PESC GEO Code: A Use Case Study

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Presenters

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USC

- Largest provider of postsecondary ed in America
- Enrollment exceeds 45,000 students
- International students → 25% of population

ECE

Founded in 1980 in Milwaukee
Charter member of the National Association of Credential Evaluation Services (NACES)
One of only four non-profit credential evaluation services in the US
First credential evaluation service to have started a charity program (ECEAid)
Current and previous offices both historic Milwaukee brewery buildings (Schlitz and Blatz)
Non-profit winner of the Milwaukee Better Business Bureau Torch Award for Ethics

The Challenge

- Volume
- Expertise
- Fraud

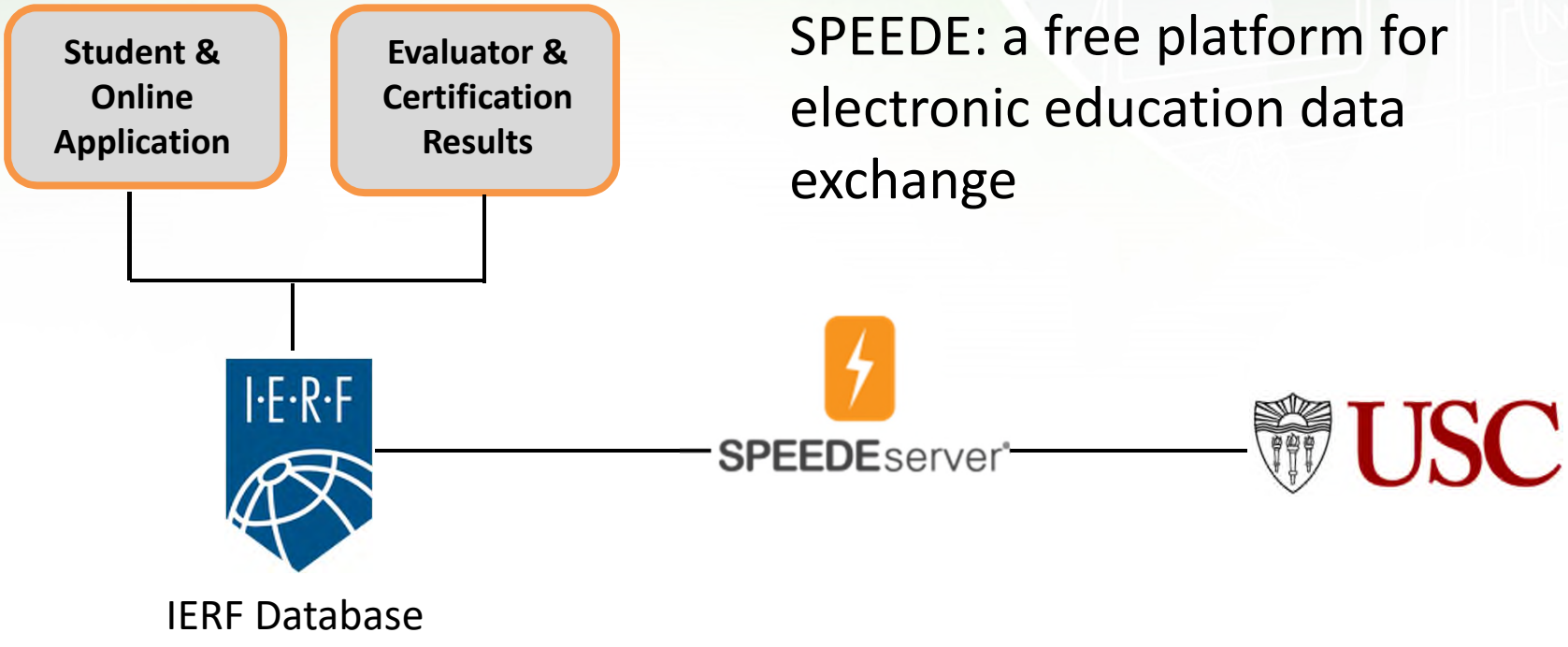
A Brief History

- 2012 Decision to Outsource the Degree Verification function
  - Concern over document fraud
  - Lack of in-house expertise
  - Wanted to improve service provided to our students
- Evolving the method of Evaluation results into a consumable electronic medium – began this process early on with our vendor
- Began developing EDX data exchange with vendor
  - Identified PESC Standards
  - Registered with the SPEEDE Server
  - Provided “USC” index of international School IDs (manufactured set of IDs)
  - Began sending/receiving EDI TS130,TS131 transaction sets

More History

- International Education Research Foundation (IERF) was our vendor choice for degree verification services
- IERF quickly developed in-house expertise needed to generate EDI transaction sets
- Registered with the server as IERF but sends credentials verification as ‘override institution’ identifiers
- USC and IERF have been wildly successful with its exchange – More than 2700 degree verification transactions completed in 2017
- Why the international school code sets (900+) used by USC and IERF only work for a single school – USC.
  - Most schools in North America create their own code sets for International institutions

SPEEDE



IERF Database

SPEEDE: a free platform for electronic education data exchange

Wins

- No cost to use SPEEDE server
- Time saved (results loaded in real time)
- Efficiency (= work of 2 full-time personnel)
- Improved quality, accuracy and consistency
- Protection of USC from fraud & other areas of exposure
- Enhanced service to students

Mapping of Schools

- Why every school in North America creates their own international school code IDs
- How the lack of standardized code sets inhibits vendors like IERF from being effective in its delivery of services
- Even standardized code sets have their issues
  - OPEID, NCHELPID, IPEDS, ATP, FICE, ACT, CCD, PSS, CEEBACT, CSIS, USIS, ESIS, PSIS, DUNS, APAS

Mapping of Schools

Challenges

- Translations
- Transliterations
- Multiple Locations
- Faculty/Departments as Separate Entities
- Mergers
- Name Changes

Example of Anna U

Anna University in India

Formed on the basis of merging several institutions:

- *College of Engineering, Guindy (1794)*
- *Madras Institute of Technology, Chrompet (1949) & 3 Technological Departments of the University of Madras*
- *Alagappa College of Technology (1944)*
- *School of Architecture and Planning (1957)*

Example of Anna U

Anna University, Continued:

Then split into 6 constituent universities:

- *Anna University, Chennai*
- *Anna University of Technology, Chennai (2010-12)*
- *Anna University of Technology, Tiruchirappalli (2007-12)*
- *Anna University of Technology, Coimbatore (2007-12)*
- *Anna University of Technology Tirunelveli (2007-12)*
- *Anna University of Technology, Madurai (2010-12)*

However, in 2011, the Act was repealed. They were merged back into Anna Uni.

How can this arrangement be expanded to benefit others?

PESC

- Postsecondary Electronic Standards Council
- Founded in 1997
- Establishes and supports open data standards in the education field
- Provides PESC-approved standards for free
- Formed Global Data Mobility Work Group (and Geo Code initiative) in 2016

Geo Code Project

- Guiding principles for the PESC GEO Code structure:
  - A pragmatic approach to getting this initiative launched
  - Non-competitive in nature
  - Formations of standardized school IDs provided by relevant parties
  - Establishment of governance that will work into the future
  - Inclusive group with broad representation
  - Start small and build out
  - Integration into existing standards vs. creation of new standards
  - Free to the education Community

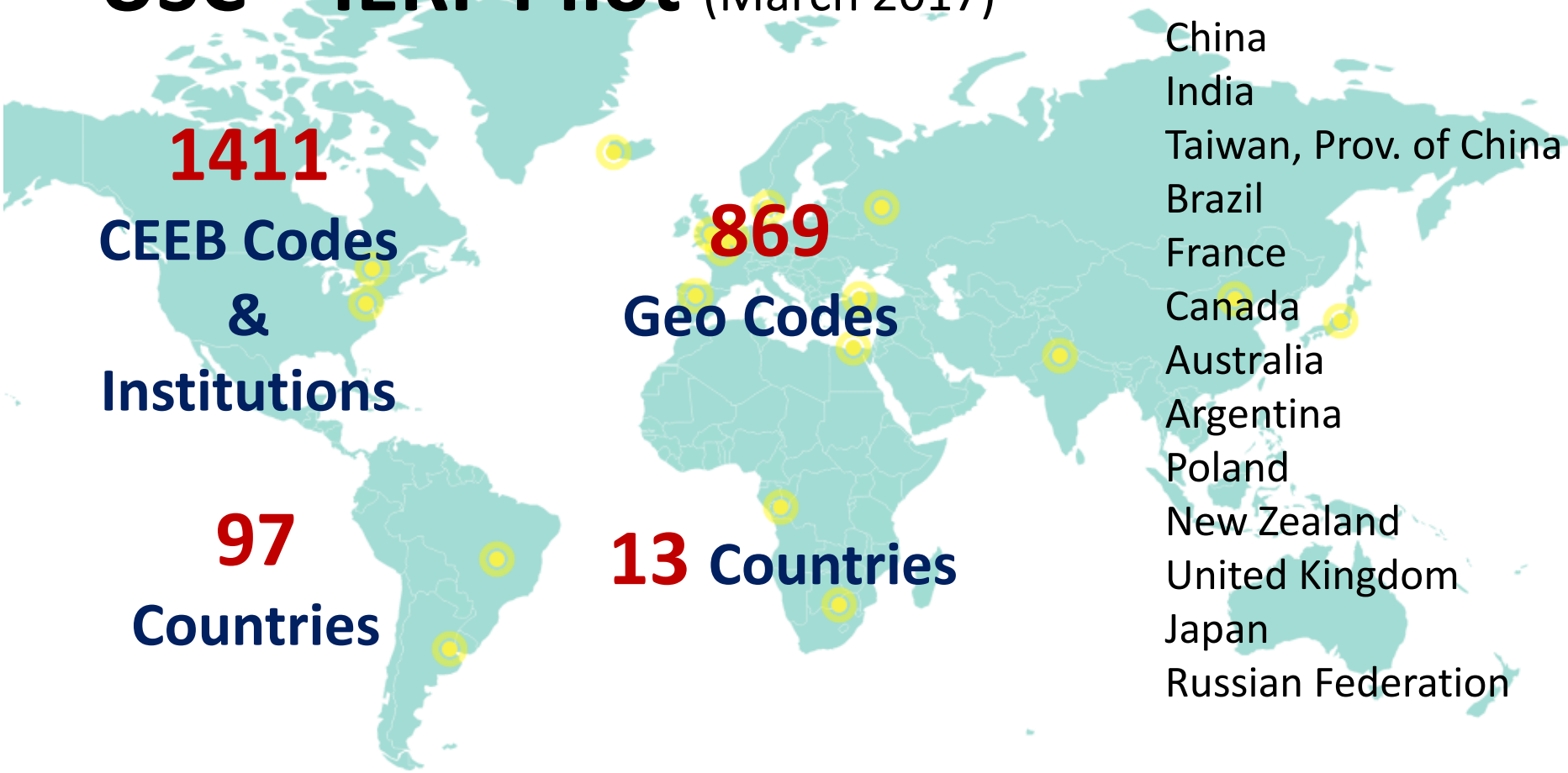
Geo Code Project

- Standardized online directory of institutional codes
- Enables crosswalk between global codes and native institutional codes
- For worldwide use for free
- Idea floated 10 years ago
- Momentum with PESC, Groningen Network & AACRAO

Geo Codes

- 2-digit ISO country code + 5-digit alphanumeric (Example: CN00183 = Harbin University; AU00043 = Monash University
- Minimum data requirements to be included in index: School name and physical location (address)
- Can includes name in native language & location
- Active & inactive school status indicators
- Diploma mill reference, as appropriate
- Source information includes data from CDSL, CHESSIC, IERF, ECE, EUF, AACRAO, CanPESC, Parchment, and grassroots efforts

USC – IERF Pilot (March 2017)



1411
CEEB Codes & Institutions

97
Countries

869
Geo Codes

13 Countries

China
India
Taiwan, Prov. of China
Brazil
France
Canada
Australia
Argentina
Poland
New Zealand
United Kingdom
Japan
Russian Federation

User Feedback

Global Education Organization PESC Code List

This form allows partners to suggest additions or corrections to the PESC Global Education Organization PESC Code list.

* Required

Email address *

Your email

Organization Name (English) *

Your answer

Organization Name (Local Language)

Your answer

Benefits

- Improved data quality & integrity
- Decreased risk of fraud & abuse
- Faster processing
- Free service
- Can be recognized universally
- Institutions & organizations already committed

Pilot to Production

- USC/IERF 8 month proof-of-concept pilot was completed in October 2017
- GEO code formally added to XML standards in November 2017
- Any school/vendor/service provider can use the published code sets
- Work on an interactive web service to host GEO code continues to make progress (ECE sponsored development)
- Workgroup continues to build data sets, and will expand to secondary institutions

From IERF's Exec. Dir.

"Being a part of this project has great significance for us. When dealing with institutions of study on a global level, there are added layers of complexity, from similarities in names that potentially confuse one school for another to variations found in translations or even spellings due to transliteration. Developing standardized GEO codes will help minimize exactly this and facilitate accuracy and speed in the work we all do."

- Susan Bedil, Executive Director

Next Steps

- Will continue to add more schools and countries
- Improve on existing list
- Workgroup open to public – Get involved!!
- www.pesc.org/geo-code.html

GEO Code API Development

Jim Kelly
Senior Director of Technology
Educational Credential Evaluators, Inc.

What is GEO Code

- GEO = Global Educational Organization
- Enables global sharing of educational data
- GEO Code is a list of GEOs
  - For every country
  - With ID unique across entire list

GEO Code Requirements

- Web Interface
- API Access to all list data
- Web based list maintenance
- Automated GEO Code generation
- Search by institution name or code
- Data download for one or all countries

GEO Code Requirements

- Crowd sourcing
  - Collect crowd sourced suggestions
  - Moderated approval or rejection of suggestions
- Log date/time and user when records are created/updated/deleted
- Support institutional history (form/merge/dissolve)
- Support institutional hierarchy
- Detect and eliminate duplicate entries

Progress So Far

- Google spreadsheet (available at pesc.org)
- List of countries

Antarctica	Argentina
Australia	Brazil
Canada	China
France	India
Japan	New Zealand
Poland	Russian Federation
Taiwan, Province of China	United Kingdom
United States	

Development

- Java application
- Built on Play framework
- Using MySQL
- Developed by ECE on 3 week Sprints
- Development reviewed with GEO Code Steering Committee
- Test server hosted by ECE

Governance

- ECE develops using 3 week Sprints
- Sprint Review
- Involve GEO Code Steering Committee with Sprint Review
- Steering Committee review & acceptance

Status

- Production server hosted on AWS
- Production available at **geocode.pesc.org**

Web Use Cases

- Find GEO Code
  - Search for institution
    - By name
    - By national code
- Verify GEO Code/Lookup Information
  - Search by GEO Code
- Update External System
  - Download all
  - Download country
  - Download search results

API Use Cases

- Update External System
  - JSON Data Listing
    - All entries
    - By country
    - Changed since date
- Display GEO Code Data in External System

Features

- Login/Logout
- Admin Role
- Search
  - Full text search
  - Return ordered by relevance
  - Similar to Google Search
  - Filter
    - By category
    - By country
- Institutional Detail

Features

- Suggest Change
- Accept or Reject Change
- Download
  - Download all
  - Download by country
  - Download JSON by country

Admin Features

- Maintain list components
  - Institution
  - Suggestions (Review/Accept/Reject)
  - Categories
  - Countries
  - Code Type
- Maintain Users
- Import Data

Minimum Viable Product (MVP)

- US Data
  - Get US addresses
  - Setup All US codes
- Status Code w/Status Reason & Notes
- Prevent Bots - CAPTCHA

Planned Features

- Differentiate active vs inactive institutions in list
  - Include notes / Use color
- Country Admins
  - Approve country suggestions / Make country changes
- Notifications
  - When suggestions are accepted or rejected
  - When changes are made

Updates

- Country Admins
  - Will be able to manage their institutional data in database
- Country Driven Data Updates
  - Include GEO Code
  - Include change code (new, delete, changed)
- Continued Volunteer Effort

Transition from Google Spreadsheet

- Establish Data Steward
- Completion of MVP
- Dual Operation
  - Spreadsheet & Database
  - Create GEO Codes in databases -> Publish to spreadsheet
  - FAQ for operation

Thank you!

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