

The slide features several decorative brushstrokes: orange strokes in the top-left and bottom-left corners, a green stroke in the top-right corner, and orange and green strokes in the bottom-right corner. The main text is centered on a white background.

Learner's Credentials

C21U, Center for 21st Century Universities,
Georgia Institute of Technology

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2	Learner's Credentials: Students and Instructors
3	Learner's Credentials: Employers
4	Next Steps
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(Jonna) Lee,**
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Yugvir Parhar
GRA, C21U




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GRA, C21U



1

C21U

Center for 21st Century Universities,
Georgia Institute of Technology



What is C21U?

- Georgia Tech's living laboratory for fundamental change in higher education
- C21U develops, tests, and evaluates new educational platforms and new technologies, facilitating their deployment in higher education
- C21U is always looking forward. "What does institutional innovation and educational impact look like for the future of Georgia Tech?"
- **One of founding entities for Lifetime Learning Initiatives at GT** (<https://provost.gatech.edu/lifetime-learning-initiative>)



Georgia Tech
Center for 21st
Century Universities



What is C21U?

- **C21U Digital Learning Technologies Team**
 - Eric Sembrat, Ph.D. (Dir. of Digital Learning Technologies)
 - Stuart Freeman (Application Developer Lead)
 - Chris Yang (Application Developer II)
 - Adrian Gallard (Digital Learning Data Analyst)



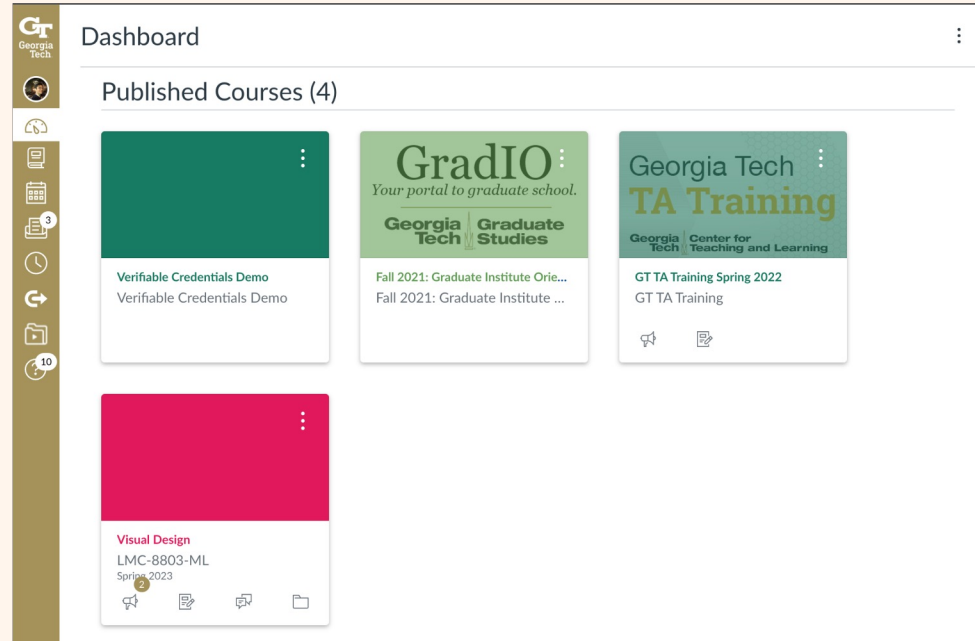
Georgia Tech

Center for 21st
Century Universities



C21U & DCC Project Overview

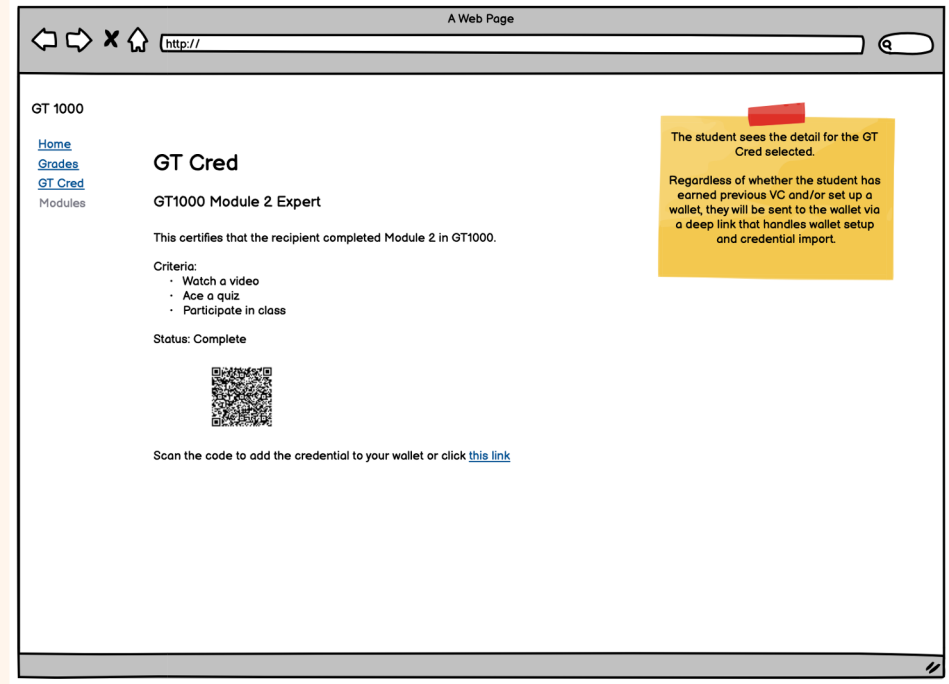
- Our effort has focused on integrating an issuing tool in our learning management system (LMS).
- We use to manage digital learning, create and present online learning materials and assess student learning.
- Students to engage in courses and receive feedback about skill development and learning achievement.



The screenshot displays a dashboard interface for Georgia Tech. On the left is a vertical navigation bar with icons for home, calendar, notifications (3), clock, back, folder, and profile (10). The main content area is titled "Dashboard" and "Published Courses (4)". It features three course cards: "Verifiable Credentials Demo" (green header), "GradIO" (green header, "Your portal to graduate school.", "Georgia Tech Graduate Studies", "Fall 2021: Graduate Institute Ori...", "Fall 2021: Graduate Institute ..."), and "Georgia Tech TA Training" (green header, "Georgia Tech Center for Teaching and Learning", "GT TA Training Spring 2022", "GT TA Training"). A fourth card, "Visual Design" (pink header, "LMC-8803-ML", "Spring 2023"), is partially visible at the bottom.

C21U & DCC Project Overview

- Since Fall 2020, we have built tools to test the LMS flow of issuing a credential & evaluated user perceptions toward the built-out tool for the Learner's Credential App (LCW).
- This presentation will mainly discuss how our UX research has evolved.



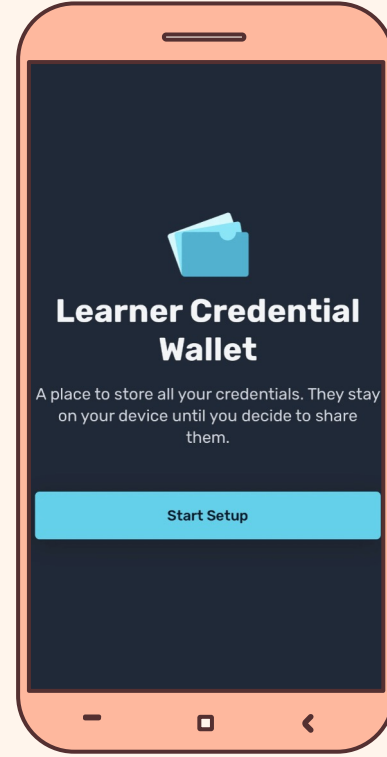
The User Experience Lifecycle



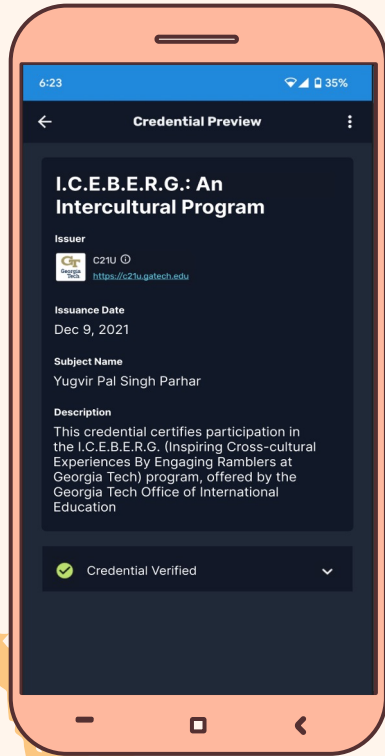
2

Students & Instructors

Learner's Credentials



Digital Credentials



Digital credentials in this context are **digital certificates of academic achievements and outcomes.**

They can be shared with relying parties (eg. employers, school admission committees, etc.) as a **trusted, reliable authentication of skills and accomplishments.**

Initial Pilot with I.C.E.B.E.R.G at Georgia Tech

Inspiring **C**ross-cultural **E**xperiences **B**y **E**ngaging **R**amblers at **G**eorgia Tech
An Intercultural Learning Series



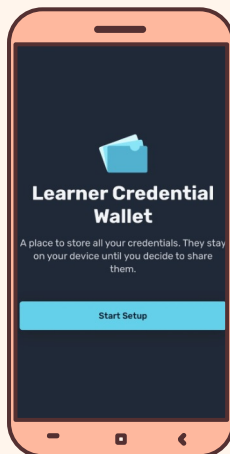
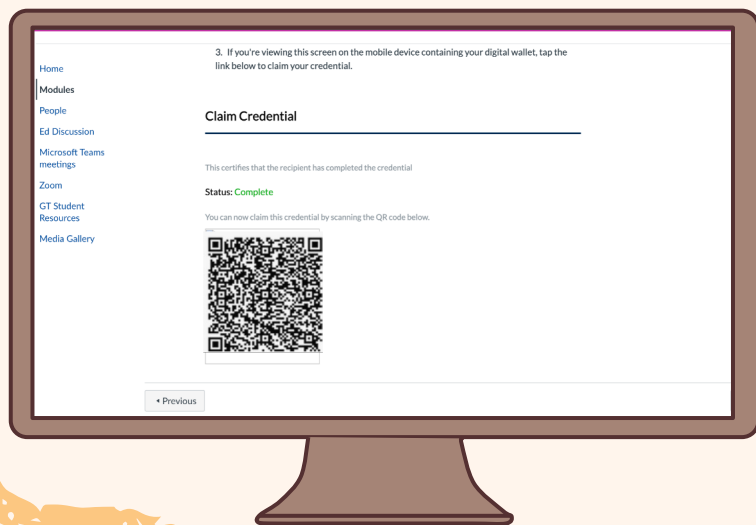
“ Overall this series has been very insightful in reframing my perspective on culture and how it shapes and defines interactions at every level...
- Past Participant, BME Student ”



Our Ecosystem

Canvas Tool

[Instructors, issuing parties]

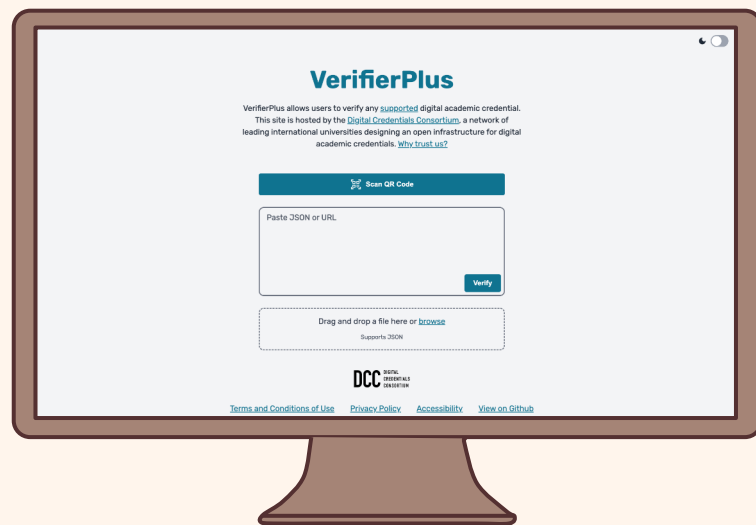


LCW App

[students, candidates]

Verifier Plus

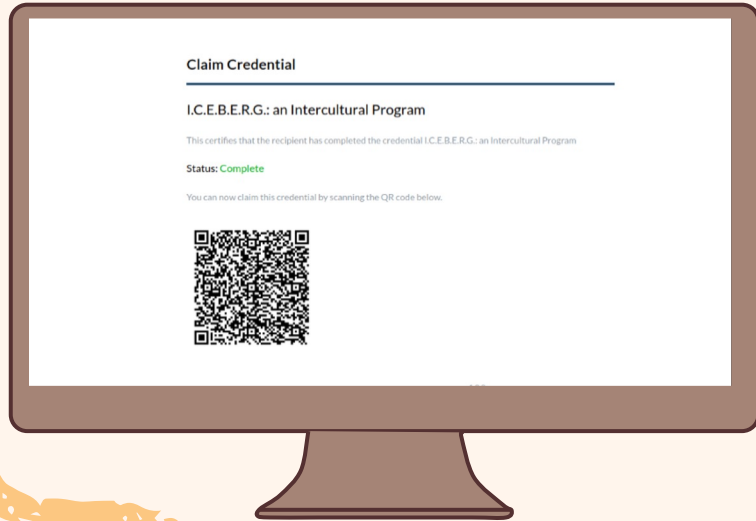
[employers, verifying parties]



Our Ecosystem

Canvas Tool

[Instructors, issuing parties]

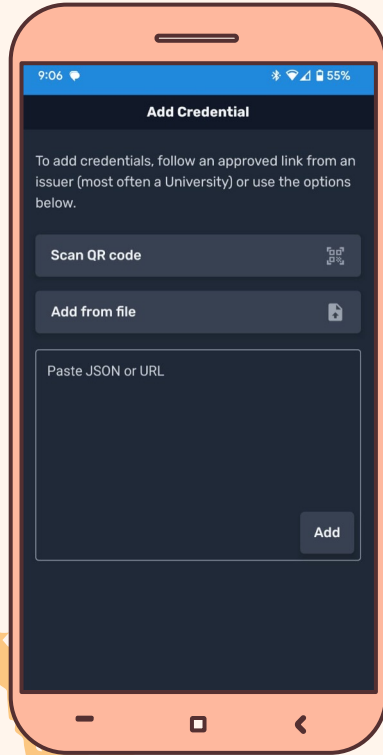


Instructors decide when to award credentials to students. On Canvas, our learning management system, the instructors can set criteria (like passing a quiz, or attendance) to award a credential.

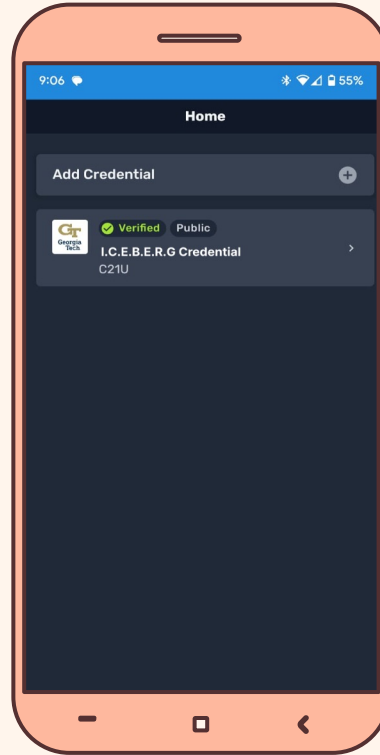
The student then scans the QR code on LCW (Learner Credential Wallet App) to accept/ manage/ share the credential.

Digital Credentials

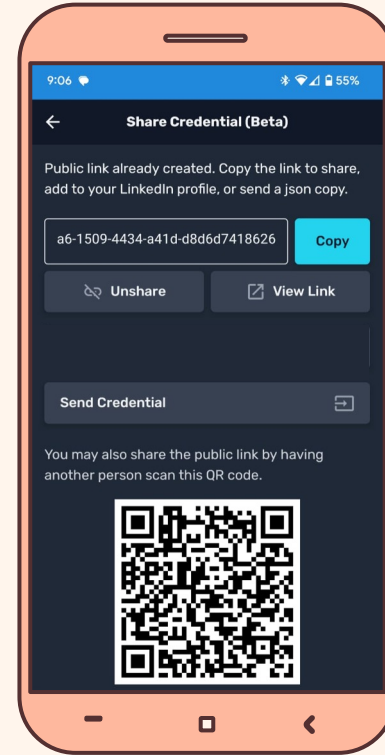
Accept



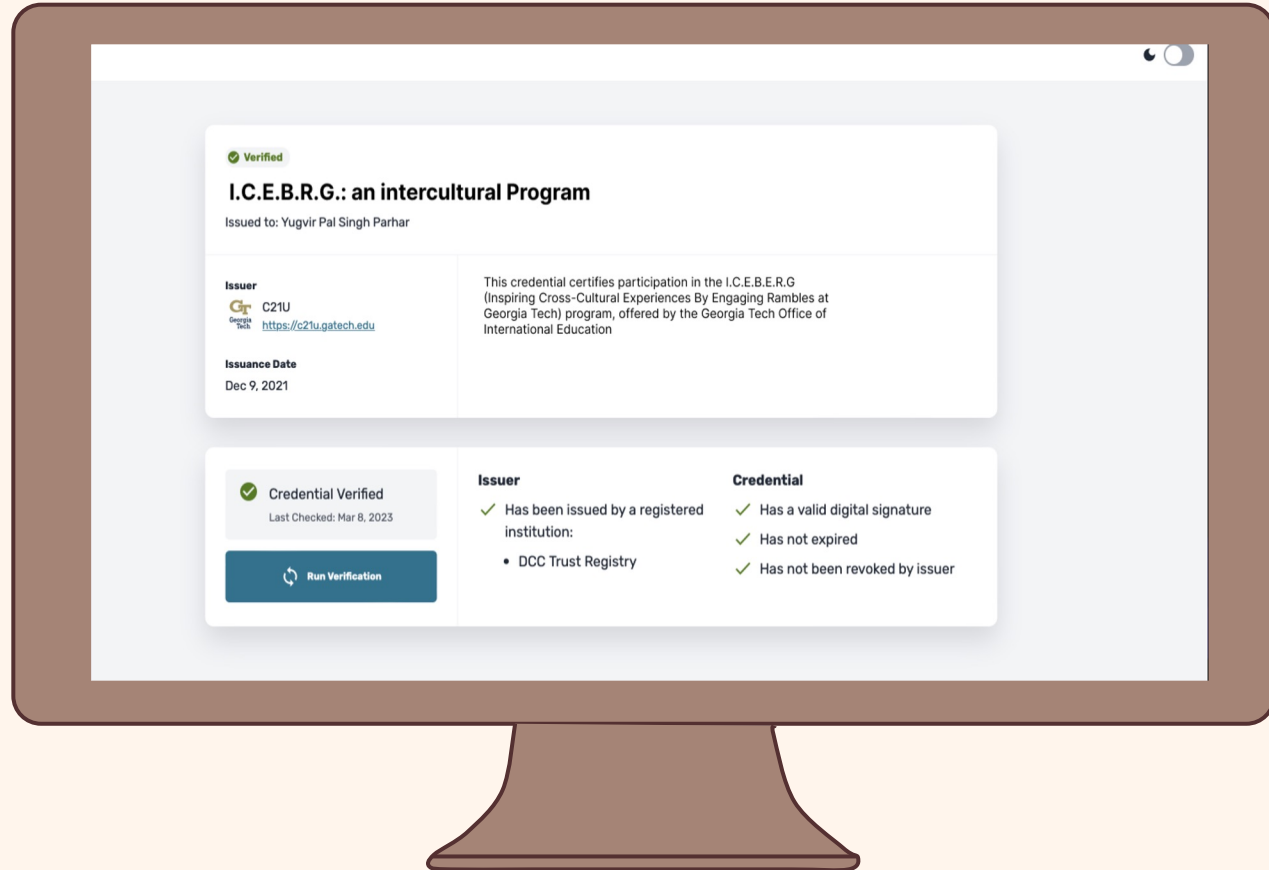
Manage



Share (beta at the time)



Our Ecosystem



Initial Pilot with I.C.E.B.E.R.G at Georgia Tech

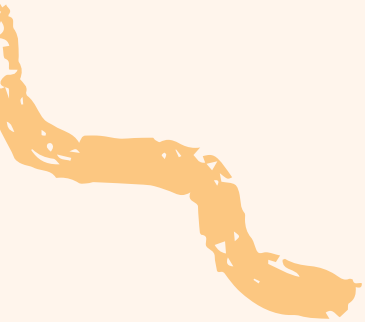


Thanks to colleague
Lucy Chen

Piloted the system with students and instructors from Georgia Institute of Technology in Spring 2022.

Topics of Interest:

- **Student's perspectives on digital credentials**
- **System Usability**



Pilot Details



Thanks to colleague
Lucy Chen



6 Users Interviewed

Using a semi-structured interview research protocol, we interviewed 5 undergraduate students and 1 graduate student.

User Backgrounds

Actively enrolled Georgia Tech students

Computer Science background

Ages: 19-54

Familiar with Digital Credentials: MOOCs, IRB,
Coursera, Udemy

Familiar with Canvas, Canvas modules

Findings

1

Usage

Job search and LinkedIn were the most requested applications for academic digital credentials.

2

Content

Granularity of credentials required further thought.

"What exactly goes on the credential?"

3

Platform

Students preferred different platforms.

"It would be nice to have a website or a hub of sorts"

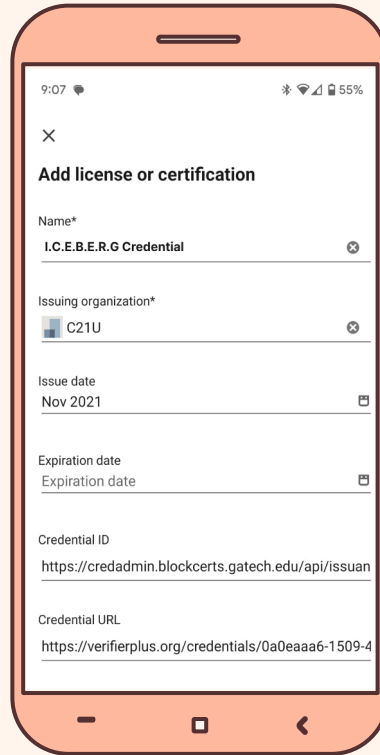
Digital Credentials

1

Usage

Job search and LinkedIn were the most requested applications for academic digital credentials.

Share on LinkedIn



9:07 55%

×

Add license or certification

Name*
I.C.E.B.E.R.G Credential

Issuing organization*
C21U

Issue date
Nov 2021

Expiration date
Expiration date

Credential ID
<https://credadmin.blockcerts.gatech.edu/api/issuan>

Credential URL
<https://verifierplus.org/credentials/0a0eaaa6-1509-4>

Findings

System Usability Scale (SUS) Ratings

The SUS is a framework of asking a particular set of questions that measure a system's:



Efficiency: How fast someone can use it

Intuitiveness: How effortlessly someone can understand it

Ease: How simple it is to use

Satisfaction: How much a user subjectively likes or dislikes using it



A score of 70% means that the system is **acceptable** but still needs improvements

Findings

1

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Job search and LinkedIn were the most requested applications for academic digital credentials.

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Granularity of credentials required further thought.

“What exactly goes on the credential?”

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Platform

Students preferred different platforms.

“It would be nice to have a website or a hub of sorts”



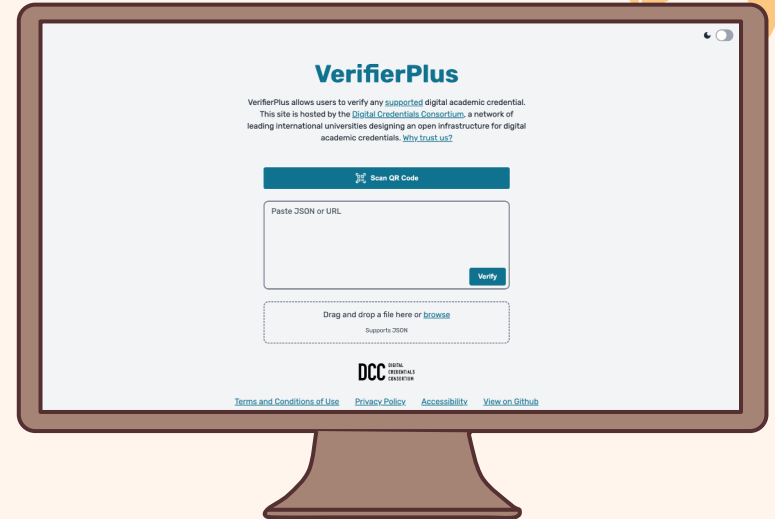
This was the perfect opportunity to
bring **employers** into the fold



3

Employer's Perspectives

Learner's Credential Wallet



Methodology

1

Secondary Research

What are the current
barriers to industry?

2

Semi-Structured Interviews - Phase 1

What do employers want
from this tech?

3

Semi-Structured Interviews - Phase 2

What do employers think of
our current ecosystem?

Barriers to adopting Digital Credentials:

1. Issuers are Not Issuing the Types of Credentials Employers Need or Want

With respect to more general skills, most traditional credentials do not reflect one of the most important outcomes of a college education, the ability to learn new things in the future.

What kinds of skills specifically do they want?

2. Employers need Incentives

Evidence that they can be used for more than verification—namely skills matching and talent identification, or

A reasonable belief that a plurality of job candidates will hold digital credentials in the near future

Secondary Research

Opportunities for Digital Credentials:

1. These include using digital credentials to better match candidates to jobs by analyzing their skills
2. Broadening the talent funnel by data-mining credential databases
3. Ensuring the authenticity of credentials
4. Using credentials to manage the talent pathways in their organizations.

Semi-Structured Interviews - I

Demographics

- 5 participants with 10+ years of industry and hiring experience each.
- Participants belonged to the Project Management Certificate Course at Georgia Tech.

Session Details

- 30 minute sessions
- Conducted over Microsoft Teams

Semi-Structured Interviews - I

Guiding Questions

```
graph TD; A[Guiding Questions] --> B[Evaluation]; A --> C[Workflow]; A --> D[Perception]; A --> E[Information]; B --> B1[How do employers evaluate candidates?]; B --> B2[What kinds of skills do they care about?]; C --> C1[Where would digital credentials fit into the hiring workflow?]; D --> D1[How do employers perceive the value of digital credentials?]; E --> E1[What info would make them worth using?];
```

Evaluation

- How do employers evaluate candidates?
- What kinds of skills do they care about?

Workflow

Where would digital credentials fit into the hiring workflow?

Perception

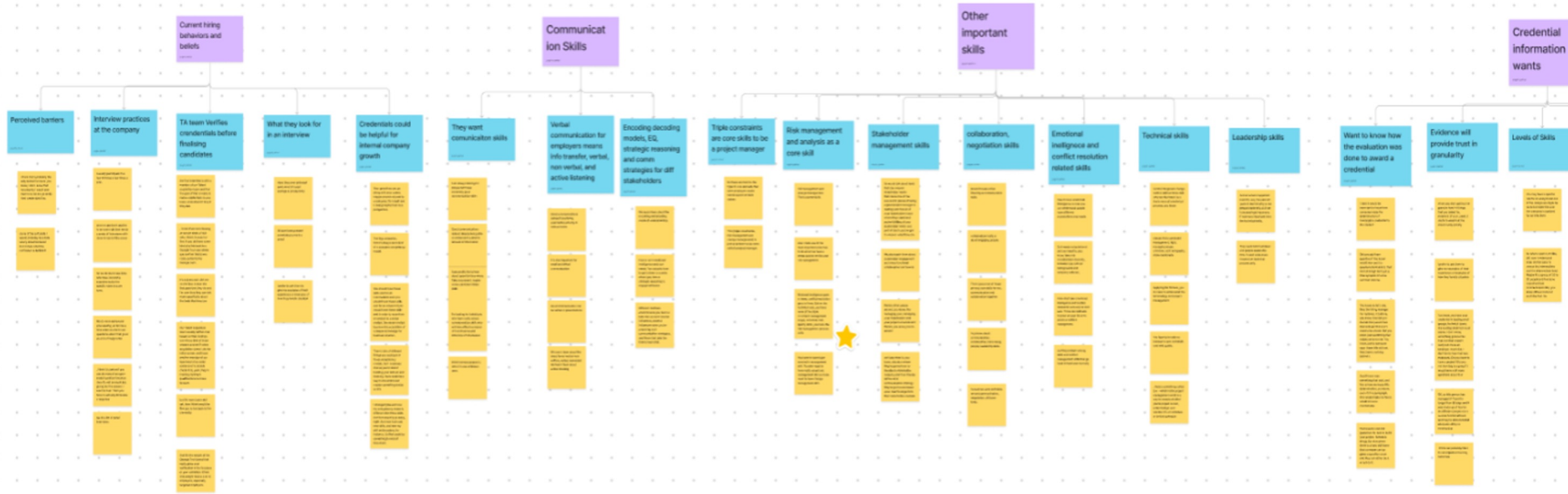
How do employers perceive the value of digital credentials?

Information

What info would make them worth using?

Synthesis

Affinity Mapping



Findings

1

Entering the hiring workflow

- **Candidate driven** (LinkedIn/ links on resumes, etc)
- **Pool of candidates** with skill based credentials with ties to industries

2

Digital credentials could be **helpful in internal job skill acquisition** and tracking

“Track your growth as you go along with your career, or even internal to a company. So I could see it being helpful from that perspective.”

Findings

3

Evaluation

Employers want to know how the determination was made to award said skills

“some of the soft skills I would probably be a little weary about because I don't know what the curriculum is behind it, regardless, I would like to see how they were evaluated”

4

Granular Skills

Employers want to get more granular in what they see on digital credentials

Findings

5

Examples of Skills categories employers wanted

1. Communication Skills

- a. Verbal communication
- b. Non-Verbal Communication
- c. Communication Strategy

2. General Candidate Skills

- a. Collaboration, Negotiation skills
- b. Emotional intelligence and conflict resolution skills
- c. Leadership skills
- d. Technical Skills

Findings

5

Examples of Skills categories employers wanted


“OK, so this person has managed A-Team for longer than 90 days and it was made-up of four to six different people or it's a cross functional team and they've demonstrated adequate ability to communicate with a cross functional team.”

Findings


6

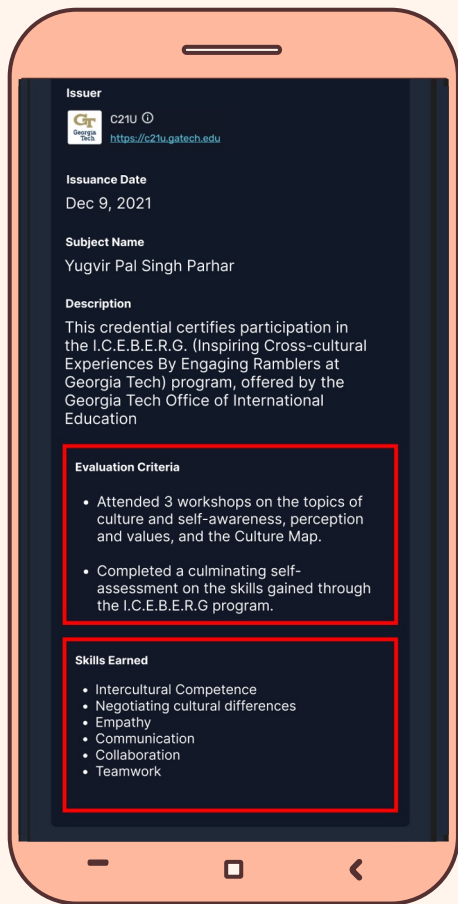
Issuing authority

Participants said that until there may be a singular issuing authority, the brand value of the issuing institution still matters to them.



Based on all our findings, the next step was to make **incremental changes** in the LCW app and get more employers' perspectives.





Addition of Evaluation Criteria and Skills Earned

The two most requested pieces of information that employers wanted were:

- On what basis was the credential awarded?
- What skills did they learn?


Semi-Structured Interviews - II



Demographics

- The 5 participants had 10+ years of industry and hiring experience each
- Participants belonged to small (2), medium (2), and big (1) sized companies.

Session Details

- 30 minute sessions
 - Conducted over Microsoft Teams
- 

Semi-Structured Interviews - II

Guiding Questions

```
graph TD; A[Guiding Questions] --> B[Visualization]; A --> C[Trust]; B --> D[How do employers want to see the information about evaluation criteria and skills?]; C --> E[What information drives trust in the credential?];
```

Visualization

How do employers want to see the information about evaluation criteria and skills?

Trust

What information drives trust in the credential?

Findings

1

Employers validated that they want evaluation criteria and skills



100% wanted skills on the credential



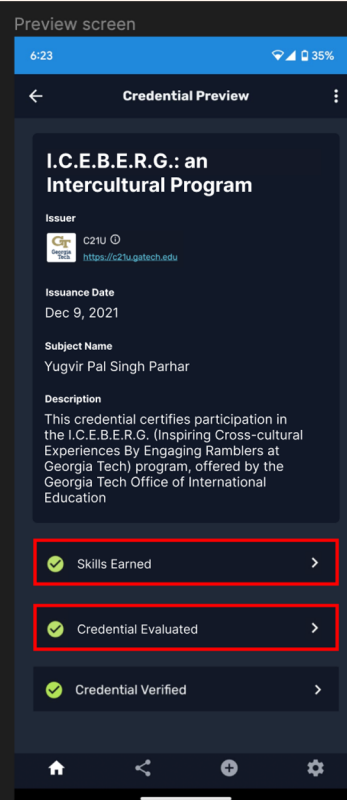
60% wanted Evaluation criteria on the credential

Findings

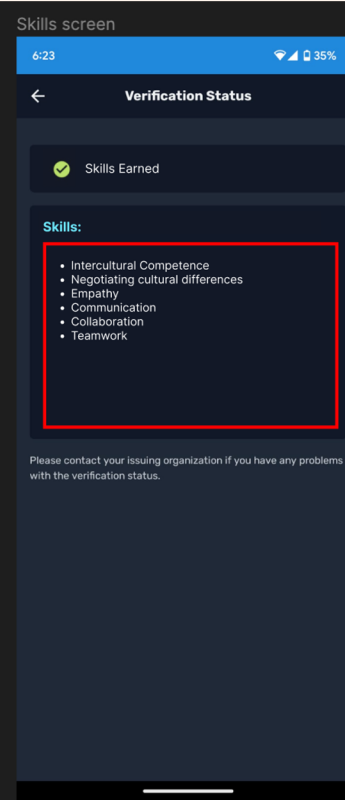
1

Employers validated that they want evaluation criteria and skills

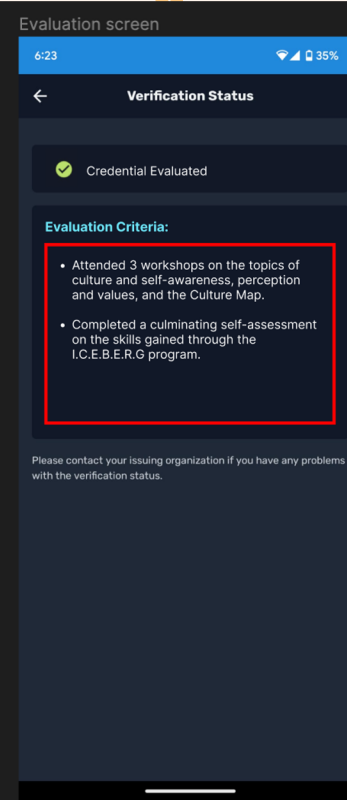
And they told us how they want to visualize these.



Want to see skills, then eval, then verification proof

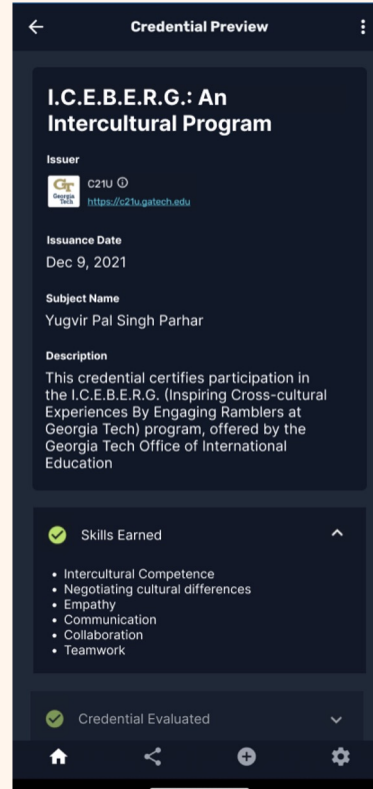
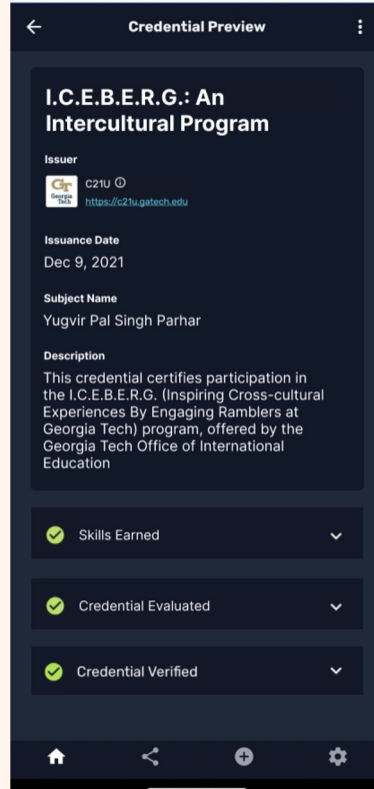


Want to see a list of skills, with descriptions.



Want to see ELOs as well as evaluation criteria (preferably a small paragraph)

Suggested Updates






Suggested Updates

VerifierPlus ☾ ○

I.C.E.B.E.R.G.: An Intercultural Program

Issued to: Yugvir Pal Singh Parhar

<p>Issuer</p> <p> C21U https://c21u.gatech.edu</p> <p>Issuance Date</p> <p>Dec 9, 2021</p>	<p>This credential certifies participation in the I.C.E.B.E.R.G (Inspiring Cross-Cultural Experiences By Engaging Rambles at Georgia Tech) program, offered by the Georgia Tech Office of International Education</p> <p>Skills Earned ▾</p> <p>Evaluation Criteria ▾</p>
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<p> Credential Verified</p> <p>Last Checked: Mar 8, 2023</p> <p> Run Verification</p>	<p>Issuer</p> <ul style="list-style-type: none">✓ Has been issued by a registered institution:<ul style="list-style-type: none">• DCC Trust Registry	<p>Credential</p> <ul style="list-style-type: none">✓ Has a valid digital signature✓ Has not expired✓ Has not been revoked by issuer
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Suggested Updates




VerifierPlus 🌙

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 **Credential Verified**
Last Checked: Mar 8, 2023

<p>Issuer</p> <p> Has been issued by a registered institution:</p>	<p>Credential</p> <p> Has a valid digital signature</p> <p> Has not expired</p>
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Findings

2

**We noticed
varying levels of
trust across
employers**



40% wanted to know more about the underlying technology



60% were satisfied with the information present

Findings

2

We noticed varying levels of trust across employers

iPhone 14 Plus - 18

6:23

35%



Verification Status



Credential Verified

This means that the credential:

- is in a recognized format
- the digital signature validates
- has been issued by a registered institution
- the issuing institution could be reached to verify the credential
- has not expired


Please contact your issuing organization if you have any problems with the verification status.



4

Next Steps

Piloting with GT Program Management
Course in Summer 2023



Goals for Pilot

Pilot the tool implementation with students and instructors in GT Interdisciplinary Research Course (N=15)


- Develop workflows for evaluating more subjective skills like communication, team work, etc.
- Test workflows for awarding credentials to a larger population of students.
- Potentially work with industry partners to further research ways of improving and implementing digital credentials.



5

Bigger Picture

Lifetime Learning Initiative



What's next for C21U?



- Continue to research & evaluate the effectiveness of digital credentials in both non-credit & for-credit learning environments
- Contribute to developing tools & systems that can empower lifelong learners
- Establish partnerships with diverse experts & stakeholders to envision the future of lifelong education



Thanks!