



*Enabling the Innovation of Tomorrow!*

# Tech-prize Smart City App Competition

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## About the competition

Tech-Prize Smart City Problem Solving Challenge is an Open-Ended APP development competition. The objective of the competition is to promote and reward IT development Skills and Creativity while solving some pressing social and infrastructure challenges in our community.

The Open-Ended Competition means the participants can participate even if their App is not completely Developed. Each Submission is evaluated on the following criteria

1. The originality of the Concept
2. The complexity of the Solution
3. Revenue Model
4. Features and Functionality
5. Technical Documentation
6. User Interface Design
7. User Experience / Application Flow
8. Quality of Click Through Mock Up
9. Quality of Finished App.
10. Final Pitch and Presentation.

## How does it work

- The contest is open for all ages and educational levels.
- Teams can register on the [Tech-Prize website](#), any time before February 14, 2021. The final submission deadline is May 1, 2021.
- There is no entry fee.
- Participants can come up with their original concept, choose one of the sample concepts. Teams submitting an original idea will get additional points.
- The participants are expected to use their equipment and computers, giving them the freedom to work in their environment
- There are no restrictions on operating systems, development tools, programming platforms, frameworks, or languages.
- 
- Participants may work from any location. Participants may form teams, and the teams may have any number of members.
- This a competition to showcase your creativity and programming ability. All submissions must be designed and developed by team members. Any integrations with Open Source or Commercial API, Libraries or Development platforms must be declared in the Technical document of the submission.
- User Interface(UI), originality, usability, and creativity are some of the things our judges will be looking for in all submissions.

- Points are given for each step of the App development process, It is possible for a winning entry to not have a completely working App but the high quality of process deliverables. ( See Submission requirements.).

## The Prizes and Awards (To be reviewed)

1. All participants will get a free 60-minute Consultation and Review by our executives of Tech-Prize Sponsors DesignsTouch, Winner of Racine Innovation Award 2019.
2. All submissions will be displayed in prominent Racine Establishment during Tech-Prize.
3. Scholarships by SE Wisconsin Educational Institutions (TBD)
4. Cash Prizes (TBD)

## Application Form URL

<http://www.tech-prize.org/app-competition>

Once your application is received, we will send you a URL for completing the submission.

## What Documentation is required for Submission?

The final submission is due on May 2, 2020. Five teams will be selected for the Final Pitch and Presentation on May 8, 2021.

## Concept Documents

1. Purpose of the App - Short Paragraph of what the problem or opportunity addressed by the APP
2. Overview of App how you envision it will work

## Feature List

1. Detail list of the features of the Application
2. Detail list of services, integrations and public API to be integrated into the APP

## Revenue Model

1. If the App is expected to generate revenue, explain how that revenue will be generated ( example Add, user paid services, Sponsor paid services, etc.
2. If the revenue model is Free for all, tell us what benefits the sponsor organization (such as city or non-profit) will get from the App.

## High-Level Technical Documentation

1. Technology Stack
2. High-Level Application Architecture
3. High-Level Data flow diagram
4. Optional Project Plan

## User Interface / UX Flow documents

1. Conceptual Drawings or Mockups of each screen of the app
2. Flow diagram of App Operations
3. Optional Click-Through Mockup of the app using any open source or commercial mockup tools  
see <https://appinventiv.com/blog/top-mobile-app-prototyping-tools-2019/>

### The Built App Binary

1. Do not submit the App to iTunes or Google Play Stores
2. iOS - Tech-Prize will provide UDID for specific devices, participants will provide .ipa files that are approved for those UDIDs.
3. Android - non-production APK file
4. PWA - URL to staged or testing website completed with the manifest document
5. Four test Login credentials and procedure to register new Id
6. If the App is using a backend server, then provide URL and admin ID to the backend server

## App suggestions

Here are some ideas for your considerations. Tech-Prize has not done any patent research and does not guarantee that these or similar ideas are not executed by others. The participants can use the ideas as is or modify them using their own creativity. Some Apps may need Public Data Sources that may not be available for the prototype, ( for example Bus location, GIS data), use of simulators, or sample data is encouraged.

## Share the Love

| Problem to Solve  |   |
|---|---|
| Give your old Appliance or Furniture second life and help a family in need.<br>Sometimes, if we do not find a good home for a slightly used appliance or furniture or you do not have a second pair of hands to help the moving of the item, it ends up in a landfill. Not an earth-friendly act. Especially, when there are many good homes that can be benefited. |   |
| Key Features  |   |
| 1   | Donors can upload pictures and information about the Item to donate.  |
| 2   | Interested parties can claim the Item.  |
| 3   | A volunteer can enlist to help.   |
| 4   | IRS value calculator for determining the value of the donation ( or link to external service like Goodwill) |
| 5   | Directory of organizations that pick up the donations   |
| 6   | Directory of Repair Technicians / Furniture Refurbishers  |
| 7   | Ability to display advertisements or Google AdMob integration   |

## Save the Hawk

| Problem to Solve   |  |
|--|--|
| Racine's Kestrel Hawk landfill is filling fast, an App that can reduce solid waste, promotes recycling and composting to increase the life span of the landfill. |  |
| Key Features   |  |
| 1  | Day counter for potential last date for Racine Kestrel Hawk Landfill                       |
| 2  | Track and record your own trash disposed of, brownie points when one shows the decline     |
| 3  | User-submitted ideas for Reducing Solid Waste  |
| 4  | User-submitted Composting Ideas  |
| 5  | Ability to publish Garage Sales ( what is sold in Garage Sale does not go in the landfill) |
| 6  | Instagram like a gallery to showcase ideas for reuse.                                      |
| 7  | Ability to display advertisements or Google AdMob integration                              |

## Move-In Racine

| Problem to Solve  |  |
|---|--|
| Thanks to the efforts of VGR and Tech-Prize more people want to move to Racine. Let us make it easy for them to find their Home based on what they need |  |
| Key Features  |  |
| 1   | Directory of Home and Apartments   |
| 2   | Integration with MLS, GIS, County Real Estate Tax Data   |
| 3   | Integration with Virtual Tour / VR walkthrough   |
| 4   | Ability to filter data based on User Preferences such as: <ul style="list-style-type: none"><li>• Zip Code</li><li>• Area features ( Distance from Gym, Schools or Grocery Stores)</li><li>• House features # of Room, Bedrooms, Bathrooms, Floors</li><li>• Community features such as Swimming Pool, Amenities, etc.</li></ul> |
| 5   | Directory of Renters, Real Estate Agents, and Brokers  |
| 6   | Ability to display advertisements or Google AdMob integration  |



# (Smart) City Light City Bright, Safe Racine See Tonight

| Problem to Solve  |  |
|---|--|
| <p>Properly lit streets are the best way to make a safe street, but keeping bright lights on all the time can waste resources and cost money. Wouldn't it be nice if on a foggy day city lights turn on automatically to lighten the area, or the lights turn them off when not needed without any human intervention? What if the lights turn on or off based on the traffic and or crowd density?</p> |  |
| Key Features  |  |
| 1   | Smart Sensors Integration  |
| 2   | Integration with GIS systems   |
| 3   | Visual map showing Smart lights and their State (On or Off)                            |
| 4   | Ability to adjust the Parameters that drives On / Off Behavior                         |
| 5   | Ability to display advertisements or Google AdMob integration                          |
| 6   | Sustainability Calculator that calculator savings compared to traditional Street Light |

## Smart Home Energy Audit App

| Problem to Solve   |  |
|--|--|
| <p>There are many points in an average house where the energy or natural resources are being wasted without the knowledge of the owner. SMART devices can help improve efficiency. Awareness of consumption can lead to reduced usage with a positive impact on the environment.</p> |  |
| Key Features   |  |
| 1  | Ability to add Property Information such as a unique identifier that does not disclose Personal Identifiable Information   |
| 2  | User can input house dimensions similar to MLS listings  |
| 3  | Add all the appliances and fixtures that use resources such as Gas, Electricity, and Water.  |
| 4  | The app compares the Usage data to Regional Aggregate data. For example, compare the properties of Electricity Consumption/ Sq Ft to that of Average Electricity per Sq FT, etc. |
| 5  | Record and Track consumption data  |
| 6  | Provide useful information and tips to reduce consumption  |
| 7  | Use SMART sensors to measure data  |
| 8  | Ability to compare data with Utility bills   |
| 9  | Ability to display advertisements or Google AdMob integration  |

## Food locator for Social Distancing

| Problem to Solve  |   |
|---|---|
| <p>I'm hungry for wings as an example who makes the best, next best, etc based on reliable customer reviews? Most App rate the restaurant as a whole, but individual dishes are not rated and compared with other establishments. Carry out and Delivery will be new normal in post-COVID-19, therefore, we need to identify establishments that provide Pickup and Delivery.</p> |   |
| Key Features  |   |
| 1   | Restaurant Directory with Menu Listings   |
| 2   | Location of Service and Driving Direction.  |
| 3   | Cross-reference of Menu Items to Food Establishments  |
| 4   | Mapping of Menu Name as per Restaurant Menu to Generic Food Item                              |
| 5   | Menu Item Review and 5 Star rating system   |
| 6   | Once selected, can order and add to order other items available there for pickup or delivery. |
| 7   | The ability for Establishment Owner to respond to Fake reviews<br>Social Authentication       |
| 9   | The ability for Owners to add Daily Specials and Promotional Items                            |
| 8   | Ability to display advertisements or Google AdMob integration                                 |

## Green (Smart) Building / Campus Calculator

| Problem to Solve   |  |
|--|--|
| In Racine, we have many old structures and buildings that are using more energy than needed. Simple upgrades can save costs and reduce environmental impact. |  |
| Key Features   |  |
| 1  | Smart Sensors Integrations   |
| 2  | Report and track power usage at all hours  |
| 3  | Directory of Government Agencies and Business that help Energy Utilization   |
| 4  | Recommend improvements for sectors, wings, buildings to reduce heating/air conditioning/lighting needs and then once approved implement, this is across many different types of controls and systems that exist. |
| 5  | Show the savings Calculator / Calculate Environmental impact based on Energy Saved   |
| 6  | Ability to display advertisements or Google AdMob integration  |
| 7  | Display Alerts during abnormal Utilization   |

## Bus Tracker for RYDE

| Problem to Solve   |  |
|--|--|
| Public transport and Shared Ride is a sustainable alternative or only option for many Racine Citizens. But one has to go through too many apps or websites to get the best option. |  |
| Key Features   |  |
| 1  | Interconnect three or more options such as Bus, Uber, Lift, Bicycles, Scooters, Trains |
| 2  | Ability to enter in your pickup location or present location and the destination,      |
| 3  | the app will find the fastest or cheapest method to make the journey and book them.    |
| 4  | Bus and Train Timetables   |
| 5  | Bus / Train Location Tracker   |
| 6  | Ability to display advertisements or Google AdMob integration                          |

## Hotspot Racine

| Problem to Solve   |  |
|--|--|
| COVID-19 has demonstrated the lack of internet access in the community. The local businesses can provide free WI-FI and be rewarded by improved business |  |
| Key Features   |  |
| 1  | Location map and driving directions to the nearest business that offers free Wi-Fi |
| 2  | The ability for businesses to provide their information                            |
| 3  | The ability for vendors to manage their Data                                       |
| 4  | Ability to display advertisements or Google AdMob integration                      |
| 5  | Bandwidth Tester   |
| 6  | User-generated ratings   |
| 7  | Ability to display advertisements or Google AdMob integration                      |

**Format for submitting your own Idea**

| <b>Problem to Solve</b> |  |
|-------------------------|--|
|                         |  |
| <b>Key Features</b>     |  |
| 1                       |  |
| 2                       |  |
| 3                       |  |
| 4                       |  |
| 5                       |  |
| 6                       |  |
| 7                       |  |