

### Accelerating Shift to CI/CD with E-2-E Quality Engineering

“Working with Ultronauts feels like a real partnership, focused on driving the best business outcomes. The caliber of talent is excellent and consistent, and whenever we pose a technically challenging problem to solve, I know we’re going to get a thoughtful and thorough response.”

**Chief Technology Officer**

**90% REDUCTION**  
IN INTER-ENVIRONMENTAL  
CODE CONFLICTS

**<10 MINUTES**  
REGRESSION TIME  
REDUCED FROM 1.5 HRS.

**64%**  
DECREASE IN TIME TO  
RESOLVE DEFECTS

#### SITUATION

The client is a consumer lending startup experiencing rapid growth. The existing platform and technology were unable to adequately scale with the business, resulting in an unstable product and growing technical debt. The client needed to implement an end-to-end software quality engineering solution that would enable them to expand in a meaningful way without introducing business risk, and didn't have the internal expertise or bandwidth to do so. The client's CTO decided to engage Ultronauts vs. going with a large global IT consulting firm because they didn't want a cookie cutter industry solution. Instead, they needed a highly skilled team they could trust to build a strategic and efficient test automation solution designed to meet their specific business needs.

#### ENGAGEMENT

Ultronauts deployed a team of software test automation experts to recommend and implement a framework that could provide close to real time coverage within their development cycle. The Ultronauts team onboarded quickly and embedded into the existing Sprint cadence to provide feature-level support during ongoing development while simultaneously acknowledging and addressing the technical debt.

Languages/Frameworks/Tools/Techniques: The testing team has leveraged automation frameworks and tools to fit the context of the individual business units within the larger client team, primarily in Javascript. The tools include, Jest, Appium, Cypress, Postman, GraphQL, and AWS for Mobile and Platform Services.

#### RESULTS

The Ultronauts team began driving value immediately, providing automated testing support at the point of code merge. Through constant root cause analysis, the initial focus on feature testing evolved to also include the underlying code issues unrelated to current development. This accelerated the forward momentum of the Client's development team, while ensuring the quality of the code base was stable and scalable. The result has been faster delivery, a more stable product, and an engineering team freed up to do what they do best.

- Speed of test data creation increased by over 90% by introducing automated loan creation for different testing environments
- Internal team members' time freed up 10-20 minutes per mobile test by supplanting client-based mobile tests with automated tests that run sequentially, uninterrupted and un-monitored
- Inter-environmental automation code conflicts reduced by 90% while continuing to improve defect detection
- Regression suite run time reduced from 1.5 hours to under ten minutes, providing instant feedback on code in each environment
- Time-to-resolve defects decreased by 64%, helping significantly improve speed of delivery