

Architetture residenziali medievali di Padova

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ARMEP project: study area



ARMEP project : objectives and methods



Line of archaeological research

- a) analysis of the stratigraphy of the front of the buildings in order to identify the main construction sequences;
- b) classification of building types
- c) Chrono-typologies of principal architectural elements
- d) Building techniques

e) Archaeological excavation data (published and new excavations)

Architectural elements





Mapping usm



Archaeological data (published)



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ARMEP project : objectives and methods

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Line of historical doc research

- a) Historical sources (published and unpublished);
- b) Historical maps
- c) Iconographic sources (frescoes, engravings, old pictures, etc....);



Q GIS_ARMEP - ArcMap - ArcInfo _ 8 X File × 2.JPG (1434×694) × 7.JPG (1361×980) 6.JPG (2850×2188) 💽 🕕 🖉 🔿 💽 🥎 500 🔹 🖕 🕴 Geostatistical Analyst * 🐠 🛫 D er: 核 edifici ARMEP 🖸 🔇 www.perseo.lettere.unipd.it/armep/iconografia_ARMEP/foto_storiche/Piazza_ 🏠 🔫 ۲ Sn. 🚼 Google » 📋 Altri Preferiti Identify from: 🧑 foto_storiche ٠ Table 🖃 foto_storiche Location: 1.724.815,563 5.032.188,481 Meters Field Value Call OBJECTID 58 SHAPE Point note_ <null> immagine http://www.perseo.lettere.unipd.it/armep/iconografia_ARMEP/foto_storiche/Piazza_Duomo/7.JPG rot_sym 270 Se Se Identified 1 feature <Null> baracca 📃 campanile 📃 chiesa o tabernacolo 📃 cortile interno 🔜 edificio civile edificio in costruzione 📃 edificio industriale 📃 gradinata monumento pietra o colonna indicatrice ospedale indere o edificio semi diroccato scalinata scuola 📕 tettoia o pensilina 🗉 🔲 catasti_storici 🗉 🗌 Network 표 🗹 cartografia storica 🖃 🔲 rete_stradale 🖃 🗹 cartografia raster 표 🗹 ortofoto 🗉 🗌 стс V 🛛 🖻 Ə II 🔇

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Information about coats-of-arms





ARMEP project I: objectives and methods

Historical objectives



- •What are the principle architectural typologies?
- What information can be obtained from these houses?

•What relationship existed between the trasformation of residential architecture and the principal events in Padua in the period from the XI to XIV centuries?

•If it is possibile identify the urban evolution of medieval Padua?

Requirements Analysis

Some architectural data to be covered.....



Requirements Analysis

Some cartographic data to be covered.....



Requirements Analysis

- a) The scale of the building, which refers to the construction sequences, the stratigraphic analysis, the building techniques, mensiochronology and chronotypology of architectural elements;
- b) The scale of the urban landscape, which refers to the modern maps, planimetric maps, cadastral survey, archaeological data, historical and iconographic source, interpretations and reconstructions made by scholars.



The geodatabase data model

A geodatabase schema includes the definitions, integrity rules, and behavior for an integrated collection of dataset used to represent the collection of thematic layer in a GIS.

A geodatabase data model is both the ordered collection of simple features and raster, as well as the rules and schema properties.

Feature class	A feature class is a collection of features of the same geographic elements (parcels, houses). The feature class can also share logical and spatial relationships with other features.
Feature dataset	 Feature datasets are organized collections of related feature class. The feature class are organized in a dataset for many purposes: a) put the data in order (architectures, streets, historical maps, constructives sequences) b) manage logical relationship c) manage topological relationship
Topology	Topology defines how features share geometry and control their integrity through rules and editing behavior . For example a parcel must be within a building likewise a stratigraphic unit must be within a frontage

Dataset "architecture"

The dataset "architecture" contains within it the **base maps** used in GIS.

•CTR 1:5000

•Photogrammetric 1:2000

•Photogrammetric "edificato fuso 32" (from Web Features Service of Department of Environment)



Dataset "frontage"

The dataset "frontage" contains within it the feature classes used to mapping the area of the frontages, the stratigraphic sequences (USM and EA), the chrono-typologiy of arcs and the mensio-chronology.











catasto_IT Feature Clas Fields OBJECTID Shape 🔷 cod_parcella 🗣 strato_CI Shape Length Shape_Area Indexes catasto_CN Feature Class strato_catasto Coded Value Domain Fields OBJECTID Description (Code) cartografia storica 💊 Shape eature Datasel area verde (1) strato_CN portico (2) sommarione edificio (3) Shape_Length annesso (4) Shape Area + Indexes catasto_AU Feature Class Fields OBJECTID 💊 Shape 🔍 strato_AU Shape_Length Shape_Area

Dataset "historical maps"

Dataset "interpretations"



Dataset "urban morphology"

Dataset "archaeology"

+ Indexes





Dataset "urban morphology"







Dataset "street network"

The dataset "network" contains within it the feature classes used to mapping the street network of Padua from modern map and from the Napoleonic cadastre.



Tables "architectural elements"



Tables "historical sources"



Tables "historical sources"



Some results



From text to GIS



....domus per traversum super viam 16 pedes inter domum... et curte pedes 13,5ab alio capite contra meridie 12,5 pedes..... Ortum septentrionis 9 pedes meridie 12,5 pedes (CDP, II, d. 1279, a. 1177)

From text to GIS



From text to GIS





5,8 - 6,8 6,8 - 8,9 rilievi planimetrici

parcelle

fronte strada

2,2 - 5,05

5,05 - 7,15

7,15 - 10,36

10,36 - 15,91

15,91 - 34,08

Communication: Web GIS?



http://www.fineo.lettere.unipd.it/armepwebgis/default.aspx

Future perspectives







