

# UTD Hackathon Challenge 2019

Dallas • February 23-24 Sponsored by Women In Technology



Fannie Mae®

## FANNIE MAE The Federal National Mortgage Association (FNMA)

is a United States government-sponsored enterprise (GSE) and, since 1968, a publicly traded company. Founded in 1938 during the Great Depression as part of the New Deal, the corporation's purpose is to expand the secondary mortgage market by securitizing mortgage loans in the form of mortgage-backed securities (MBS), allowing lenders to reinvest their assets into more lending and in effect increasing the number of lenders in the mortgage market by reducing the reliance on locally based savings and loan associations (or "thrifts"). As of 2018, Fannie Mae is ranked #21 on the Fortune 500 rankings of the largest United States corporations by total revenue.

Fannie Mae has developed and released a set of API's (Application Programming Interfaces) that allow access to a wide variety of information related to home purchases, economic forecasts, manufactured housing data and much more.

At Fannie Mae we work hard every day to bring new, innovative solutions to the housing market and would love to have your help. We invite you to collaborate with us, along with housing innovators across the nation to develop and adopt breakthrough ideas and solutions for housing in the United States.



For additional information & resources scan the above QR Code

## THE CHALLENGE

**Create an app or website that helps potential home buyers pick their perfect neighborhood.**

Build a mobile app that home buyers can use while walking through a neighborhood or from their computer looking across the country. Combine data from Fannie Mae (API or DVD) with maps from Google, visualization tools like D3.js, and additional data from Zillow.com, "Walkability Scores" (and other relevant data) from [www.walkscore.com/cities-and-neighborhoods](http://www.walkscore.com/cities-and-neighborhoods) or other sources (see the list below for some suggestions).

Alternatively, build a risk analytics engine using neural nets or some other machine learning technique that can accurately predict mortgages that will be foreclosed on or paid off early. As yet another alternative – integrate data from the API's with Siri, Cortana, or Alexa to "voice drive" data acquisition and visualization. If you do choose to implement this option be aware that Hackathon environments are extremely noisy – make sure you put some type of sound baffle around the device when using it.

**Sample code for accessing and using data from the API is available at the GitHub link included below.**

## THE JUDGING

**Solutions will be judged (ranked 1 to 5) on the following criteria:**

- **Completeness of solution** (is there a user interface that can access data from some source along with some computational or analytic logic?) For example, Powerpoints or screen shots of a solution would rate a 1 while an interactive application that queries API's or data from a database would score in the 3 to 5 range.
- **Usability of the solution** – how intuitive are the options or actions a user must take? Does the solution include documentation or online help?
- **Originality of solution** – creating a mobile app is good, creating an AR/VR version of the same thing is even better. Use persistent AR integrated with Google Earth for example to create an interesting visual.

## PRIZES

**Teams participating in the Fannie Mae challenge are eligible to win the following prizes for each member of the team:**

### FIRST PLACE

- \$150 Gift Card
- Dinner - VP of Technology
- Full Zip Hooded Sweatshirt
- Heavy Brushed Twill Cap
- Additional FNMA branded items awarded

### SECOND PLACE

- \$50 Gift Card
- Full Zip Hooded Sweatshirt
- Heavy Brushed Twill Cap
- Additional FNMA branded items awarded

### TEAM PARTICIPATION

- **Enviro Tote Bag**  
Containing FNMA branded items to be shared among participating team members

### Useful links for data and information:

(NOTE – some of these are for-pay services with limited access for free accounts)

- **Fannie Mae API Portal:**  
[developer.theexchange.fanniemae.com](http://developer.theexchange.fanniemae.com)
- **Sample Code Repository:**  
[github.com/fitzmurphy/fnmUTD\\_2019](https://github.com/fitzmurphy/fnmUTD_2019)
- **Commute time, "Walkability Scores",**  
Public Transit info available from:  
[walkscore.com/apartments/search/TX/Dallas](http://walkscore.com/apartments/search/TX/Dallas)
- **Crime data** is available from a number of sites including:  
[city-data.com/crime/crime-Dallas-Texas.html](http://city-data.com/crime/crime-Dallas-Texas.html)
- **Dallas Entertainment and Event Information:**  
[visitdallas.com/things-to-do/events/index.html](http://visitdallas.com/things-to-do/events/index.html)  
[dallasobserver.com/calendar](http://dallasobserver.com/calendar)  
[eventbrite.com/d/tx--dallas/entertainment](http://eventbrite.com/d/tx--dallas/entertainment)
- **Instructions on accessing Zillow API's:**  
[zillow.com/howto/api/APIOverview.htm](http://zillow.com/howto/api/APIOverview.htm)
- **Additional resources:**  
[attomdata.com/news/attom-insights/best-apis-real-estate](http://attomdata.com/news/attom-insights/best-apis-real-estate)

