Google Cloud Learning Application: Innovation in Education Services STAR Award

**Observability, Gamification & Performance-based Assessments in Hands-on Labs**

**What We Did**
Google Cloud Learning Services has differentiated itself in the domain of technical training by focusing on a primarily *experiential* approach, in which hands-on labs are the central method for developing technical skills. Our hands-on labs provide guided practice in conjunction with access to Google Cloud Platform, not a simulation or demo environment, and available using a standard browser so accessible to all. Completion of hands-on labs is also one of the ways Google Cloud measures progress in learner acquisition.

The central mechanism we have created for this uniquely data-driven approach to hands-on labs is called Activity Tracking (AT) which provides the following benefits:

- With AT we instrument our labs to know exactly what the student is expected to create and do during the lab duration, and then measure and score the student’s performance against those objectives *in real time*. This is a significant technical accomplishment involving tight integration between dozens of cloud services, Google Cloud’s Qwiklabs lab platform, and the specific labs being run at a scale of hundreds to thousands simultaneously around the global networks in multiple geographical data centers. Business, technology, and innovation - getting all three right is not easy and this is an example of being able to do that.

- With AT, we now have, and can provide our clients, true observability of the actions taken and capabilities exercised by the learners in the lab environments, together with the expected analytical and diagnostic insights.

- AT enables a wide range of applications in learning. The two most applied use cases are: 1) gamification of cloud learning experience and 2) the release of skill badges, a new verified Google Cloud credential.

**Gamification**

- With AT, we have introduced the gamification of cloud learning, at scale, as the real-time aspect of the scoring allows for competitive game play in groups from small customer workshops to online marketing events with participants in the thousands.

- Over 25 games have been developed for various skill levels, covering introductory cloud concepts, to longer, more advanced solutions.

- To further enhance the game-like experience, our branding revolves around being a ‘Cloud Hero.’

**Skills badges**

- Also using AT, we have released 14 of our very first performance-based credential, the “Skill Badge” using a new type of lab called a “Challenge Lab”. In a Challenge Lab, students demonstrate their knowledge without specific guidance—by building a solution to a live, real world, and scenario-based use case, in which the Activity Tracking knows what the acceptable solution should include and marks a passing score based on performance. [cloud.google.com/training/badges](http://cloud.google.com/training/badges) provides our external-facing overview of the skill badges.

**Business Impact**

The business impact of the deployment of AT in our learning resources has been substantial, due to the resulting understanding and use of Google Cloud solutions and products, and the immersion with feedback - leading to experience, proficiency and mastery.

**Gamification:**
Since January 2019 launch, over 25,000 players around the world have participated in these friendly competitions of experiential learning, completing over 150,000 labs with AT. These gamified sessions have been played at our global marquee events Google Cloud NEXTs, Google Cloud Summits & Onboards, and hosted by Google Developer Groups, Developer Student Clubs, Hackathons, and Google customers.

Growing popularity of gamified labs drives platform stickiness and learner conversion. In 2020 Q2, 76% players who enrolled in gamified labs earned learner status vs. 47% for 2020 Q1 and 37% for 2019 H2.

Skill Badges

Popularity of AT Challenge Labs resulting in a Skill Badge has been high.

- We have 75K enrollments in quests with challenge labs in 2020 YTD vs. 5K in 2019 H2. This 1400% increase demonstrates strong demand and popularity from the learners
- In 2020 YTD, over 23,000 badges have been awarded which represents a 750% increase vs. 2019 H2
- We have 100+% month over month growth in skills badges earned for each month in 2020 YTD.

Customer Impact:

AT brings great value to customers and learners: gamification and skill badges provide a more engaging experience that translates in a richer and faster upskilling since learners’ activities are tracked and measured vs. clear objectives, scoring the student’s performance in real time.

The growth observed in customer interest on gamification events confirms what stated above. Customers using gamifications have increased significantly year over year:

- Over 100% increase in player counts from 2019H1 to 2020H1. With events going digital, we are expecting even stronger demand going forward.
- Just for H1 2020 we are tracking to have hosted or scheduled over 2.5X events vs. full year of 2019, mainly driven by rising Enterprise customers demand
- From Fall 2019 - Winter 2020, ‘Cloud Hero’ events were also hosted by universities and colleges around the world. Over 50 sessions occurred with over 2,000 student participants. Check out UC Davis Hosts Google Cloud Hero Competition - Blog post with Video

Additionally, due to demand from Higher Ed, we will offer a pre-recorded event with live support Cloud Hero events to higher ed institutions around the world.

Additionally, since March 2020, customers have had a stronger need to empower their workforce to work from home: AT made it easier to make the switch. We have made it possible to have all these gamified events moved completely online, and our communities and customers are finding these digital events a powerful way to continue to upskill, and to engage with their teams and affinity groups, while working from home.

Below few anecdotal customer accolades:

- “It was a great learning experience to know about GCP ...I’m interested in learning more as I felt the 3 hours event was not enough for me!” PM, Cybersecurity Company
- “…the feedback I got was how easy it was to use, particularly for people who have ‘old-school’ technical skills (like SQL) and they liked the ability for using this within BigQuery, also the ease of use of the labs and guides, etc. was well received.” Lead Tech Mgr, Fin Services
- “Every moment I walk down the corridor, lunch area, people come to me and say how appreciative they are for being in the Google event. The learning was FUN and they really enjoyed being there” Sr Program Mgr, Telecommunications Co., Fortune 100

Next Steps

Gamification

- Provide a richer UI/UX environment, for example more immersive design and navigation elements.
- Build out additional integrations for user games and results to be more closely connected to the learning journey.
- Enable Google Cloud partners to provide gamified sessions to their customers as a learning services.

Skill Badges

- Continue to launch skills badges to effectively address customer needs.
Correlate and validate achieved skills and competencies into our learners’ histories to provide even further observability and competencies-based outcomes to our internal as well as customer/sponsor stakeholders.
For more information, visit the TSIA STAR Awards Winners Page