessly transmitted to local cyclists – which we call AdSpinners^{TM} - for real time display.

In order to get set up on our system, an AdSpinner^{TM} first downloads TheSpin^{TM} app on their smartphone and pairs it with their Bluetooth-enabled LED bicycle spoke display.

When an AdSpinner^{TM} is ready to go for an AdSpin^{TM}, the AdSpinner^{TM} activates our app. The app then tracks the location and speed of the AdSpinner^{TM}. The location and speed data is fed into a Google-type location-based, real-time advertising auction that takes place at TheSpin^{TM}. Just like how Google sells internet and smart phone advertising display space to Advertisers using a dynamic auction, TheSpin^{TM} operates in the same way – but our display space is the signage provided by the spinning wheels of an AdSpinner^{TM} at a given GPS location. The winning advertising is then transmitted to the AdSpinner^{TM} and displayed on their LED spoke display.

The AdSpinner^{TM} just rides their bike as they normally would and using any route they would like and advertisements for the wheels are dynamically determined and displayed in real time on their spoke display by TheSpin^{TM}.

Similar to the Google model, advertising revenue is then split between the AdSpinner^{TM} and TheSpin^{TM} with 70% of the advertising revenue going to the AdSpinner^{TM} and 30% going to TheSpin^{TM}

Bicycle-Spoke LED Images

Bicycle wheel lights have been available for several years and continue to improve. They include one or more rows of LEDs arranged vertically between the hub and tire.
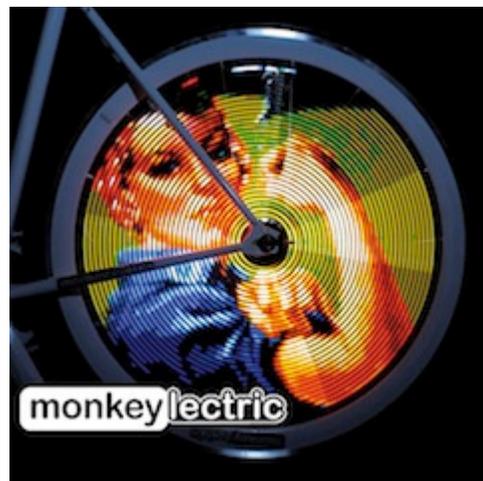

Sample Bluetooth-enabled bicycle-spoke LED system

As the bicycle is ridden, the LEDs are activated so that an image is displayed. These images can range from fairly simple and lower-resolution monochrome images to high-resolution images supporting millions of colors and even animations.

Sample fairly low-resolution
monochrome display

Sample high-resolution
4000+ color display

Monkeylectric (www.monkeylectric.com) offers the top-of-the-line bicycle wheel lighting system available today. Their Monkeylectric Pro uses 256 LEDs to provide 4000+ colors and supports animations, which really sets them apart. A video of their product in action is available at https://www.youtube.com/watch?v=3qq8r2Wg7gA However, the Monkeylectric system is fairly expensive.

However, many more-reasonably-priced, high-quality alternatives exist. For example, Swaglight retails for about $130 at Walmart[1]. Swaglight uses 376 LEDs to provide millions of colors. The Anvii system[2] is also high-quality.

These image products allow an image to be downloaded from a smartphone to the LED system on the bike tire and the image is displayed as the bike is ridden. The great news is that TheSpin^{TM} is image product-agnostic as long as the product meets minimum specifications for display and supports Bluetooth with the smartphone. Also, each AdSpinner^{TM}'s specific spoke image product is stored and Advertisers can limit their ad campaign to spoke image products that only support full color or only to specific models of image products.

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[1] https://www.walmart.com/ip/SWAGLIGHT-Quad-Bluetooth-Spoke-Lights-w-App-Alarm-Ultra-Vivid-376-LEDs-16-Million-Colors-Displays-GIFs-Images/583128424#read-more
[2] http://www.anvii.com/store/CoolStyle_wheel_AD/index.php

TheSpin^{TM}

TheSpin^{TM} is "central station" for figuring out which Advertiser's ads should go to which AdSpinner^{TM} and then getting that ad there.

On the Advertiser side, Advertisers upload their ads (in .jpg or .png image formats or in .avi or .mov movies where supported). For each ad, they can select the geographic area and the time of day for display – and if there are any restrictions on the display of their advertising, like "full color only". They can also set up multiple simultaneous auctions in the same geographic area if they want to capture multiple AdSpinner^{TM} displays at once. The Advertiser also sets the maximum price they will pay to display their ad and the number of instances – or can just set an ad budget.

TheSpin^{TM} uses AdSpinner^{TM} account information as well as real-time GPS data retrieved through our app to determine the geographic location and display product that the AdSpinner^{TM} is using. When an AdSpinner^{TM}'s geographic location matches an Advertiser's desired geographic location, the ad is sent to the AdSpinner^{TM} for display.

When multiple ads are available for display in a given geographic area, TheSpin^{TM} employs a Google-type auction using geographic location instead of keyword. Here is some info on the Google auction and revenue-splitting.

https://www.wordstream.com/articles/what-is-google-adwords
https://support.google.com/adsense/answer/180195?hl=en

AdSpinner^{TM} App

The AdSpinner^{TM} App makes it incredibly easy to onboard new AdSpinners^{TM}. AdSpinners^{TM} just download the app, set up an account, and then pair their phone with their specific bicycle spoke image display system. The identity of the bicycle spoke image display system is automatically confirmed and the AdSpinners^{TM} is ready to go!

When they want to go for an AdSpin^{TM}, they just turn on the app and the app confirms the Bluetooth connection with the spoke display system and the GPS location. Because the ads are only going to display properly when the AdSpinner^{TM} is going a certain speed, the GPS system also confirms that for at least a majority of the time the ad is displayed, the AdSpinner^{TM} was going that speed. The app displays an alert when the AdSpinner^{TM}. is not moving at the needed speed.

As mentioned above, the ad that is determined to be shown is sent to the AdSpinner^{TM} app which then sends it to the spoke display. New ads can be updated in 10-100 miliseconds and if the AdSpinner^{TM} is at a location where no ads have been selected for display, the spoke display system is shut down to preserve battery life.

Once it is confirmed that an AdSpinner^{TM} has successfully completed a display by moving at at least the minimum needed speed, the Advertiser is charged and the AdSpinner's^{TM} account id credited.

Improvements In Beta

I.   Advanced Network Mobilization

Basically, we push a notification of possible high profit for taking an AdSpin^{TM} in order to get more AdSpinners^{TM} on the road. AdSpinners^{TM} can set a home location (typically where they store their bike) through the app. When the area around the home location has a balance of AdSpinners^{TM} compared to ads that are desired to be displayed such that there is a backlog of ads to display, if they have set the option through the app, we activate the app to send an alert to AdSpinners^{TM} in that geographic area that this could be a profitable time for them to go on an AdSpin^{TM}. In this way, we can dynamically mobilize our advertising network to increase earnings. Also, it might increase AdSpinner^{TM} satisfaction.

II.   Route Revenue Maximization

We know in advance the locations and times that advertisers have selected for their advertising, so we can do several things. First, if an AdSpinner^{TM} wants to go on an AdSpin^{TM} at a certain time, but has no set destination, we can recommend nearby locations that might be profitable and set up a proposed route for the AdSpin^{TM}. The proposed route can be between two points or can be a loop with an approximate distance entered by the AdSpinner^{TM}. Also, for a specific geographical area and/or route, we can tell the AdSpinner^{TM} the best time of day for them to take their AdSpin^{TM}.

Concept Expansion Plans

Add to Divvy Bikes

We want to expand our concepts to municipality- owned fleets of bicycles such as the Divvy bikes in Chicago. All of the Divvy bikes include GPS positioning, but they do not include a Bluetooth connection on-bike. However, when the bike is returned to a base station, the base station may be equipped with a Bluetooth connection that would allow communication with its spoke display system. In this way, we can offer municipalities an additional revenue source.

https://www.divvybikes.com/how-it-works

Dynamic Population Mapping Using Cell Phone Data

Advertisers want to know how many people see their ads. Consequently, we would like to provide them with some information about the number of people in that area so that they can estimate their viewership. We are experimenting with using cell phone data to estimate total number of people in an area.

http://www.pnas.org/content/111/45/15888

However, we are having difficulties resolving people in a building (who would not see the bike) as compared to people outdoors who could potentially have seen the bike and should thus be counted.

Other Patents

The CEO passed on your recommendation to search the PTO's website, so I did. I made a list of the patents below. The CEO says that all of these patents look pretty close to what we came up with. However, the CEO says that you are the best patent attorney around and that you will be able to find a way to get us our patent without infringing on these other patents.

Patents:

US 20120200401 A1

US 20160223577 A1

US 20150217598 A1