

# Caterina Sforza: Sforza Fortresses of Imola and Ravaldino

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<https://azzu-silvagni.github.io/project/>



# Project Overview

The aim of this project is to investigate two historical fortresses located in Romagna, focusing on the figure of **Caterina Sforza**, an Italian noblewoman, Countess of Forlì and Lady of Imola.

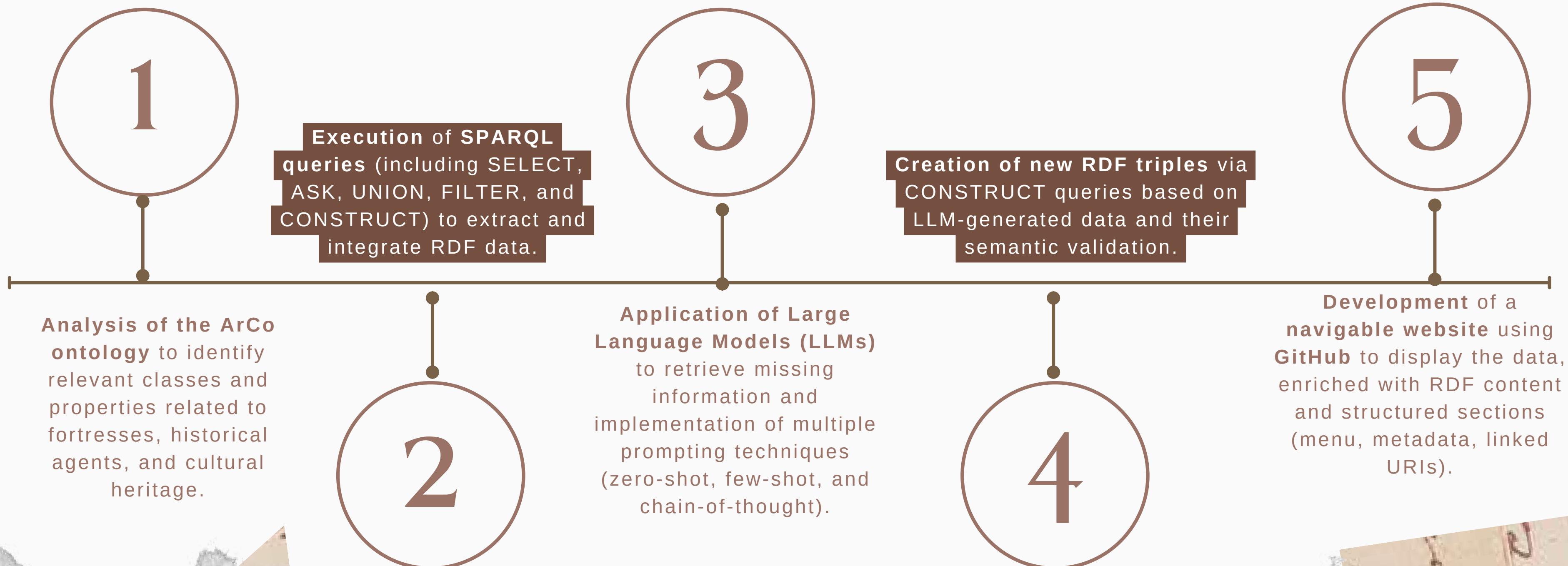
The project centres on enriching the ArCo Knowledge Graph by creating a new set of RDF triples related to **Rocca di Imola** and **Rocca di Ravaldino**.

Specific improvements have been proposed in the following areas:

- **Depiction**
- **Date in Time**
- **Commissioner**
- **Historical connections** (relationships between Caterina Sforza and the sites)
- **Cultural events** (events associated with the sites)



# Methodology



# Identifying the topic

The project began by verifying the existence of **Caterina Sforza** within the ArCo knowledge graph.

To do this, we executed a first SPARQL ASK query to check whether the resource was present:

**PREFIX arco:**

<<https://w3id.org/arco/ontology/arco/>>

**PREFIX rdfs: <<http://www.w3.org/2000/01/rdf-schema#>>**



The result was **TRUE**, confirming the presence of the individual in the KG.

We then performed a second SELECT query to retrieve her unique IRI:

**PREFIX arco: <<https://w3id.org/arco/ontology/arco/>>**

**PREFIX rdfs: <<http://www.w3.org/2000/01/rdf-schema#>>**

**ASK**

**WHERE {**

**?person rdfs:label "Caterina Sforza".**

**}**

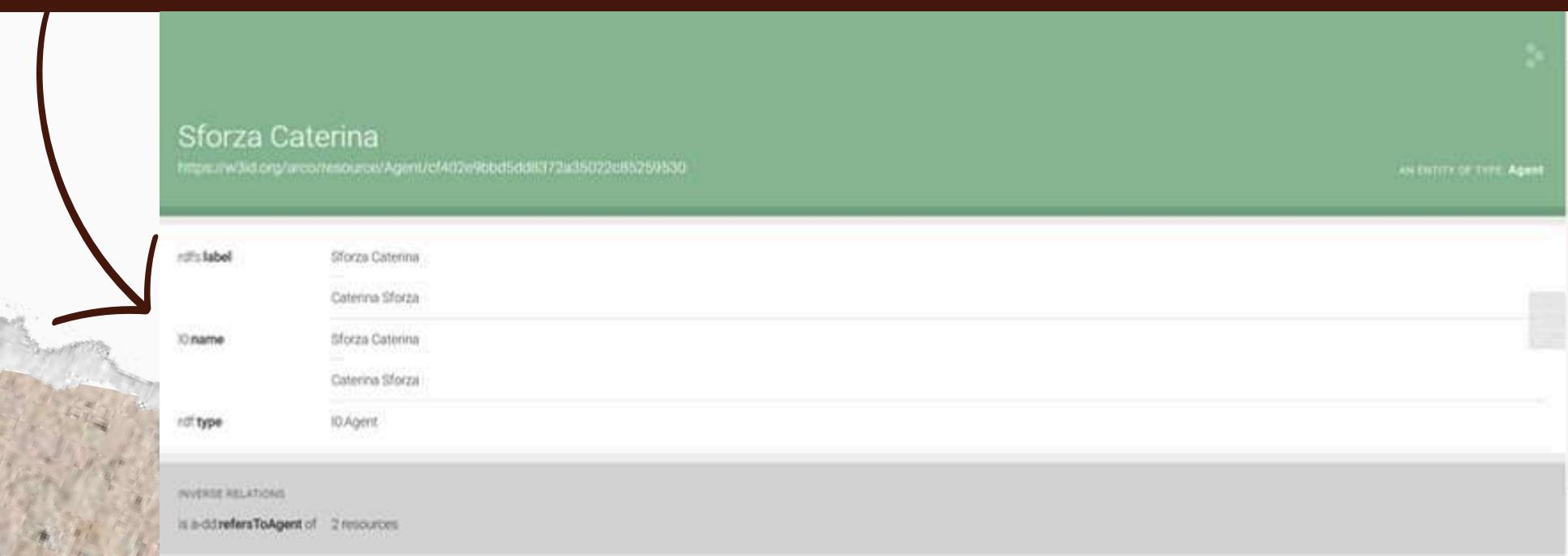
**SELECT ?s**

**WHERE {**

**?s rdfs:label "Caterina Sforza" .**

**}**

**Result: <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>**



rdfs:label	Sforza Caterina
name	Caterina Sforza
rdf:type	Agent

AN ENTITY OF TYPE: Agent

INVERSE RELATIONS  
is a-dc:refersToAgent of 2 resources

# Depiction of Caterina Sforza

Although **Caterina Sforza** exists in the ArCo knowledge graph as an Agent, she is not directly associated with any **visual depiction**.

To address this gap, we executed a SPARQL SELECT query to search for visual properties that could be linked to her, such as portraits:

```
PREFIX arco:  
<https://w3id.org/arco/ontology/arco/>  
PREFIX a-cd:  
<https://w3id.org/arco/ontology/context-  
description/>  
PREFIX agent:  
<https://w3id.org/arco/resource/Agent/>  
PREFIX rdfs:  
<http://www.w3.org/2000/01/rdf-schema#>  
SELECT DISTINCT ?cp  
WHERE {  
?cp a arco:HistoricOrArtisticProperty ;  
rdfs:label ?l .  
FILTER(REGEX(?l, "Ritratto di Caterina  
Sforza","i"))  
}
```

The query returned the following cultural property:  
<https://w3id.org/arco/resource/HistoricOrArtisticProperty/0900281635-21>



Ritratto di Caterina Sforza nei Medici (dipinto) by Vasari Giorgio (sec. XVI)

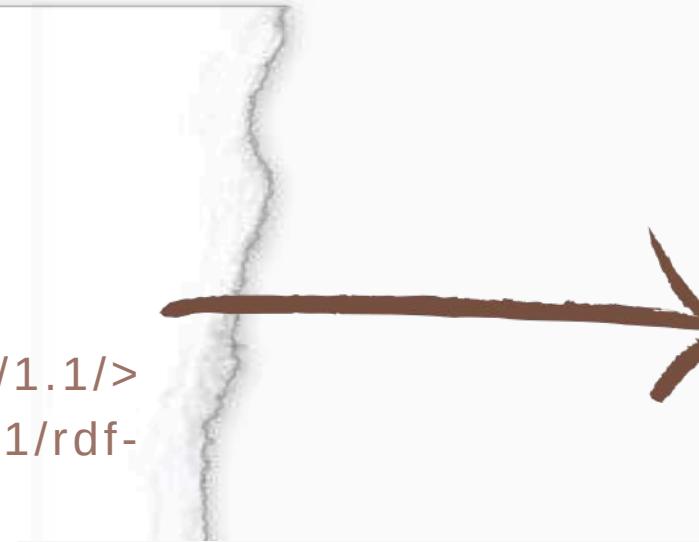
# Exploring the Fortresses

To identify the types of architectural heritage present in the ArCo Knowledge Graph, we first executed a SPARQL query aimed at listing all distinct **types of architectural assets**.



```
PREFIX arco: <https://w3id.org/arco/ontology/arco/>
PREFIX dc: <http://purl.org/dc/elements/1.1/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

```
SELECT DISTINCT ?type
WHERE {
    ?cp a
    arco:ArchitecturalOrLandscapeHeritage ;
        dc:type ?type .
}
```



SPARQL | HTML5 table

"mercato-coperto"
"casa-plurifamiliare, privata"
"casa-plurifamiliare"
"cappella-cimiteriale"
"torre-pubblica"
"chiesa-congregazionale"
<b>"rocca"</b>
"cappella funeraria"

WE THEN REFINED OUR SEARCH BY LISTING ONLY THE RESOURCES OF THIS TYPE CONTAINING THE WORD "ROCCA" IN THEIR LABEL:

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX arco: <https://w3id.org/arco/ontology/arco/>
```

```
SELECT DISTINCT ?s ?label
WHERE {
    ?s rdfs:label ?label .
    FILTER(REGEX(?label, "rocca", "i"))
}
```

This helped us identify two resources relevant to our topic:

- **Rocca di Imola:**  
<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>
- **Rocca di Ravalino:**  
[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravalino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravalino)

We selected these as our core case studies, due to their historical connection to Caterina Sforza.

# Ordering the Fortresses

To ensure a more structured presentation of the selected heritage sites, we applied the ORDER BY clause to alphabetically sort the two fortresses by their label.

This improves the clarity of the results and demonstrates our ability to control not only **what** we query from the knowledge graph, but also **how** we present it.

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX arco: <https://w3id.org/arco/ontology/arco/>
PREFIX a-cd: <https://w3id.org/arco/ontology/context-description/>
SELECT ?rocca ?label
WHERE {
  VALUES ?rocca {
    <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>
    <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino>
  }
  ?rocca rdfs:label ?label .
}
ORDER BY ?label
```

SPARQL | HTML5 table

rocca

<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>

<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>

[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)

label

"Rocca Sforzesca (rocca) - Imola (BO) "itn

"Rocca Sforzesca (rocca) - Imola (BO) "it

"Rocca di Ravaldino"^^<http://www.w3.org/2001/XMLSchema#string>

# Checking for Links to Caterina Sforza

To verify whether Caterina Sforza was already linked to the two fortresses in the ArCo Knowledge Graph, we used an ASK query.

```
PREFIX arco: <https://w3id.org/arco/ontology/arco/>

ASK {
  {

<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd83
72a35022c85259530> arco:isConnectedTo
<https://w3id.org/arco/resource/ArchitecturalOrLandscap
eHeritage/0800242914>
}
UNION
{

<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd83
72a35022c85259530> arco:isConnectedTo
<http://dati.beniculturali.it/iccd/schede/resource/Cultural
InstituteOrSite/S006699_Rocca_di_Ravaldino>
}
}
```

The result was false

This result justifies the **creation of new RDF triples**, using both LLM-generated content and SPARQL CONSTRUCT to enrich the knowledge graph with new semantic relations.

# Checking for other Missing Information

We ran a series of SPARQL ASK queries to verify whether the two fortresses were already associated with certain semantic properties in the ArCo Knowledge Graph.  
This helped us **detect gaps** in the data and justify the use of LLMs and new RDF triples to enrich the graph.

## Temporal designation

```
PREFIX arco:  
<https://w3id.org/arco/ontology/arco/>  
  
ASK {  
  {  
    <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>  
      arco:hasDesignationInTime ?date .  
  }  
  UNION  
  {  
  
    <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino>  
      arco:hasDesignationInTime ?date .  
  }  
}
```

## Committent

```
PREFIX a-cd:  
<https://w3id.org/arco/ontology/context-description/>  
  
ASK {  
  {  
    <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>  
      a-cd:hasCommittent ?committent .  
  }  
  UNION  
  {  
  
    <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino>  
      a-cd:hasCommittent ?committent .  
  }  
}
```

## Cultural Events

```
PREFIX arco:  
<https://w3id.org/arco/ontology/arco/>  
  
ASK {  
  {  
    <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>  
      arco:hasCulturalEvent|arco:hasSituationInTime ?event .  
  }  
  UNION  
  {  
  
    <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino>  
      arco:hasCulturalEvent|arco:hasSituationInTime ?event .  
  }  
}
```

All the results were FALSE

# Designation In Time

## Zero-shot Prompting

When was the Fortress of Ravaldino built?

When was the Fortress of Ravaldino built?

- The Fortress of Ravaldino in Forlì, Italy, has a long and complex construction history, with various phases of building and expansion:
  - Early Fortification: Its origins trace back to a small apparatus called Bonzanino, possibly a small wall, which was replaced between 1360 and 1371 by a first Rocca (fortress) di Ravaldino. Cardinal Egidio Albornoz also had a fortification built on a square plan around this time (14th century).
  - Current Structure: The existing fortifications, which form the core of the current structure, were designed by the architect Giorgio Marchesi Fiorentino and commissioned by Pino III Ordelaffi in 1471.
  - Citadel and Further Additions: In 1481, Girolamo Riario, the new lord of Forlì, commissioned the construction of the Citadel, also by Giorgio Marchesi Fiorentino. Later, between 1488 and 1496, Caterina Sforza, Riario's widow, built a third ravelin and a residential palace called "Il Paradiso."

Fonti



ChatGPT was wrong

Gemini was right

When was the fortress of Ravaldino built?

The Fortress of Ravaldino, also known as the Rocca di Ravaldino, is located in Forlì, Italy. It was originally built in the 14th century, with substantial reconstruction and fortification in the 15th century.

### Key dates:

- Original construction: likely circa 1371, under the rule of the Ordelaffi family, who governed Forlì during much of the late Middle Ages.
- Major reconstruction: late 15th century by Caterina Sforza, who took control of the fortress and turned it into a formidable Renaissance stronghold, both militarily and symbolically.

Caterina Sforza is closely associated with Ravaldino, as she famously defended it in 1499 during a siege by Cesare Borgia, an episode that became legendary in Italian Renaissance history.

### Summary:

- Built: ~1371
- Rebuilt and fortified: Late 15th century, especially under Caterina Sforza's rule.



When was the Fortress of Imola built?

When was the Fortress of Imola built?

- The Fortress of Imola (Rocca Sforzesca) has a long and complex history of construction and renovation, but its origins date back to the 13th century, specifically with some sources mentioning 1261 as the start of its initial construction.

Over the centuries, it was significantly altered and fortified by various ruling families, including the Alidosi, Visconti, Manfredi, and most notably, the Sforzas in the late 15th century. It was under the Sforza family, particularly Girolamo Riario and Caterina Sforza, that the fortress took on much of its current Renaissance appearance, with modifications to better withstand artillery fire. Leonardo da Vinci even visited in 1502 to advise Cesare Borgia on its strengthening.

Fonti

Gemini was right

When was the fortress of Imola built?

ChatGPT was less accurate

The fortress of Imola, also known as the Rocca Sforzesca di Imola, was originally built in the late 13th century, but it was significantly rebuilt and expanded in 1472–1484 under the direction of Girolamo Riario, the nephew of Pope Sixtus IV, and his wife Caterina Sforza.

The original fortification likely dates back to around 1260, during the rule of the Alidosi family. However, the structure we see today owes much of its Renaissance military architecture to the **Sforza period**, especially the improvements made by Caterina Sforza, who turned it into a stronghold of modern design for its time.

So in summary:

- Initial construction: ~1260s
- Major reconstruction and current form: 1472–1484 under the Sforza influence.



# Committent: Imola Few-Shot Chain-of-Thought Prompting

Below are two examples of how to reason step by step when identifying the commissioner of a historical fortress.

Example 1:

Q: Who commissioned the Rocca di Forlimpopoli?

A:

1. The Rocca di Forlimpopoli was built in the mid-14th century.
2. During that time, the city was controlled by the Ordelaffi family.
3. The Ordelaffi were known for fortifying their domains to protect against rival families.
4. Therefore, it is likely that the fortress was commissioned by the ruling Ordelaffi family, probably under Sinibaldo Ordelaffi.

Example 2:

Q: Who commissioned the Castello Estense in Ferrara?

A:

1. The Castello Estense was constructed starting in 1385.
2. That year, a popular revolt broke out in Ferrara, threatening the Este family.
3. Niccolò II d'Este decided to build the fortress as a defensive structure adjacent to the city palace.
4. Thus, Niccolò II d'Este was the commissioner of the castle.

Now answer this question using the same format:

Q: Who commissioned the Rocca di Imola?



A:

1. The Rocca di Imola has a long history, with its origins dating back to the 13th century and undergoing numerous architectural modifications.
2. In the second half of the 15th century, the Sforza family, who ruled Imola, undertook significant renovations to adapt the fortress to new military technologies.
3. Specifically, between 1472 and 1484, the rectangular towers were changed into thicker circular structures, and the overall castle was renovated by the Sforza family, with the architect Danesio Maineri.
4. Therefore, the major Renaissance-era transformations of the Rocca di Imola were commissioned by the Sforza family, particularly under Girolamo Riario and his wife Caterina Sforza.

Q: Who commissioned the Rocca di Imola?

A:

1. The Rocca di Imola underwent major reconstruction between 1472 and 1484.
2. At that time, Imola was under the control of Girolamo Riario, the nephew of Pope Sixtus IV.
3. Girolamo Riario ruled Imola alongside his wife, Caterina Sforza, and sought to fortify the city as part of a broader strategy to secure the Papal States' Romagna territory.
4. Therefore, the Rocca di Imola was commissioned by **Girolamo Riario**, with significant involvement from **Caterina Sforza**.



According to <https://imolamusei.it/rocca-sforzesca/>, both answers were wrong. We got the right answer through a **zero-shot prompt**.

Who commissioned the Fortress Sforzesca in Imola in 1261?



The Fortress Sforzesca in Imola has a long history, with its origins dating back to 1261. At this time, the city government decided to purchase land to build a fortress to protect the city.

Therefore, it was the **city government of Imola** that commissioned the initial construction of the fortress in 1261. Over the centuries, it underwent significant transformations, particularly under the rule of the Sforza family in the late 15th century.

# Committent: Ravaldino Few-Shot Chain-of-Thought Prompting

I will give you some examples of Italian castles or fortresses along with their historical patron, followed by a brief explanation of the historical context in which they were built or renovated.

Example 1:

Work: Castello Sforzesco

Patron: Francesco Sforza

Context: After becoming Duke of Milan, Francesco Sforza began the reconstruction of the castle in 1450 as a symbol of his power. It was a time of political instability, and castles served both defensive and symbolic purposes.

Example 2:

Work: Fortezza Medicea di Arezzo

Patron: Cosimo I de' Medici

Context: Built to reinforce Medici control over the city and symbolize Grand Ducal dominance during the 16th century. The project started as part of a wider effort to consolidate power.

Now, please analyze the following case using the same format.

Work: Rocca di Ravaldino (Forlì)

Patron:

Context:

Chat:

Work: Rocca di Ravaldino (Forlì)

Patron: Caterina Sforza

Context: In the late 15th century, Caterina Sforza, ruling Forlì as the widow of Girolamo Riario, reinforced and modernized the Rocca di Ravaldino to assert her authority and defend against internal and external threats. This was a period marked by the fragmentation of power in the Romagna region and increasing pressure from larger forces like the Papal States and the ambitions of Cesare Borgia. The fortress became both a military stronghold and a symbol of her independent rule.



ChatGPT was wrong

Work: Rocca di Ravaldino (Forlì)

Patron: Pino III Ordelaffi (for significant reconstruction and enhancement), and later Caterina Sforza (for additions and making it her primary residence).

Context: The Rocca di Ravaldino has medieval origins, with an initial fortification built in the 14th century by Cardinal Egidio Albornoz. However, its current structure largely dates back to the late 15th century. Pino III Ordelaffi, Lord of Forlì, commissioned architect Giorgio Marchesi da Settignano in 1471 to extensively rebuild and modernize the fortress. This was a period of intense military innovation, particularly with the rise of artillery, and the new design incorporated features like circular bastions to withstand cannon fire. Later, Caterina Sforza, after becoming lady of Forlì and Imola, made the Rocca her main residence and further enhanced it, even building a sumptuous residential palace (now lost) within its complex. The Rocca served as a vital defensive stronghold during the volatile Renaissance period, notably during Caterina Sforza's famous defense against Cesare Borgia in 1500, a time of power struggles and territorial ambitions among Italian states and the Papacy.

Gemini was right

# Cultural Events

To enrich the information related to the two fortresses (Rocca di Imola and Rocca di Ravaldino), we searched for relevant cultural events within the ArCo ontology.

We started by exploring the class arco:EventOrSituationInTime to retrieve existing cultural events in the ArCo Knowledge Graph.

We used the following SPARQL query to retrieve a sample of available events:

PREFIX arco:

<<https://w3id.org/arco/ontology/core/>>

PREFIX rdf: <<http://www.w3.org/1999/02/22-rdf-syntax-ns#>>

PREFIX rdfs:

<<http://www.w3.org/2000/01/rdf-schema#>>

SELECT ?event ?label ?description

WHERE {

?event rdf:type

arco:EventOrSituationInTime .

OPTIONAL { ?event rdfs:label ?label . }

OPTIONAL { ?event arco:description ?description . }

}

LIMIT 10

These were the results:

SPARQL | HTML5 table

event	label
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsef18a">https://w3id.org/arco/resource/Event/eve-s56-rsef18a</a>	"Cena medievale "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsef18b">https://w3id.org/arco/resource/Event/eve-s56-rsef18b</a>	"visita del castello "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsef18c">https://w3id.org/arco/resource/Event/eve-s56-rsef18c</a>	"Passaggio di consegne da Gualtiero di Monta a Ettore Savorgnan "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsef18d">https://w3id.org/arco/resource/Event/eve-s56-rsef18d</a>	"Corteo "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsef18e">https://w3id.org/arco/resource/Event/eve-s56-rsef18e</a>	"Presentazione dei gruppi storici partecipanti "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsef18f">https://w3id.org/arco/resource/Event/eve-s56-rsef18f</a>	"Vari intrattenimenti a tema "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsmp01a">https://w3id.org/arco/resource/Event/eve-s56-rsmp01a</a>	"Benedizione delle Bandiere "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsmp04b">https://w3id.org/arco/resource/Event/eve-s56-rsmp04b</a>	"Processione verso il Santuario di San Costantino "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsmp04c">https://w3id.org/arco/resource/Event/eve-s56-rsmp04c</a>	"Vespri "
<a href="https://w3id.org/arco/resource/Event/eve-s56-rsmp04d">https://w3id.org/arco/resource/Event/eve-s56-rsmp04d</a>	"Ardia "

We selected three of them that were relevant and plausible to associate with the Rocca di Imola and the Rocca di Ravaldino: **Cena medievale**, **Visita del castello** and **Corteo**.



# Rocca di Imola



The only possible cultural event is  
“Visita del castello”

# Rocca di Rivaldino

# Cultural Events

## Zero-shot Prompting

Among these cultural events: "Medieval Dinner, Visit to the Castle and Historical Procession" which one is possible to do in Imola Fortress?

- Based on the information available, here's what's possible at Imola Fortress among your listed cultural events:

- Visit to the Castle: Yes, the Imola Fortress (Rocca Sforzesca) is a civic museum and is open to the public for visits. You can explore its collections of weapons and ceramics, see the dungeons, stroll along the battlements, and climb the keep for views of the town. There are even tours that include the Rocca Sforzesca.
- Historical Procession: While the Imola area hosts historical reenactments and festivals, such as the "Caterina Sforza Days" which includes a procession, the information doesn't explicitly state that the procession takes place *inside* the Fortress. It's more likely to involve parading through the city center, potentially starting or ending at the fortress.
- Medieval Dinner: While some castles in Emilia-Romagna offer "historic dinners" or "mystery dinners," there's no specific mention of "Medieval Dinners" being a regular event at the Imola Fortress itself. It's possible such an event could be organized as a one-off or private function, but it's not highlighted as a public offering.

In summary:

- Visit to the Castle: Definitely possible and a primary function of the Imola Fortress.
- Historical Procession: Likely part of larger historical reenactment events in Imola, which may involve the fortress as a backdrop or starting/ending point, but not necessarily held entirely within it.
- Medieval Dinner: Not explicitly listed as a regular event at the Imola Fortress.

Among the events listed — "Medieval Dinner, Visit to the Castle, and Historical Procession" — the one that is regularly possible to do at the Imola Fortress (Rocca Sforzesca di Imola) is:

### 👉 Visit to the Castle

#### Explanation:

- The Rocca Sforzesca di Imola is open to the public as a museum and historical site, offering guided tours, exhibitions, and educational visits. So visiting the castle is a well-established and ongoing cultural activity.
- Medieval Dinners and Historical Processions are not standard or regular events at the fortress. However, such themed events may occasionally be organized as part of local festivals or historical reenactments, but they are not a guaranteed or permanent feature of the site.

#### Summary:

✓ Possible regularly: Visit to the Castle

✗ Not regularly available: Medieval Dinner, Historical Procession (unless part of a special event or festival)

Let me know if you'd like help finding current or upcoming events at the fortress.

Among these cultural events: "Medieval Dinner, Visit to the Castle and Historical Procession" which one is possible to do in Rivaldino Fortress?

- The Rivaldino Fortress in Forlì, also known as the Rocca di Caterina Sforza, offers various cultural possibilities:

- Visit to the Castle: Yes, the Rivaldino Fortress is open to the public for visits. It recently reopened in 2024 after years of closure. You can explore its internal courtyards, rooms, walkways, passages, and gardens. Free weekend tours are often available, with staff providing introductions to its history.
- Historical Procession: While the fortress is a significant historical site and the city of Forlì has a rich history (especially with Caterina Sforza), there's no explicit mention of regular historical processions taking place within the fortress. However, it's mentioned that visitors might encounter "medieval reenactments on-site" and the fortress hosts a summer festival called "Arena Forlì Rocca di Caterina Estate" with a program of cultural events. It's plausible that historical reenactments could include elements of a procession or take place in the immediate vicinity of the fortress.
- Medieval Dinner: There is no specific information indicating that "Medieval Dinners" are a regular public offering at Rivaldino Fortress. While some castles in the region do host historical-themed banquets or medieval taverns, it's not a highlighted event for Rivaldino based on the provided information. The "Arena Forlì Rocca di Caterina Estate" festival focuses on shows, musical events, cabaret, and book presentations.

In summary:

- Visit to the Castle: Definitely possible and encouraged.
- Historical Procession: Possible as part of larger historical reenactment events or festivals held at or around the fortress, but not a standalone regular event explicitly stated to be a "procession."

Only one of the three activities is regularly feasible at Rocca di Rivaldino:

### ✓ Visit to the Castle

The fortress is open to visitors—typically its gardens, external courtyard, and exhibition rooms—on weekends and during special events or exhibitions [romagna.net +15](#) [castelliemiliaromagna.it +1](#).

### ✗ Medieval Dinner

There's no regular offering of medieval-themed dinners hosted at the fortress.

### ✗ Historical Procession

While the site does host historical reenactments (e.g. during its reopening in April 2024 with period costumes, flag-waving, and music), there are no ongoing or scheduled procession traditions associated with the site itself.

The only possible cultural event is  
“Visita del castello”

# Relationship with Caterina Sforza

## Few-shot Prompting

We are working on a project to enrich a cultural heritage knowledge graph using RDF triples. We need to verify whether there is a historical relationship between a specific person and a monument. Below are a few examples. Can you answer the final question using the same style?

### Example 1

Q: Is there a historical link between Federico II and the Castello Svevo of Bari?

A: Yes. The Castello Svevo of Bari was rebuilt by Emperor Frederick II in 1233. He turned it into a fortified castle, and it served as an important part of his defensive system in southern Italy.

### Example 2

Q: Did Leonardo da Vinci have a connection to the Castello Sforzesco in Milan?

A: Yes. Leonardo da Vinci worked at the court of Ludovico il Moro and contributed to the design and decoration of the Castello Sforzesco, including engineering works and artistic commissions.

Q: Is there a historical relationship between Caterina Sforza and the Rocca di Imola or the Rocca di Ravaldino?

Yes. Caterina Sforza had strong historical ties to both the Rocca di Imola and the Rocca di Ravaldino (Forli).

**Rocca di Imola:** She and her husband Girolamo Riario commissioned the construction of a new palazzetto within the Rocca after 1480, where she resided with her court. She also undertook significant renovations and fortifications of the Rocca in the 1470s, making it a Renaissance fortress. The Rocca was notably besieged by Cesare Borgia in 1499, which eventually led to Caterina giving up her dominion over Imola.

**Rocca di Ravaldino (Forli):** This fortress became the primary center of Caterina Sforza's power after the assassination of her husband in 1488. She personally led its defense against Cesare Borgia's siege in 1499-1500, a famous historical episode that showcased her courage and determination. She even commissioned the construction of a lavish residential palace, known as "Paradiso," within the fortress complex. The Rocca di Ravaldino is often referred to as the "Rocca di Caterina" due to her close association with it.

**A: Yes.** Caterina Sforza had a strong historical relationship with **both the Rocca di Imola and the Rocca di Ravaldino**.

- At the **Rocca di Imola**, she ruled alongside her husband **Girolamo Riario**, who rebuilt the fortress between 1472 and 1484. After his assassination, Caterina took control and further reinforced the structure, using it as a symbol of her power in the Romagna region.
- At the **Rocca di Ravaldino in Forli**, Caterina Sforza made significant military enhancements and used it as her principal stronghold. The fortress became famous for her dramatic defense against Cesare Borgia in 1499, marking one of the most iconic episodes of her political and military leadership.

Thus, Caterina Sforza is historically linked to both monuments through governance, architectural patronage, and military defense.

# First RDF Triple Depiction - Zero-Shot Prompt

We are working on a cultural heritage knowledge graph using SPARQL.

Generate a SPARQL CONSTRUCT query and a corresponding RDF triple in Turtle syntax that links the following agent to a depiction using the foaf:depiction predicate.

The agent is identified by the IRI: <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>.

The depiction is an image located at the IRI: [https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406\\_16411.jpg](https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406_16411.jpg).

Use standard RDF prefixes (e.g., foaf, rdf, rdfs). First, provide the CONSTRUCT query, then the RDF triple in Turtle syntax.

```
Snippet di codice

PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

CONSTRUCT {
  <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> foaf:depiction
}
WHERE {
  # No specific WHERE clause is needed if we are just asserting a new fact.
  # This CONSTRUCT query will always produce the triple.
}

Snippet di codice

@prefix foaf: <http://xmlns.com/foaf/0.1/> .

<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> foaf:depiction
}

◆ SPARQL CONSTRUCT Query
```

```
sparql

PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

CONSTRUCT {
  <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> foaf:depiction
}
WHERE {
  BIND(<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> AS ?agen)
  BIND(<https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406_16411.jpg> AS ?depiction)
}
```

```
◆ RDF Triple in Turtle Syntax

turtle

@prefix foaf: <http://xmlns.com/foaf/0.1/> .

<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>
  foaf:depiction <https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406_16411.jpg>
```

CONSTRUCT {

<<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>> foaf:depiction  
<[https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406\\_16411.jpg](https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406_16411.jpg)> .

WHERE {

# No specific WHERE clause is needed if we are just asserting a new fact.  
# This CONSTRUCT query will always produce the triple.

}

SPARQL | HTML Microdata document

This HTML5 document contains 1 embedded RDF statements represented using HTML+Microdata notation.

The embedded RDF content will be recognized by any processor of HTML5 Microdata.

## Namespace Prefixes

Prefix	IRI
foaf	<a href="http://xmlns.com/foaf/0.1/">http://xmlns.com/foaf/0.1/</a>
n2	<a href="https://w3id.org/arco/resource/Agent/">https://w3id.org/arco/resource/Agent/</a>
n4	<a href="https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/">https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>

## Statements

### Subject Item

[n2:cf402e9bbd5dd8372a35022c85259530](https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530)

### foaf:depiction

[https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406\\_16411.jpg](https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406_16411.jpg)

{ Subject:  
Predicate:  
Object: }

Caterina Sforza

<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>  
foaf:depiction

ritratto di Caterina Sforza nei Medici

[https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406\\_16411.jpg](https://www.sigecweb.beniculturali.it/images/fullsize/ICCD50007125/ICCD5194406_16411.jpg)

# Second RDF Triple Designation In Time - Zero-Shot Prompt

We are working on a cultural heritage knowledge graph using SPARQL.

The Rocca di Imola was built in 1261. Please write a SPARQL CONSTRUCT query that creates an RDF triple with:

- Subject: <<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>>
- Predicate: arco:hasDesignationInTime
- Object: "1261"^^xsd:gYear

Include all necessary PREFIX declarations.

Certainly! Below is a SPARQL CONSTRUCT query that creates the desired RDF triple for the Rocca di Imola with the year of construction as "1261"^^xsd:gYear.

```
sparql          ⌂ Copia ⌂ Modifica

PREFIX arco: <https://w3id.org/arco/ontology/arco/>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX ti: <https://w3id.org/arco/ontology/time/>

CONSTRUCT {
  <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914> arco:hasDesignationInTime "1261"^^xsd:gYear
}
WHERE {
  # No WHERE pattern needed if the triple is being asserted rather than derived from existing data
}
```

## Notes:

- This query directly asserts a new RDF triple.
- The WHERE clause is left empty (which is valid in SPARQL) since you're constructing a fixed triple not based on a dataset query.
- The blank node ([...]) Here is the SPARQL CONSTRUCT query to create the specified RDF triple:

Let me know if you want to node with more properties

```
PREFIX arco: <https://w3id.org/arco/ontology/arco/>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>

CONSTRUCT {
  <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914> arco:hasDes
}
WHERE {
  # This WHERE clause is empty for a simple CONSTRUCT query that doesn't
  # depend on existing data. If you were extracting this from a graph,
  # you would put patterns here.
  # For demonstration purposes, we can use a dummy BIND.
  BIND(true AS ?dummy)
}

This query will construct the triple
<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>
arco:hasDesignationInTime "1261"^^xsd:gYear .
```

CONSTRUCT {

<<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>> arco:hasDesignationInTime  
"1261"^^xsd:gYear .

}

WHERE {

}

## SPARQL | HTML Microdata document

This HTML5 document contains 2 embedded RDF statements represented using HTML+Microdata notation.

The embedded RDF content will be recognized by any processor of HTML5 Microdata.

## Namespace Prefixes

Prefix	IRI
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
n4	<a href="https://w3id.org/arco/ontology/time/">https://w3id.org/arco/ontology/time/</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>
n2	<a href="https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/">https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/</a>
arco	<a href="https://w3id.org/arco/ontology/arco/">https://w3id.org/arco/ontology/arco/</a>

## Statements

Subject Item	
n2:0800242914	
arco:hasDesignationInTime	<a href="#">_vb430189</a>
Subject Item	
_vb430189	
n4:time	1261-01-01

Subject:  
Predicate:  
Object:

Rocca di Imola  
<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>

hasDesignationInTime  
<https://w3id.org/arco/ontology/denotative-description/DesignationInTime>

1261

# Third RDF Triple Designation In Time - Zero-Shot Prompt

We are working on a cultural heritage knowledge graph using SPARQL.

The Rocca di Ravaldino was built in 1471. Please write a SPARQL CONSTRUCT query that creates an RDF triple with:

- Subject: [http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)
- Predicate: arco:hasDesignationInTime
- Object: "1471"

Include all necessary PREFIX declarations.

Certainly! Below is the SPARQL CONSTRUCT query that creates an RDF triple indicating that the Rocca di Ravaldino was built in 1471, using the appropriate xsd:gYear datatype.

```
sparql          ⌂ Copia ⌂ Modifica

PREFIX arco: <https://w3id.org/arco/ontology/arco/>
PREFIX ti: <https://w3id.org/arco/ontology/time/>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>

CONSTRUCT {
  <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Rava
  ti:time "1471"^^xsd:gYear
} .
WHERE {
  # No WHERE clause needed for fixed triple assertion
}
```

#### Explanation:

- Subject: the URI for Rocca di Ravaldino as provided.
- Predicate: arco:hasDesignationInTime associates a time-related node to the cultural site.
- Object: a blank node containing the time value "1471"^^xsd:gYear, using ti:time.

Let me know if you'd like to include additional metadata, such as the type of event (e.g., construction), or provenance.

```
CONSTRUCT {

<http://dati.beniculturali.it/iccd/schede/r
esource/CulturalInstituteOrSite/S00669
9_Rocca_di_Ravaldino>
arco:hasDesignationInTime [
  ti:time "1471"^^xsd:gYear
] .
}
WHERE { }
```

Spini, e sono più lunghe del  
ne tiene otto: questi ultimi...

#### SPARQL | HTML Microdata document

This HTML5 document contains 2 embedded RDF statements represented using HTML+Microdata notation.  
The embedded RDF content will be recognized by any processor of HTML5 Microdata.

#### Namespace Prefixes

Prefix	IRI
n3	<a href="http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/">http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
n2	<a href="https://w3id.org/arco/ontology/time/">https://w3id.org/arco/ontology/time/</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>
arco	<a href="https://w3id.org/arco/ontology/arco/">https://w3id.org/arco/ontology/arco/</a>

#### Statements

Subject Item	
n3:S006699_Rocca_di_Ravaldino	
arco:hasDesignationInTime	<a href="#">_vb430503</a>
Subject Item	
_vb430503	
n2:time	1471-01-01

{ Subject:  
Predicate:  
Object: }

Rocca di Ravaldino

[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)

hasDesignationInTime

<https://w3id.org/arco/ontology/denotative-description/DesignationInTime>

1471

# Fourth RDF Triple Committent – Chain-Of-Thought Prompt

Let's think step by step.

1. We are working with RDF triples using the ArCo ontology.
2. We want to indicate that the Rocca di Imola was commissioned by the Comune di Imola.
3. The subject is the Rocca di Imola, whose IRI is: <<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>>
4. The predicate is the ArCo property used to express who commissioned a cultural heritage site: a-cd:hasCommittent
5. The object is the Comune di Imola, which exists in ArCo with the following IRI: <<https://w3id.org/arco/resource/Agent/d801d3392b7a87fb2af08dfda818d475>>

Now:

- First, write a SPARQL CONSTRUCT query to generate this triple.
- Then, write the resulting triple in Turtle syntax.

Include all necessary prefixes.

Sure! Here's how to proceed step by step.

**SPARQL CONSTRUCT Query**

sparql

Copy Edit

```
PREFIX a-cd: <https://w3id.org/arco/ontology/context-description/>
PREFIX arco: <https://w3id.org/arco/resource/>

CONSTRUCT {
  <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>
  a-cd:hasCommittent
  <https://w3id.org/arco/resource/Agent/d801d3392b7a87fb2af08dfda818d475> .
}

WHERE {
  # Empty WHERE clause since we're minting the triple
}
```

**Resulting Triple in Turtle Syntax**

turtle

Copy Edit

```
@prefix a-cd: <https://w3id.org/arco/ontology/context-description/> .
@prefix arco: <https://w3id.org/arco/resource/> .

arco:ArchitecturalOrLandscapeHeritage/0800242914
a-cd:hasCommittent
arco:Agent/d801d3392b7a87fb2af08dfda818d475 .
```

PREFIX a-cd:  
<<https://w3id.org/arco/ontology/context-description/>>

PREFIX arco:  
<<https://w3id.org/arco/resource/>>

```
CONSTRUCT {

<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>
  a-cd:hasCommittent
  <https://w3id.org/arco/resource/Agent/d801d3392b7a87fb2af08dfda818d475> .

}
```

```
@prefix a-cd: <https://w3id.org/arco/ontology/context-description/> .
@prefix arco: <https://w3id.org/arco/resource/> .

arco:ArchitecturalOrLandscapeHeritage/0800242914
a-cd:hasCommittent
arco:Agent/d801d3392b7a87fb2af08dfda818d475 .
```

SPARQL | HTML Microdata document

This HTML5 document contains 1 embedded RDF statements represented using HTML+Microdata notation.

The embedded RDF content will be recognized by any processor of HTML5 Microdata.

**Namespace Prefixes**

Prefix	IRI
n4	<a href="https://w3id.org/arco/resource/Agent/">https://w3id.org/arco/resource/Agent/</a>
n2	<a href="http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/">http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/</a>
a-cd	<a href="https://w3id.org/arco/ontology/context-description/">https://w3id.org/arco/ontology/context-description/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
xsd	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>

**Statements**

**Subject Item**  
n2:S006699\_Rocca\_di\_Ravaldino

**a-cd:hasCommittent**  
n4:pino-iii-ordecaffi

**Subject:** Rocca di Imola  
<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>

**Predicate:** hasCommittent  
<https://w3id.org/arco/ontology/context-description/hasCommittent>

**Object:** Comune di Imola  
<https://w3id.org/arco/resource/Agent/d801d3392b7a87fb2af08dfda818d475>

# Fifth RDF Triple Committent - Chain-Of-Thought Prompt

Let's think step by step.

1. We are working with RDF triples using ArCo ontology.

2. The subject is the Rocca di Ravaldino in Forlì. This is the resource:

[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)

3. The predicate is the property used in ArCo to indicate the commissioner of a cultural heritage site:`a-cd:hasCommittent`

4. The object is the person who historically commissioned the fortress: Pino III Ordelaffi. Since he is not present in ArCo, we mint a new IRI:  
<https://w3id.org/arco/resource/Agent/pino-iii-ordelaffi>

Now write a SPARQL CONSTRUCT query that creates this triple. Use the correct syntax and include any necessary prefix.

```
SPARQL CONSTRUCT Query for Rocca di Ravaldino
```

```
1 PREFIX a-cd: <https://w3id.org/arco/ontology/context-description/>
2 PREFIX r: <http://dati.beniculturali.it/iccd/schede/resource/>
3
4 CONSTRUCT {
5   r:CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino a-cd:hasCommittent <https://w3id.org/arco/resource/Agent/pino-iii-ordelaffi>
6 }
7 WHERE {
8   # This WHERE clause is typically used to match existing data to construct new triples.
9   # Since we are creating a new triple based on explicit information and not querying existing data
10  # to derive it, the WHERE clause can be empty or contain a simple BIND/VALUES to ensure the query runs.
11  # For a straightforward construction of a known triple, an empty WHERE is common.
12  # However, to be fully compliant with SPARQL 1.1 CONSTRUCT requirements (where patterns must be matched),
13  # we can use a BIND or VALUES clause that always evaluates to true, or simply an empty WHERE
14  # if the SPARQL endpoint allows it for simple triple insertion via CONSTRUCT.
15  # In many practical applications, CONSTRUCT is used with a non-empty WHERE to transform data.
16  # For this specific case of "minting" a new triple directly, a simple approach is best.
17  BIND (true AS ?dummy)
18 }
```

Here is a SPARQL CONSTRUCT query that creates the triple using the ArCo ontology:

```
sparql
```

```
PREFIX a-cd: <https://w3id.org/arco/ontology/context-description/>
PREFIX arco: <https://w3id.org/arco/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

CONSTRUCT {
  <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Rava
    a-cd:hasCommittent
    <https://w3id.org/arco/resource/Agent/pino-iii-ordelaffi> .
}
```

```
WHERE {
  # This WHERE clause is empty since we're minting a new triple,
  # but it's required syntactically
}
```

PREFIX `a-cd:`

<https://w3id.org/arco/ontology/context-description/>

CONSTRUCT {

[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Rava](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Rava)

`a-cd:hasCommittent`

<https://w3id.org/arco/resource/Agent/pino-iii-ordelaffi> .

}

WHERE {

}

Subject:

Predicate:

Object:

SPARQL | HTML Microdata document

This HTML5 document contains 1 embedded RDF statements represented using HTML+Microdata notation.

The embedded RDF content will be recognized by any processor of HTML5 Microdata.

## Namespace Prefixes

Prefix	IRI
n4	<a href="https://w3id.org/arco/resource/Agent/">https://w3id.org/arco/resource/Agent/</a>
n2	<a href="http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/">http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/</a>
a-cd	<a href="https://w3id.org/arco/ontology/context-description/">https://w3id.org/arco/ontology/context-description/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>

## Statements

### Subject Item

[n2:S006699\\_Rocca\\_di\\_Ravaldino](#)

### a-cd:hasCommittent

[n4:pino-iii-ordelaffi](#)

Rocca di Ravaldino  
[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)  
hasCommittent

<https://w3id.org/arco/ontology/context-description/hasCommittent>  
Pino III Ordelaffi  
<https://w3id.org/arco/resource/Agent/pino-iii-ordelaffi>

# Sixth RDF Triple

## Cultural Events - Zero-Shot Prompt

We are working with the ArCo and CIS ontologies and need to represent that a cultural property is involved in a cultural event.

Please generate:

a SPARQL CONSTRUCT query

and the corresponding RDF triple in Turtle syntax

- Subject: <<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>>
- Predicate: cis:isInvolvedInCulturalEvent
- Object: <<https://w3id.org/arco/resource/Event/eve-s56-rsef18b>>

Make sure to use the correct prefixes and return only the CONSTRUCT query and the Turtle triple.



PREFIX arco:

<<https://w3id.org/arco/ontology/arco>>

PREFIX cis: <<http://dati.beniculturali.it/cis>>

CONSTRUCT {

<<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>> cis:isInvolvedInCulturalEvent <<https://w3id.org/arco/resource/Event/eve-s56-rsef18b>> .

}

WHERE {

# The WHERE clause can be empty if you are simply constructing a new triple,  
# or it can contain patterns to match existing data from which to construct the triple.  
# For this specific request, we are directly stating the triple to be constructed.

# The WHERE clause can be empty if you  
are simply constructing a new triple,  
# or it can contain patterns to match  
existing data from which to construct the  
triple.

# For this specific request, we are directly  
stating the triple to be constructed.

PARQL | HTML Microdata document

This HTML5 document contains 1 embedded RDF statements represented using HTML+Microdata notation.

The embedded RDF content will be recognized by any processor of HTML5 Microdata.

**Namespace Prefixes**

Prefix	IRI
cis	<a href="http://dati.beniculturali.it/cis/">http://dati.beniculturali.it/cis/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
n4	<a href="https://w3id.org/arco/resource/Event/">https://w3id.org/arco/resource/Event/</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>
n2	<a href="https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/">https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/</a>

**Statements**

**Subject Item**

n2:0800242914

**cis:isInvolvedInCulturalEvent**

<<https://w3id.org/arco/resource/Event/eve-s56-rsef18b>>

{  
    **Subject:**  
    **Predicate:**  
    **Object:**

Rocca di Imola

<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242119>

isInvolvedInCulturalEvent

<http://dati.beniculturali.it/cis/isInvolvedInCulturalEvent>

Visita del Castello

<https://w3id.org/arco/resource/Event/eve-s56-rsef18b>

# Seventh RDF Triple Cultural Events - Zero-Shot Prompt

We are working with the ArCo and CIS ontologies and need to represent that a cultural property is involved in a cultural event.

Please generate:

a SPARQL CONSTRUCT query

and the corresponding RDF triple in Turtle syntax

- Subject: <[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)>
- Predicate: cis:isInvolvedInCulturalEvent
- Object: <<https://w3id.org/arlo/resource/Event/eve-s56-rsef18b>>

Make sure to use the correct prefixes and return only the CONSTRUCT query and the Turtle triple.

The screenshot shows a web-based SPARQL editor interface. At the top, there's a toolbar with icons for file operations and text styling. Below it, a message says "Here is the SPARQL CONSTRUCT query and the corresponding RDF triple in Turtle syntax:". A "SPARQL CONSTRUCT Query:" section contains the following code:

```
PREFIX arco: <https://w3id.org/arlo/ontology/arco/>
PREFIX cis: <http://dati.beniculturali.it/cis/>

CONSTRUCT {
  <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino> cis:isInvolvedInCulturalEvent
}
WHERE {
  # The WHERE clause can be empty if you are simply constructing a new triple,
  # or it can contain patterns to match existing data from which to construct the triple.
  # For this specific request, we are directly stating the triple to be constructed.
}
```

Below this is an "RDF Triple in Turtle Syntax:" section containing:

```
@prefix arco: <https://w3id.org/arlo/ontology/arco/> .
@prefix cis: <http://dati.beniculturali.it/cis/> .

<http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino> cis:isInvolvedInCulturalEvent
```

The background of the editor has a faint watermark of a classical Latin text fragment.

PREFIX arco:

<<https://w3id.org/arlo/ontology/arco>>

PREFIX cis:

<<http://dati.beniculturali.it/cis>>

CONSTRUCT {

<[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)> cis:isInvolvedInCulturalEvent

<<https://w3id.org/arlo/resource/Event/eve-s56-rsef18b>> . } WHERE { #

The WHERE clause can be empty if you are simply constructing a new triple, # or it can contain patterns to match existing data from which to construct the triple. # For this specific request, we are directly stating the triple to be constructed.

SPARQL | HTML Microdata document

This HTML5 document contains 1 embedded RDF statements represented using HTML+Microdata notation.

The embedded RDF content will be recognized by any processor of HTML5 Microdata.

Namespace Prefixes

Prefix	IRI
cis	<a href="http://dati.beniculturali.it/cis/">http://dati.beniculturali.it/cis/</a>
n2	<a href="http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/">http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
n4	<a href="https://w3id.org/arlo/resource/Event/">https://w3id.org/arlo/resource/Event/</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>

Statements

Subject Item

n2:S006699\_Rocca\_di\_Ravaldino

cis:isInvolvedInCulturalEvent

<<https://w3id.org/arlo/resource/Event/eve-s56-rsef18b>>

Subject:  
Predicate:  
Object:

Rocca di Ravaldino  
[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravaldino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravaldino)  
isInvolvedInCulturalEvent  
<http://dati.beniculturali.it/cis/isInvolvedInCulturalEvent>  
Visita del Castello  
<https://w3id.org/arlo/resource/Event/eve-s56-rsef18b>

# Eighth RDF Triple Connection to Caterina Sforza - Zero-Shot Prompt

We are working on a cultural heritage knowledge graph using SPARQL.

We want to connect the Rocca di Imola to Caterina Sforza. Please write a SPARQL CONSTRUCT query and create an RDF triple using Turtle syntax with:

- Subject: <<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>>
- Predicate: arco:hasRelatedAgent
- Object: <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>

Include all necessary PREFIX declarations.

The screenshot shows a user interface for a SPARQL editor. It has two main tabs: 'SPARQL CONSTRUCT Query' and 'RDF Triple in Turtle Syntax'. Both tabs contain the same SPARQL code, which is also pasted below.

```
PREFIX arco-cd: <https://w3id.org/arco/ontology/context-description/>
PREFIX arco-arch: <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/>
PREFIX arco-agent: <https://w3id.org/arco/resource/Agent/>

CONSTRUCT {
  arco-arch:0800242914 arco-cd:hasRelatedAgent arco-agent:cf402e9bbd5dd8372a35022c85259530 .
}
WHERE {
  # The WHERE clause is required for CONSTRUCT, but can be empty if you're
  # simply constructing a fixed triple that doesn't depend on existing data.
  # This query will always construct the specified triple.
}

@prefix arco-cd: <https://w3id.org/arco/ontology/context-description/> .
@prefix arco-arch: <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/> .
@prefix arco-agent: <https://w3id.org/arco/resource/Agent/> .

PREFIX arco: <https://w3id.org/arco/ontology/core/>

CONSTRUCT {
  <https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>
    arco:hasRelatedAgent <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> .
}
WHERE {
  # Empty WHERE clause since we are asserting a known relationship
}

@prefix arco: <https://w3id.org/arco/ontology/core/> .

<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>
  arco:hasRelatedAgent <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> .
```

PREFIX cd:  
<<https://w3id.org/arco/ontology/context-description>>

CONSTRUCT {

<<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242914>>

cd:hasRelatedAgent

<<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>> .

}

WHERE {

<<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>> ?p ?o .

}

## SPARQL | HTML Microdata document

This HTML5 document contains 1 embedded RDF statements represented using HTML+Microdata notation.

The embedded RDF content will be recognized by any processor of HTML5 Microdata.

## Namespace Prefixes

Prefix	IRI
n4	<a href="https://w3id.org/arco/resource/Agent/">https://w3id.org/arco/resource/Agent/</a>
a-cd	<a href="https://w3id.org/arco/ontology/context-description/">https://w3id.org/arco/ontology/context-description/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>
n2	<a href="https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/">https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/</a>

## Statements

Subject Item  
n2:0800242914

a-cd:hasRelatedAgent  
<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>

{ Subject:  
Predicate:  
Object:

Rocca di Imola  
<https://w3id.org/arco/resource/ArchitecturalOrLandscapeHeritage/0800242119>  
hasRelatedAgent  
<https://w3id.org/arco/ontology/context-description/hasRelatedAgent>  
Caterina Sforza  
<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>

# Nineth RDF Triple Connection to Caterina Sforza - Zero-Shot Prompt

We are working on a cultural heritage knowledge graph using SPARQL.

We want to connect the Rocca di Ravalino to Caterina Sforza. Please write a SPARQL CONSTRUCT query and create an RDF triple using Turtle syntax with:

- Subject: [http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravalino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravalino)
- Predicate: arco:hasRelatedAgent
- Object: <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>

Include all necessary PREFIX declarations.

```
SPARQL CONSTRUCT Query for Rocca di Ravalino
PREFIX arco-cd: <https://w3id.org/arco/ontology/context-description/>
PREFIX icc-cs: <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/>
PREFIX arco-agent: <https://w3id.org/arco/resource/Agent/>

CONSTRUCT {
  icc-cs:S006699_Rocca_di_Ravalino arco-cd:hasRelatedAgent arco-agent:cf402e9bbd5dd8372a35022c85259530
}
WHERE {
  # The WHERE clause is required for CONSTRUCT, but can be empty if you're
  # simply constructing a fixed triple that doesn't depend on existing data.
  # This query will always construct the specified triple.
}

RDF Triple in Turtle Syntax for Rocca di Ravalino
@prefix arco-cd: <https://w3id.org/arco/ontology/context-description/> .
@prefix icc-cs: <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/> .
@prefix arco-agent: <https://w3id.org/arco/resource/Agent/> .

icc-cs:S006699_Rocca_di_Ravalino a arco:hasRelatedAgent
```

SPARQL CONSTRUCT Query

```
sparql
PREFIX arco: <https://w3id.org/arco/ontology/core/>

CONSTRUCT {
  <http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravalino>
    arco:hasRelatedAgent
  <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> .
}
```

RDF Triple in Turtle Syntax

```
turtle
@prefix arco: <https://w3id.org/arco/ontology/core/> .
<http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravalino>
  arco:hasRelatedAgent <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> .
```

PREFIX arco:  
<<https://w3id.org/arco/ontology/core/>>

CONSTRUCT {

```
<http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\_Rocca\_di\_Ravalino>
  arco:hasRelatedAgent
  <https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530> .
```

}

WHERE {

# Empty WHERE clause since we're asserting the triple directly

}

SPARQL | HTML Microdata document

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The embedded RDF content will be recognized by any processor of HTML5 Microdata.

Namespace Prefixes

Prefix	IRI
n4	<a href="https://w3id.org/arco/resource/Agent/">https://w3id.org/arco/resource/Agent/</a>
n2	<a href="http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/">http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/</a>
a-cd	<a href="https://w3id.org/arco/ontology/context-description/">https://w3id.org/arco/ontology/context-description/</a>
rdf	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
xsdh	<a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>

Statements

Subject Item

[n2:S006699\\_Rocca\\_di\\_Ravalino](#)

a-cd:hasRelatedAgent

[n4:cf402e9bbd5dd8372a35022c85259530](#)

Rocca di Ravalino  
[http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699\\_Rocca\\_di\\_Ravalino](http://dati.beniculturali.it/iccd/schede/resource/CulturalInstituteOrSite/S006699_Rocca_di_Ravalino)

hasRelatedAgent  
<https://w3id.org/arco/ontology/context-description/hasRelatedAgent>

Caterina Sforza  
<https://w3id.org/arco/resource/Agent/cf402e9bbd5dd8372a35022c85259530>

Subject:  
Predicate:  
Object:

# Conclusions

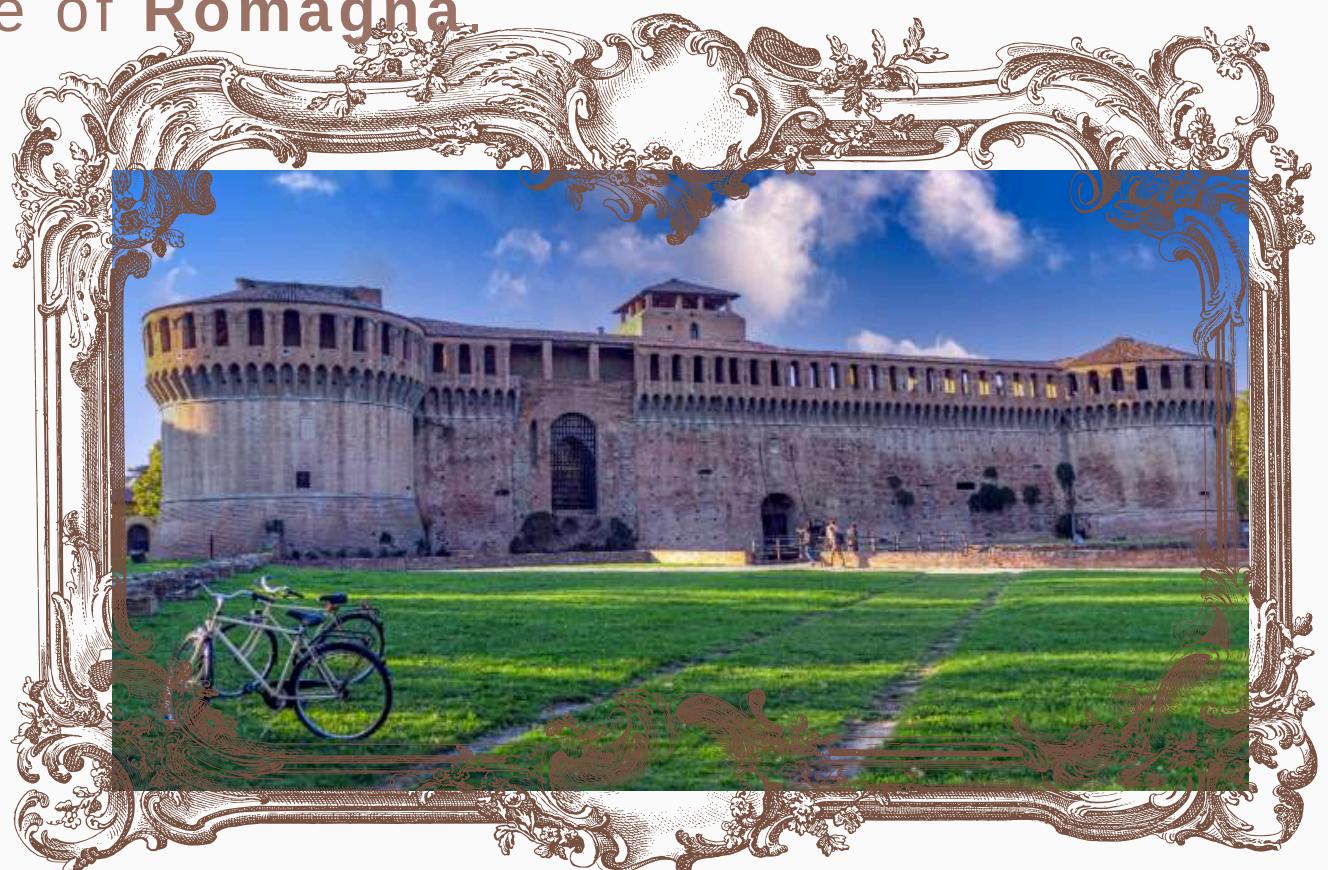
The proposed improvements address key aspects of the ArCo Knowledge Graph, including **visual depiction**, **date of construction**, **commissioner**, and related **historical connections** and **events**.

Currently, the knowledge graph lacks many of these links concerning **Caterina Sforza** and her architectural legacy in **Imola** and **Forlì**.

The triples we created help enrich both the quality and the completeness of the dataset, offering a clearer picture of the historical relevance of **Rocca di Imola** and **Rocca di Ravaldino**.

This project not only contributes to improving the existing knowledge graph but also provides a **foundation for future studies** on the cultural heritage of **Romagna**.

In conclusion, this investigation into the architectural heritage of Romagna has revealed the importance of integrating **semantic technologies** and **LLMs** to enhance the **coverage**, **expressiveness**, and **usability** of the ArCo Knowledge Graph.



THANK YOU FOR  
YOUR ATTENTION

