CITES Database

Database For An Wildlife Preservation Organization

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CONTENT

01 **Introduction**
Part one

02 **Design & Implementation**
Part two

03 **Demo 1**
Part three

04 **Demo 2**
Part four

01

Introduction

THE PART ONE

01 What is CITES?

Convention on International Trade in Endangered Species of Wild Fauna and Flora

International agreement between governments

Ensure the trade of wildlife animals and plants does not threaten their survival

Record information about the trade records

Working procedure

Institution apply to the government → Permission → Register to the CITES

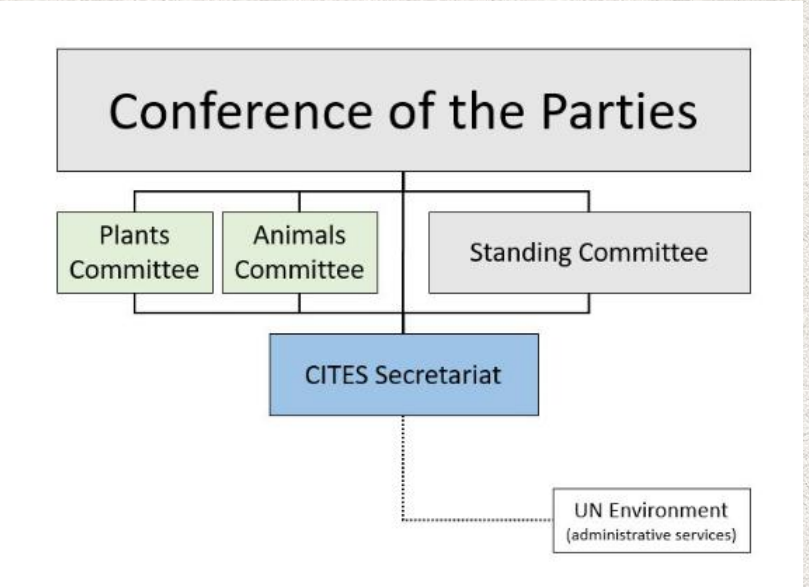
01 Administrative Structure

Plants Committee

In charge of the records of plant trade

Animals Committee

In charge of the records of animal trade



Standing Committee

Daily operation of the organization

01 Motivation and Our Database Blueprint

1. Existing R package with limitation
2. Tremendous amount of records
3. Our database!
4. Record and admin info
5. Requirement: Query and Update efficiently

02

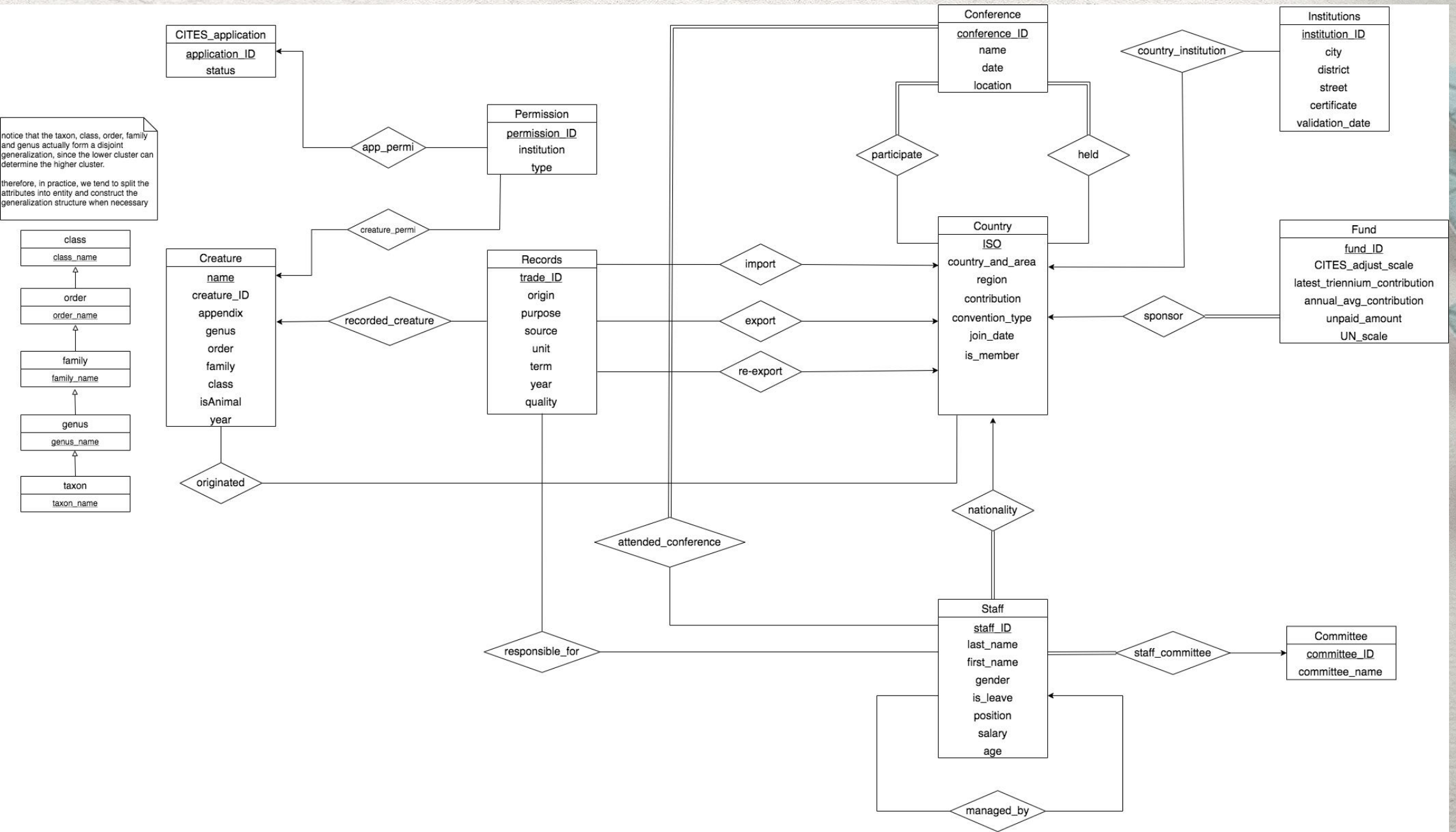
Design and Implementation

117010164 刘浩翔

Entity

Organization	Responsibility
Staff	Creature
Committee	Institution
Country	Permission
Institution	Application
Fund	Record

ER Diagram


CITES_application
application_ID
status
Permission
permission_ID
institution
type
app_permi
creature_permi
Conference
conference_ID
name
date
location
Institutions
institution_ID
city
district
street
certificate
validation_date
country_institution
participate
held
notice that the taxon, class, order, family and genus actually form a disjoint generalization, since the lower cluster can determine the higher cluster.
therefore, in practice, we tend to split the attributes into entity and construct the generalization structure when necessary
class
class_name
order
order_name
family
family_name
genus
genus_name
taxon
taxon_name
Creature
name
creature_ID
appendix
genus
order
family
class
isAnimal
year
recorded_creature
Records
trade_ID
origin
purpose
source
unit
term
year
quality
import
export
re-export
Country
ISO
country_and_area
region
contribution
convention_type
join_date
is_member
Fund
fund_ID
CITES_adjust_scale
latest_triennium_contribution
annual_avg_contribution
unpaid_amount
UN_scale
sponsor
originated
nationality
attended_conference
responsible_for
Staff
staff_ID
last_name
first_name
gender
is_leave
position
salary
age
staff_committee
Committee
committee_ID
committee_name
managed_by

Implementation

realistic data

Creature

Records

Conference

Fund

Country

Millions

Data

Creature	Records Application	Permission	
38,000	800,000	1,000,000	1,000,000

03

Demo1
Routine Query

THE PART THREE

03 Operational Needs Analysis

Informative operation

- Queried mostly by users

Organizational operation

- Queried mostly by employees

Different access permissions

03 SQL query examples : informative search

The most traded species...ever?

Alligator mississippiensis

```
SELECT creature_ID, SUM(trade_count)
FROM (
SELECT creature_ID, Records.year,
count(distinct trade_ID) AS trade_count, avg(unit)
as Avg_unit
FROM recorded_creature NATURAL join Records
GROUP BY creature_ID, Records.year
) GROUP BY creature_ID
```

Articles

A CITES Sustainable Trade Success Story: American Alligator Recovery and Trade

February 28, 2020

03 SQL query examples : organizational search

```
SELECT country_name, country_num_staff
FROM(
SELECT country_name, COUNT(distinct staff_id)
AS country_num_staff
FROM nationality
GROUP BY country_name
)
ORDER BY country_num_staff
```

Suppose you are the director of the CITES, and someone reported an illegal trade in the border of 2 countries, and you need to contact the associative in this country:

03 SQL query examples : organizational search

```
SELECT staff_id, trade_id
FROM responsible_for
WHERE staff_id = '722'

SELECT staff_id, COUNT(distinct trade_ID)
FROM responsible_for
GROUP BY staff_id
```

722	**721**	Ballantyne	David	male	56	Administrative Services Assis	YES
723	**722**	Jacob	William	male	50	Administrative Services Assis	YES
724	**723**	Willard	Judith	female	52	Administrative Services Assis	YES

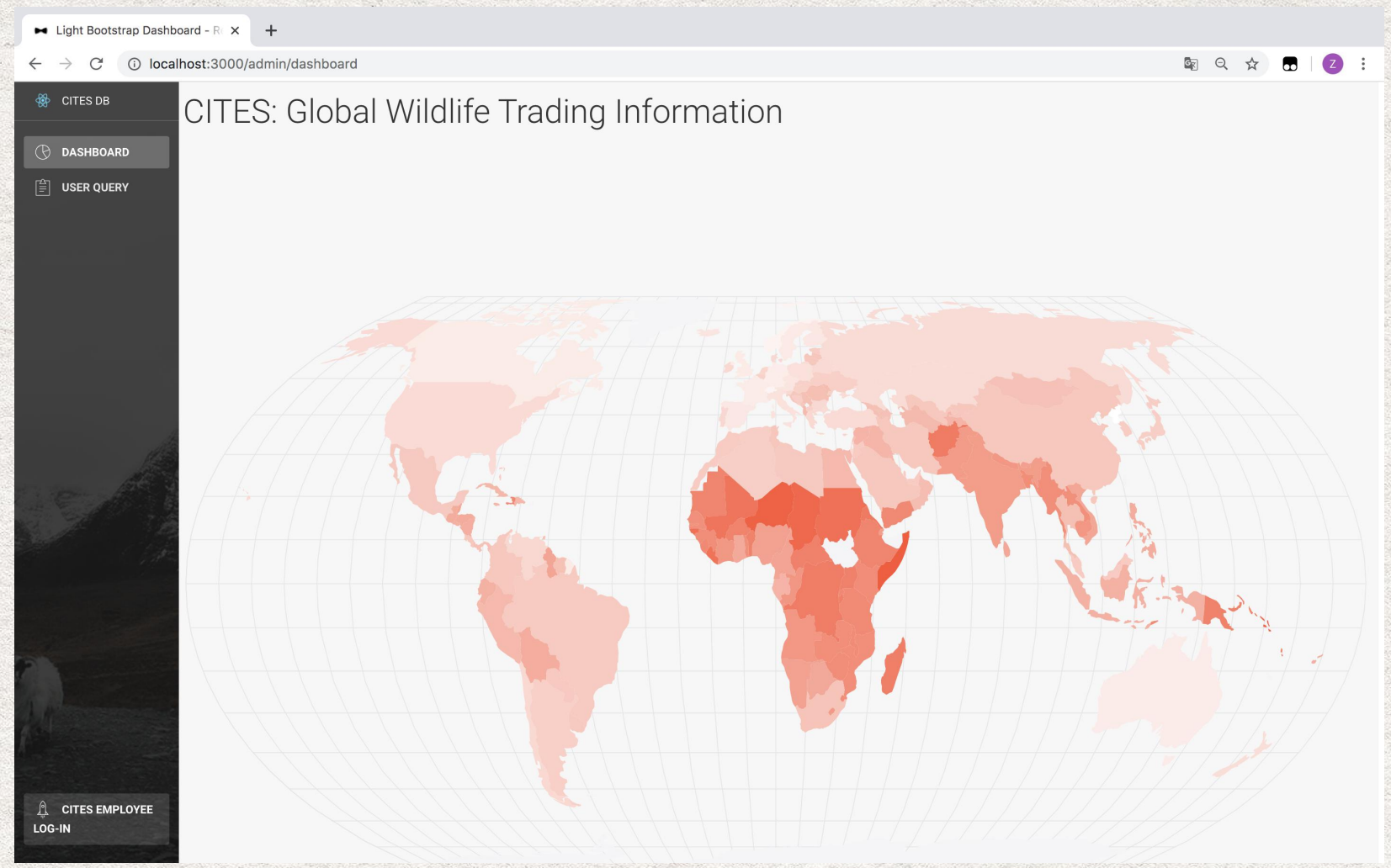
Suppose you are the director of Jacob, and would like to check for the number of cases he is currently working on:

04

Demo2
Web and Analysis

THE PART FOUR

04 Demo Two: Initial Page



- World Heat Map
- Dash Board
- User Query
- Clerk Log in (TBA)

04 Demo Two: Dashboard

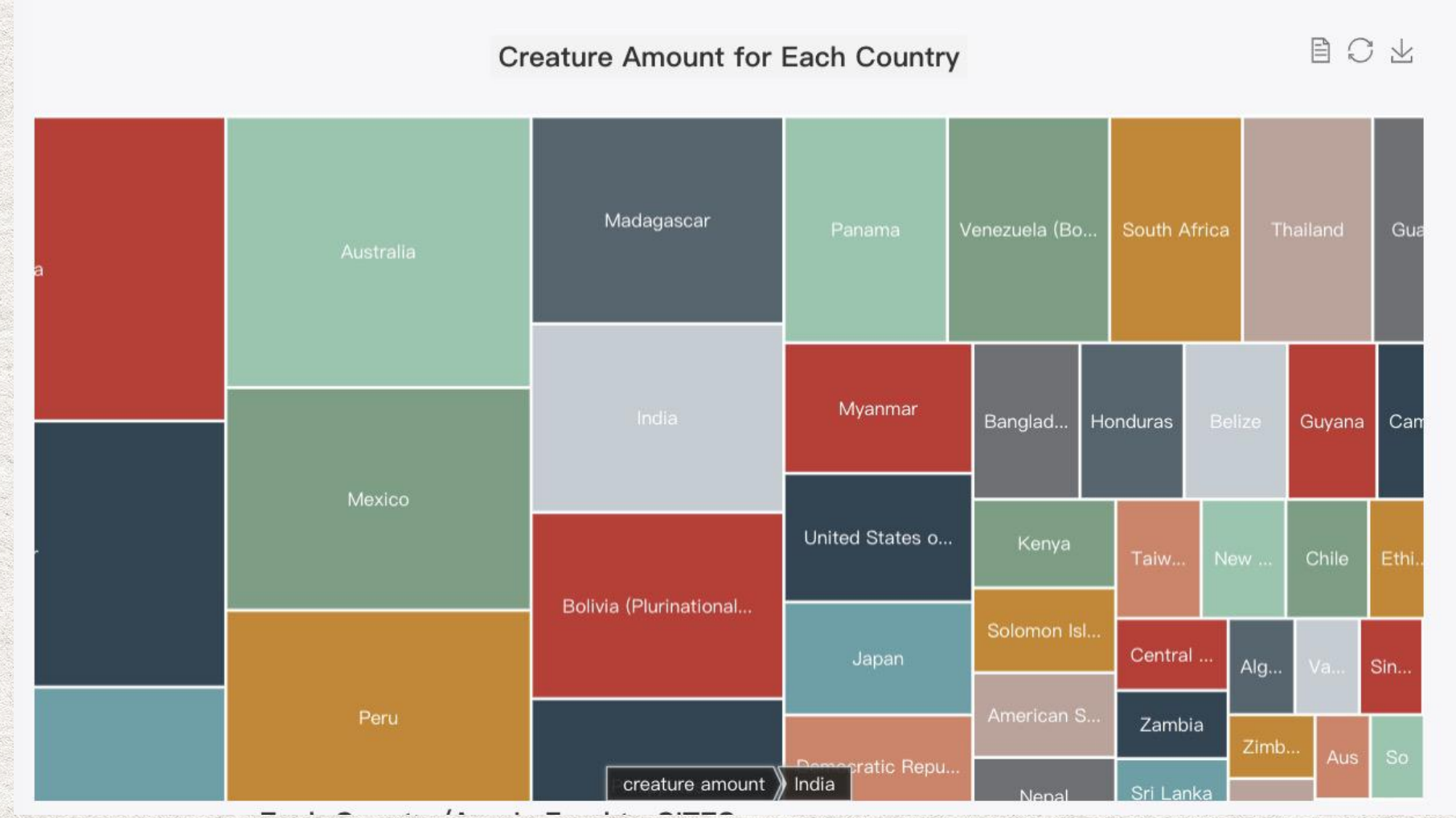
Highest Import
US of America
Updated now

Highest Export
Indonesia
Updated now

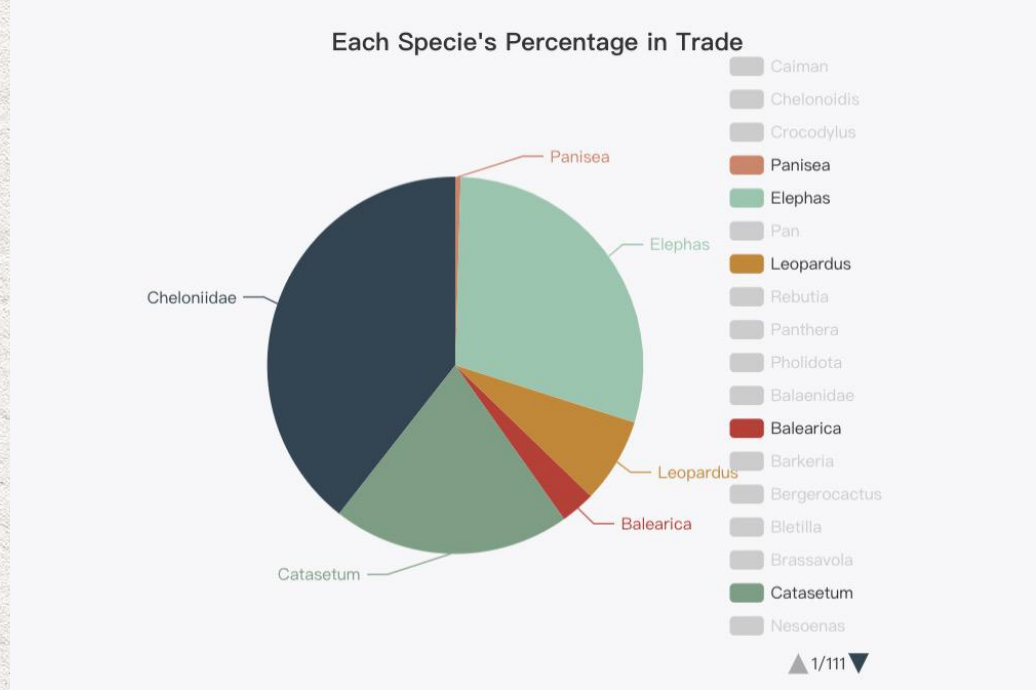
Lowest Import
Norfolk Island
Updated now

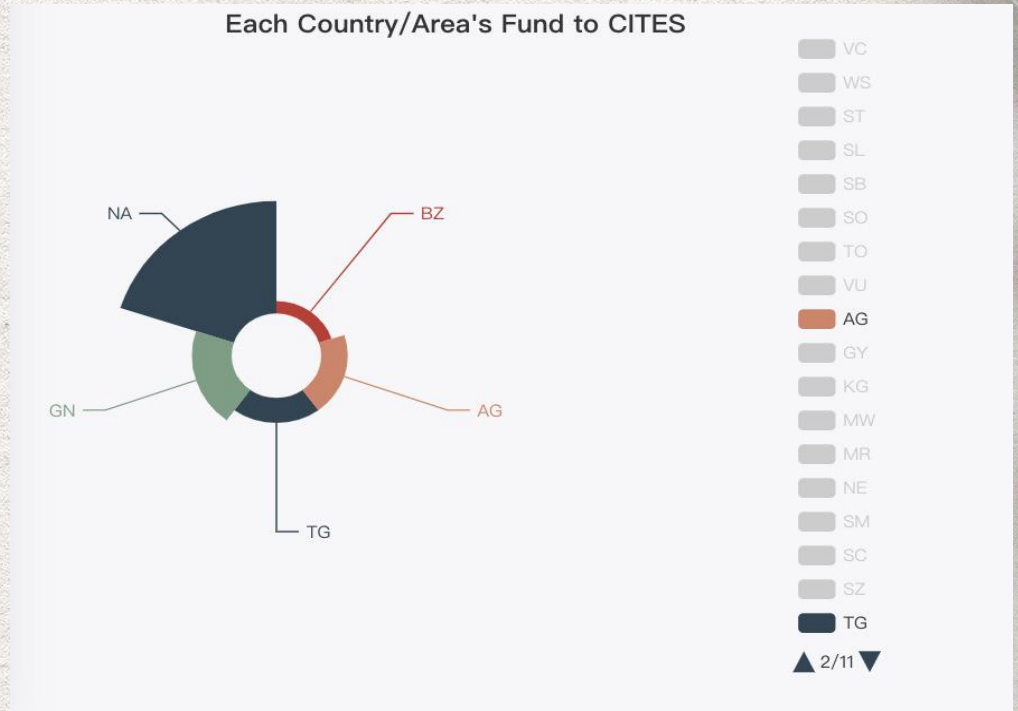
Lowest Export
Christmas Island
Updated now

04 Demo Two: Dashboard

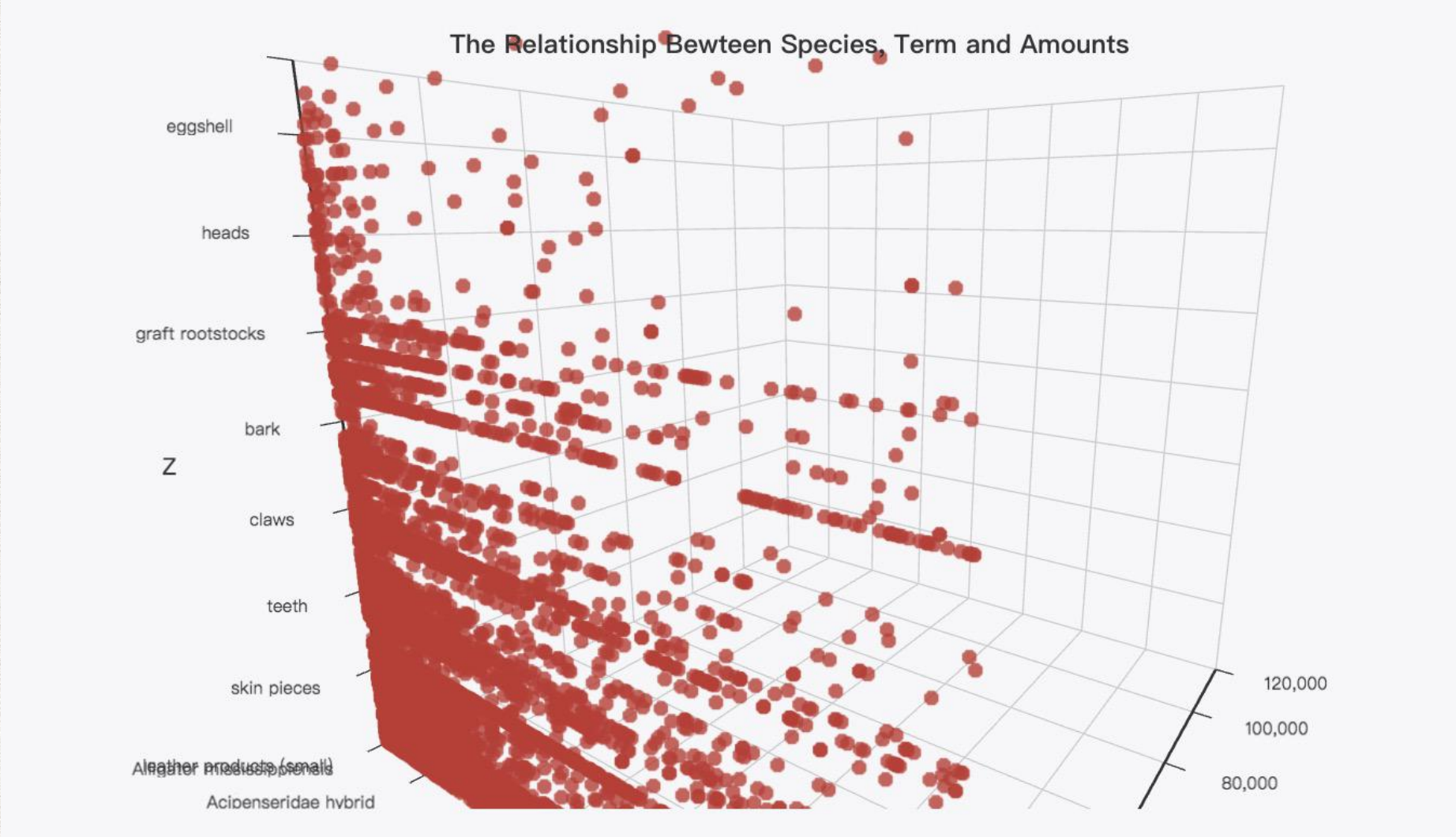


04 Demo Two: Dashboard

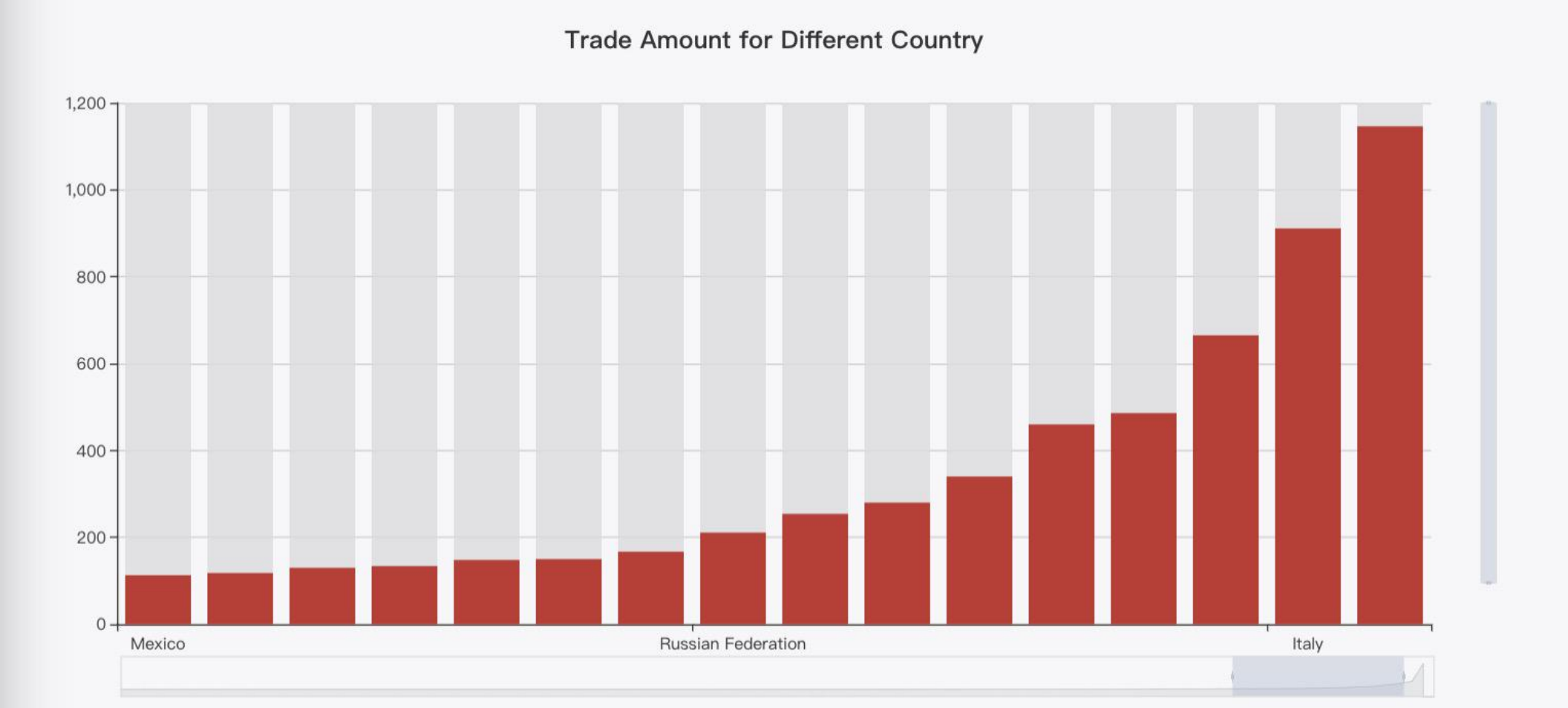




04 Demo Two: Dashboard



04 Demo Two: User Query



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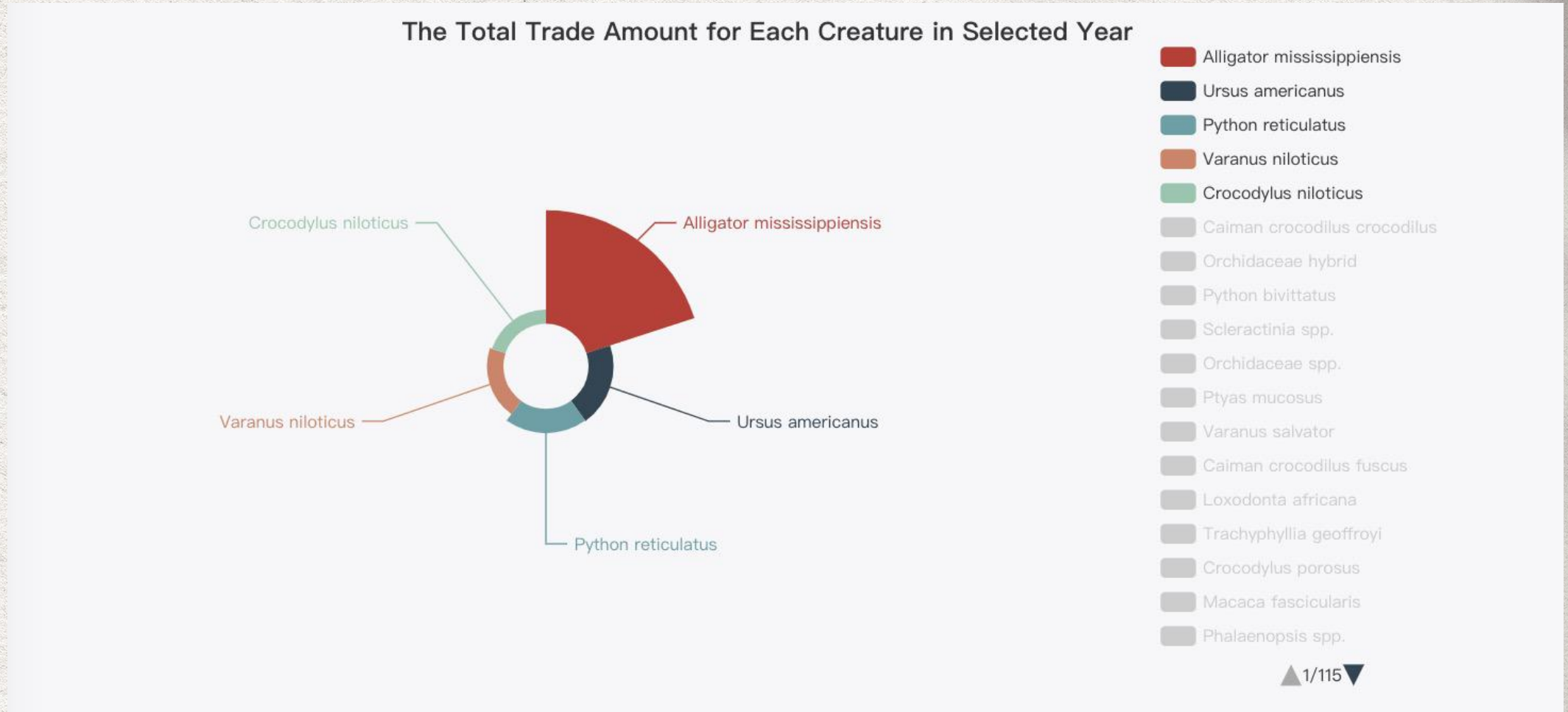

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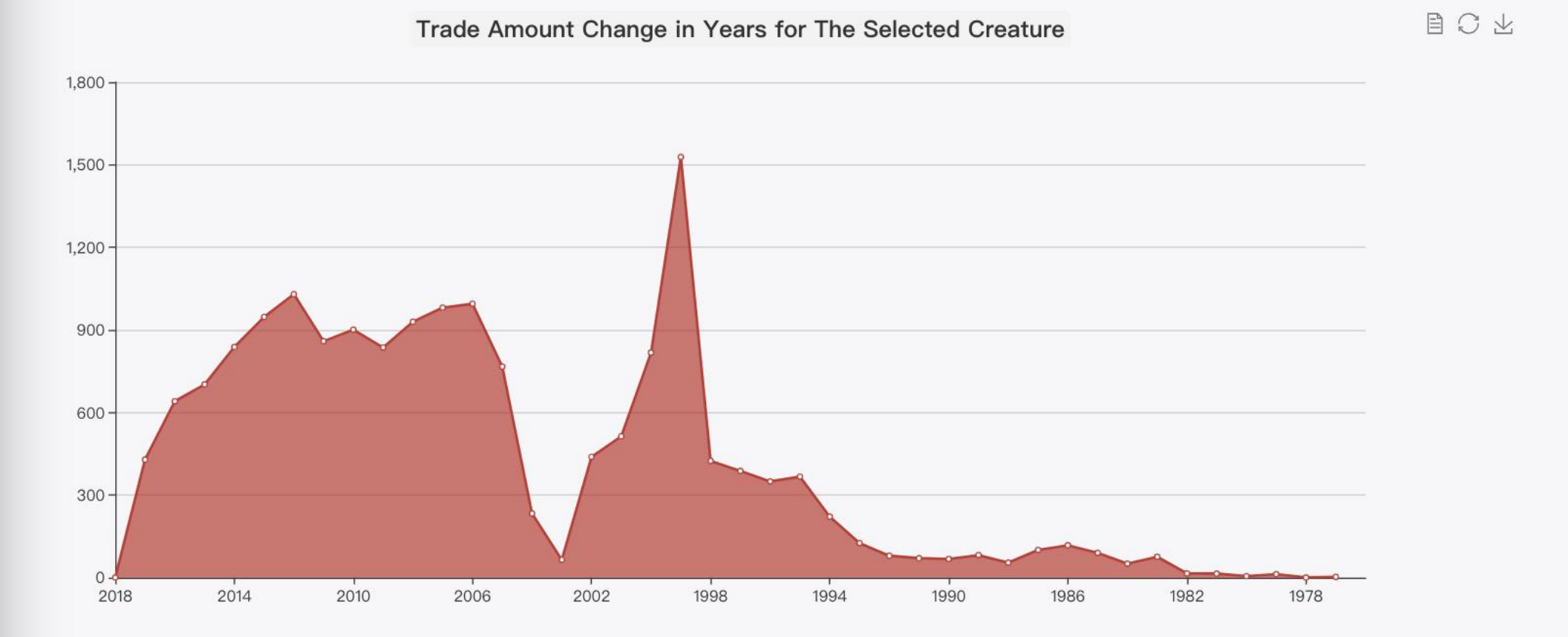

Q & A

Thank You

2020/4/29