

CASE STUDY

Building an Innovative Mobile
Navigation Application for an
Ambitious Virginia Startup



TWISTYSYSTEMS
Innovation at every turn

ABOUT THE PROJECT

Twisty Systems' innovative data science finds every twisty and winding road in the world, then helps drivers of performance cars and motorcycles discover and drive on them – for pure fun. This unique platform also helps athletes plan their bicycle rides or running routes in order to stay on track with reaching their training goals.

Conceived and developed while co-founder and CEO Ian Sliney was living in Switzerland, the analytics, artificial intelligence algorithms and geographic mapping technology were developed and tested using a MacBook on the twisty roads of the Alps. The results made it clear that the next steps were to expand this technology beyond the Alps and into a global market. Once the technology was expanded, it would then be used to serve data to a mobile navigation application that could be scaled for use by Twisty Systems' clients anywhere in North America and Europe, and eventually worldwide.

CC Pace provided the solutions that delivered over a thousand-fold acceleration of the data analysis algorithms, set up the cloud servers and geographic databases supporting the mobile application, and then developed an eye-catching, state-of-the-art demo of the analytics and mapping, as well as the mobile iOS navigation application itself.

Twisty Systems is now in negotiation with potential investors for Round A funding that will launch the technology into the marketplace.

SITUATION

Twisty Systems wanted to transform their existing analytics and mapping technology from a slow and clunky desktop prototype into a world-class system deployed on personal mobile devices, capable of competing with leading navigation applications.

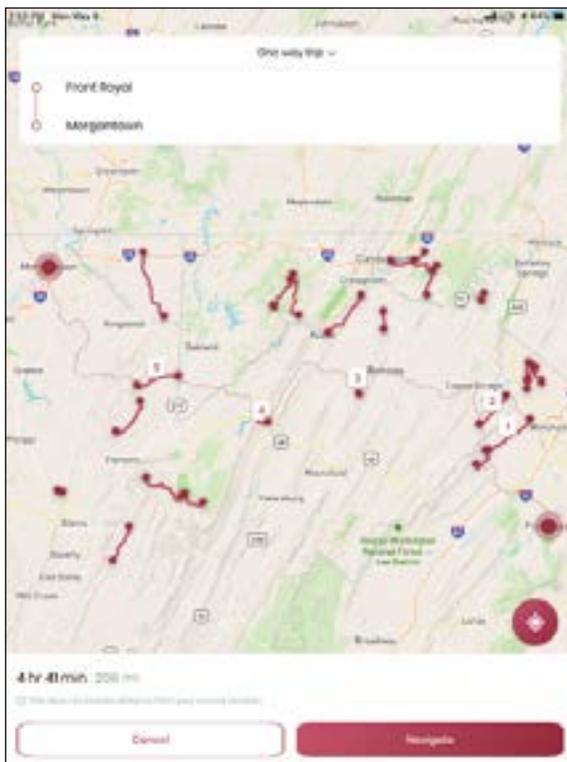
Specific goals included:

- Acceleration of analytic code to reduce execution time from many days to just seconds
- Quality assurance of analytic code execution to ensure 100% reproducibility at all times
- Design, development and deployment of geographic databases on secure cloud servers to protect Twisty Systems patent-pending analytics and serve mobile applications
- Design, development and deployment of a web-based demonstration of the analytic and mapping technology for investors
- Design, development and deployment of a Minimum Viable Product (MVP) version of an IOS mobile navigation application ready for commercial release to fee-paying clients.

RESULTS

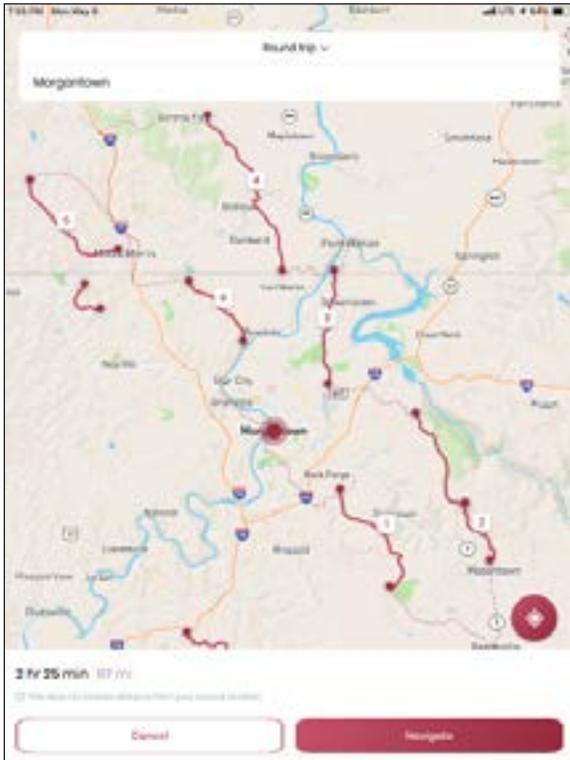
- The analytic code now runs on-the-fly in less than five seconds in response to client preferences collected from their mobile device
- The web-based demonstration of Twisty Systems' analytic and mapping technology is up and running
- The MVP mobile application is ready for Beta testing and will be released commercially in late summer 2019
- Twisty Systems is absolutely delighted with CCPace's performance, as well as with the quality of the relationships that have developed, and which they plan to continue into the future

Below are some examples of how the app can be utilized.



One-way trip:

1. The user chose to take a one-way trip from Front Royal, VA to Morgantown, WV.
2. The user was presented with a number of twisty road segments between the two towns that met their criteria.
3. The user then tapped on those segments he/she wanted to navigate.
4. The app built a route from Front Royal to Morgantown that includes the selected twisty segments, and that route is indicated by the dashed line.
5. When the user presses Navigate, the GPS and voice-enabled navigation will kick-in.



Round trip aka “twisty roads nearby”

1. The user chose to take a round trip starting from and ending at Morgantown, WV.
2. The user was presented with a number of twisty road segments within a preset radius around Morgantown that met their criteria.
3. The user then tapped on those segments he/she wanted to navigate.
4. The app built a route starting from and ending at Morgantown that includes the selected twisty segments, and that route is indicated by the dashed line.
5. When the user presses Navigate, the GPS and voice-enabled navigation will kick-in.

ABOUT TWISTY SYSTEMS

Twisty Systems is an innovative startup that puts performance drivers and athletes on the right roads based on their unique goals. Twisty Systems was co-founded in late 2017 by Ian Sliney and Dr. Michael A. Cohen. Together, they have 50 years of experience managing large international projects and have worked in over 40 countries. Most recently, Mr. Sliney managed a \$1.3 billion vaccine systems development portfolio for Gavi in Geneva, Switzerland. Dr. Cohen is the Director of Monitoring and Evaluation for the United States Agency for International Development’s \$10 billion global drug procurement program. They are both avid motorcyclists and bicyclists.

ABOUT CC PACE

CC Pace is a 40 year IT consultancy, and recognized thought leader in Agile software development, Lean-Agile process improvement and Lean-Agile project management. CC Pace has been using Agile software development techniques since 1999, on projects for our clients, from start-ups to Fortune 100 firms. We are often called in to assist firms that have specific client-driven needs, in order to ensure that they get the highest priority business value delivered to them early. This in turn allows them to better serve their clients, maintaining a competitive edge, and producing earlier returns on their IT investment.