Complete Personal Record

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1 Personal Data

Birth Place:	Karlsruhe, FR Germany
Birth Date:	2nd January 1965
Residence:	Venezia–Mestre, Italy
Marital Status:	married
Citizenship:	German
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2 Scholar and Professional Carreer

2.1 Chronology

1984 Attainment of the German general matriculation standard at the Municipal Secondary School (Städtisches Gymnasium) of Hechingen, FR Germany. Matriculation at the Venice University of Architecture (Istituto Universitario di Architettura di Venezia, IUAV) at the Graduation Course in *Urban and Regional Planning (Pianificazione Territoriale e Urbanistica)* for the academic year 1984–1985.

1986 Six–week's practical course at the Regionalverband (Region) of Neckar–Alb at Tübingen, FR Germany.

1994 Completion of the programme of studies with its focal point on *Regional Planning (Pianificazione Territoriale)*.

1996 Graduation (Italian doctor's degree) with full marks and honours. The Thesis, entitled *The Venice Town Council Geographic Information System*, regarded issues of methodology in the User Requirement Analysis (URA) and of computer assisted urban management by considering the experience of the Venetian town administration; it tried also to identify a set of theoretical points of reference in order to achieve generalisation of the issues. The tutor of the thesis was Francesco Gosen[1], the co–tutor Alberto Giordano[2]. An English language summary of the thesis is available on the Internet at *http://www.hedorfer.it/ docs/agrat/agratsyn-ENG.{dvi,pdf,ps}*. Winner of a one year's research scholarship within the project "Optimisation of Base Cartography Supporting Items Related to the Venice Lagoon System". Renunciation of the scholarship.

1997 Inclusion to the list of "Conservators of the Subject" ("cultori della materia") within the Graduation Course in Urban, Regional, and Environmental Planning[3] at the Venice University of Architecture in the field of *Methods and Techniques in Analysis, Representation, and Assessment*.

1998 Winner of a scholarship for the collaboration to research activities for the years 1999-2000 within the programme "Knowledge–Building Processes, Urban and Regional Information Systems, Plan–, Project–, and Decision–Making" at the Department of Urban Planning of the Venice University of Architecture.

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[1]Professor of mathematics and informatics at the IUAV, electronic mail: *francesc@iuav.it*.

[2]Assistant professor of Computer and Analytical Cartography at the Univeristy of Massachusetts at Boston, electronic mail: *alberto@earth.geog.umb.edu*.

[3]New name of the Graduation Course since 1994.

2000 Co–tutor (with Francesco Sbetti[4]) of the graduation thesis in Urban, Regional, and Environmental Planning entitled "Expecting Places — An Analysis on Disuse Potential in the Province of Treviso, Italy" by Patrizia Del Rosso and Roberto Volpato. Tutor: Domenico Patassini[5], Venice University of Architecture.

2001 Authorised Dealer for the *TNT* GIS–products made by MicroImages, Inc., Lincoln, Nebraska, USA.

2002 Member of the National Association of Town, Regional, and Environmental Planners[6].

2003 Member of the association AM/FM/GIS (Automated Mapping / Facilities Management / Geographic Information Systems) Italia[7].

2004 Convention with the IUAV University at Venice[8] in order to carry out practical training and vocational orientation courses for university students at the Hedorfer Office.

State law examination for the admission to practise the profession of *regional planner* ("pianificatore territoriale") passed on the first attempt with 88 of 100 points[9].

Contract lecturer at the IUAV University at Venice for the academic year 2004–2005.

2.2 Languages

German	Native language.
Italian	Perfect active and passive performance of written and spoken language.
English	Good performance, frequently used in work.
French	Good performance, especially spoken language.
Spanish	Modest performance.
Dutch	Reading capability.
. . .	Available for learning additional languages.

2.3 Information Technology

Operating systems DOS, Microsoft Windows (all versions), UNIX (HP–UX, DEC OS, IBM–AIX, Linux), and X–Windows, Apple–Macintosh.

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[4]Architect, private company "Sistema", Venice. President of the [Italian] National Institute of Urban Planning (INU) in Venetia, electronic mail: *sistema@ve.nettuno.it*.

[5]Professor of Urban Planning Evaluation and Programming Techniques at the IUAV, electronic mail: *domenico@iuav.it*.

[6]Member of the European Council of Town Planners (*http://www.ceu-ectp.org*).

[7]Member of the European Umbrella Organisation for Geographic Information (EUROGI, *http://www.eurogi.org*).

[8]Until 2002 the IUAV University was an "istituto universitario" (literally: university institute), i.e. a university with a single faculty: *architecture*. The activation of two new faculties (*spatial planning* and *design and art*) implied hence also a change of the name from the original "Istituto Universitario di Architettura di Venezia" (IUAV, Venice University of Architecture at Venice, or literally: University Institute of Architecture of Venice) to the current version, where the term "IUAV" should no longer be interpreted as an acronym, but as a simple proper noun.

[9]The state law examination for regional planners has been introduced to Italian law in 2001; the first examinations had been held in 2002.

Programming languages   DOS batch–programming, UNIX shell–program-ming, C/C++, Pascal, Microsoft Windows API, Perl, PHP, Tcl/Tk, Java, Ba-sic, QBasic for Microsoft DOS, Visual Basic, macro languages of TNT (SML), Arc/Info (AML), Arcview (Avenue), AutoCAD (scripting and AutoLisp), Mini-CAD/VectorWorks, MapInfo and products of Microsoft Office. C/C++ API of the TNT Products and Arc/Info. Hypertext Mark–up Language (HTML) and JavaScript.

End–user applications   Standard office applications (word processing, elec-tronic typesetting, mainly LaTeX, spreadsheet and other DBMSs, publishing, CAD) and geospatial information management software, especially MicroImages (TNT), ESRI (Arc/Info e Arcview), and Autodesk (AutoCAD Map) products. Also SPRING by the Brazilian INPE, CartaLinx by Clark Labs, MapInfo, Mi-croStation Geographics by Bentley, Intergraph (MGE, I/RAS B and C).

3   Professional Experiences

3.1   Commissions

2000–2001   Numeric encoding of the urban planning instruments and house numbering   *Comune di (Township of) Duino–Aurisina, Province of Trieste*   Projecting and implementation of a bilingual (Italian and Slovene) geospatial information system on the management of the municipal planning instruments and house numbers.

The work consisted in (1) developing a structural model for the planning instruments based on "rule spaces" and "rule sets", as had yet been done within the encodings of Venice and Castelfranco Veneto, (2) numeric encoding of the corresponding information, (3) topological setting–up of the buildings coverage prepared starting from an electronic cartographic drawing produced by the Re-gional authorities, (4) numeric encoding of the house numbers attached to the buildings, (5) preparing of some management procedures for the implemented data, and (6) preparing of some IT procedures in order to convert the two im-plemented data families into the formats required by the Regional authorities.

The system also conforms to the prescriptions of the statute of the Township of Duino–Aurisina regarding Italian–Slovene bilinguism by guaranteeing for each inserted data element the presence of both linguistic versions and an essential parity of facility or difficulty of use (command names, mnemonic acronyms, etc.) concerning either Italian or Slovene speakers.

The activities had been carried out in part at the planning office of Duino–Aurisina. The used GIS software was AutoCAD Map combined with the DBMS Microsoft Access. The work had been delivered to the township administration on 4th May 2001. With an executive order on 22nd October 2001, the Autonom-ous Region of Friuli–Venetia Julia evaluated positively the electronical encoding performance, and granted a financial contribution of about $\frac{2}{3}$ of whole amount of the operation.

The complete technical report is available in Italian on the Internet at *http://www.hedorfer.it/docs/wdanp/wdanp1cd-ITA.{dvi,pdf,ps}*. There are also available separate documents of the single chapters at *http://www.hedor fer.it/docs/wdanp/wdanp1{rt,cr,ma,rr,ii,nc,dc}-{ITA,SLV}.{dvi,pdf,ps}*, some of these also for experimental purposes in the Slovene language.

2000–2001   Preliminary studies for the Fauna and Hunting Plan
Provincia di Venezia (Province of Venice)   Preliminary study regarding Regional, Provincial, and Municipal planning instruments, and the state of the territory in general, in order to determine the possibility to establish a set of "protection oases" and "capture and re–population zones" that had yet been identified by the staff of the Protection and Revalorisation Department of the Provincial administration.

The work had been carried out in co–operation with Donatella Schiuma and Giovanna Parenti, and involved retrieval and analysis of all the approved or approving skeleton, preparatory, and partially legally binding planning instruments of the thirty–eight townships whose territories are affected by protection oases and capture and re–population zones that had yet been established or whose establishment was proposed. The analysis of the single plans lead to the compilation of a file for each considered area in which were indicated constraints, prescriptions, specific plan rules, and the corresponding estimated capacity to enforce or to reduce the suppositions of their destination made by the Provincial personnel.

The commission included also the computation of the agro–sylvo–pastoral area of the Province of Venice and the individuation of correction indexes for each township based on the encountered anthropisation degree.

The work had been carried out during two consecutive commissions that were concluded by providing for the technical documentation, respectively on 8th September 2000 and 23rd March 2001. Besides, there is the possibility of a third commission in order to deepen some of the arguments. Single technical operations had been performed at the office of Architect Parenti at Venice–Mestre.

The two technical reports are available in Italian on the Internet at *http://www.hedorfer.it/docs/wvepf/wvepf{1,2}rt-ITA.{dvi,pdf,ps}.*

1997–1999   GIS for the management of the zoning plan general revision   *Comune di Venezia (Venice Township)*   Development of a geospatial information system to allow computer–assisted mangement of the General Programme of Urban Planning (Piano Regolatore Generale). The work has been carried out while two GPUP revision acts regarding the mainland part of the Venice Township (Mestre and Marghera) and the Cavallino Peninsula[10] were prepared.

In addition to the usual activities of data entry, manipulation, and quality control, during the GIS development had been handled also the issue of data format conversion of a significant geospatial data base grown up during several years. The data had been implemented by following the structure — developed during the graduation thesis and subsequent research initiatives — organised in "rule spaces" (geometrically independent metric spaces, layers) and — within these — "rule sets" (geometrically dependent features, attributes). Particular attention had been paid to the development of a formal data naming convention system in order to support editing processes by macro commands, automate global data management, and produce paper editions of the plan.

During a second phase of the commission in 1999, a short course had been

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[10]In 1999 the Cavallino Peninsula became independent from the Venice Township by constituting the Cavallino–Treporti Township.

held for the technical personnel of the Urban Planning Department in order to instruct them in managing the implemented information system.

The work had been carried out in co–operation with Francesco Contò and Massimo Mazzanti, and by performing all processes at the GIS Office of the Venice Township Urban Planning Department. The used GIS software was Arc/Info combined with the proprietary DBMS Info, while the formerly used GIS software was Geodis6000. The programming activities had been performed by employing the Arc/Info Macro Language (AML), C/C++, and the Bourne–shell scripting languages of the AIX and DEX OS operating systems.

The technical report is available in Italian on the Internet at *http://www.he dorfer.it/docs/wvecp/wvecp1rt-ITA.{dvi,pdf,ps}*. In addition to this, an article had been published on the Italian journal "Archi @ Media".

3.2   Consulting

2003   Programming activities within a survey project of paved surfaces   *Büro für Umwelttechnologie GmbH (BFU, Office for Environmental Technologies Ltd), Gelnhausen / GIS Team*[11]*, Gießen, Germany*   Development of software tools to support the electronical encoding activities of built–up and paved surfaces, previously surveyed by employing air photos, and to support the further data processing within the enterprise GIS.

The complete production process consisted of the following steps: (1) production and georeferencing of air photos on the basis of cadastrial maps; (2) conversion of the geometrical and alphanumerical components of the electronic land register (ALK, German Automised Real Estate Register); (3) electronic encoding by manually digitising the covered roof and other paved areas; (4) production of documentation sheets for the single properties; (5) meetings with the citizens in order to achieve and evaluate the feed–back, if any, concerning the produced data. Until now, the two developed software tools involved steps 2 and 3 of this path, where the first one is devoted to the automation of data entry operations, and the second one to the production in series of map extracts and some additional base information related to the properties which will subsequently be inserted into the information sheets. Within this not yet concluded consulting activity some further supervision and inspection services have been provided concerning the geospatial data encoding, processing, and production procedures. The project regarded the real estate subdistricts of the Perf area in Central Hesse, Germany.

The work has been carried out using own technological facilities. The used GIS software was TNTmips. The software tools have been developed with the TNTmips macro language (SML), and supported — where indicated — by smaller programs written in the C/C++ language.

2002   Encoding of contour lines in the Watt   *Amt für ländliche Räume (ALR, Office for Rural Areas), Husum / GIS Team, Gießen, Germany*   Quality control and integrative manipulation of a semi–automatic contour line digitisation.

The sole project commissioner was the geo–IT company "GIS Team" at Gießen. The main digitisation work has been sub–commissioned to the "Variac

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[11]Geo–IT engineering company at Gießen in Germany, electronic mail: *info@gisteam.de*.

Systems Private Limited"[12] at Chennai (Tamil Nadu, India), while the quality control and integrative manipulation has been carried out by the GIS Team itself, by Andreas Zettl[13], planner, also at Gießen, and by Markus Hedorfer, planner and geo–IT specialist.

Procedure: the contour line map tiles (so–called Watt Base–Maps), which cover an area of $32\,km^2$, were originally hand–drawn and had subsequently scanned and geo–referenced; they have then been encoded mainly by Variac Systems Ltd. under employing semi–automatic procedures. The digitisation results obtained in this way, and still splitted into single map sheets, had then been merged together topologically in order to create survey year volumes. Finally they had been controlled in order to assess geometrical and orographical plausibility (consistence). This plausibility assessment procedure had partially been supported by a software tool provided by the ALR at Husum. In addition to contour lines, also geometrical and attribute information for quoted points, topographical survey metadata, secondary maps, and auxiliary installations had been encoded.

The work has been carried out using own technological facilities. The used GIS software was TNTmips.

2001–2002   Semi–automatised correction of airphotos   *Amt für ländliche Räume (ALR, Office for Rural Areas), Husum / GIS Team, Gießen, Germany*   Within a scanning and georeferencing work: semi–automatised retouching (by employing linear and second–order polynomial interpolation methods) of airphotos in order to remove geographical grid–lines which were yet impressed on the original prints.

The scanning and georeferencing work has been carried out by the geo–IT company "GIS Team" at Gießen. Subsequently the geographical grid lines had been digitised manually for each of the about five hundered elecronical images. It was not possible to perform this action by applying statistical recognition methods based on the chromatical values, as were encountered slight deformations of the grid lines in the original images, which were even amplified in some cases during the rectification process. Along the digitised grid lines have then been applied buffer zones with depths that varied from image to image. Within these buffer zones all the cell (pixel) values were blanked out and subsequently reconstructed by employing linear and second–order polynomial interpolation functions which were applied under 0, 45, 90, and 135°. Among the eight value series obtained in this way for each cell to be interpoled had been finally chosed the one with the lowest standard deviation in the range of known values and for which some additional conditions of the interpolation likelihood were satisied.

The work has been carried out using own technological facilities. The used GIS software was TNTmips in combination with a program written in the C++ language especially for this work in order to execute the computation and evaluation of the interpolation functions.

1999–2002   Organisation and visualisation of local trade data
Comune di (Township of) Loria, Province of Treviso / Venice University of

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[12]Service provider for CAD and GIS solutions at Chennai, Tamil Nadu, in India, electronic mail: *varsys@giasmd01.vsnl.net.in*.

[13]Geographer and town planner at Gießen in Germany, electronic mail: *info@planungsbue ro-zettl.de*.

Architecture Development and implementation of a geospatial data base regarding seedling nursery and seedling trade firms in the township district of Bessica, and production of some cartographical compositions with historical contents.

To the geometrical elements (polygons corresponding to the effective extent of the firms) had been associated single elements of an alphanumerical data base built on the basis of socio–economic questionnaires that had previously been compiled using traditional methods. The historical maps, on the contrary, had been set up on the basis of geospatial data retrieved and encoded from different traditional information sources.

The data base had been realised using the GIS application AutoCAD Map with the DBMS Microsoft Access.

1999–2000 Planning–related spatial analysis and numeric base and thematic cartography *Ville de (City of) Bambari, Central African Republic / Venice University of Architecture* Development of a geospatial information system in order to manage base data and analytical and planning information at municipal level within the "Municipal development support project — Preliminaries to the urban management plan".

The perfomed operations concerned (1) geomatical organisation of spatial base data and production of the "Carte Topographique Municipale" in paper form, (2) numeric encoding of the socio–economic survey carried out within the project, (3) spatial and statistical analyses as the planning–oriented knowledge base, and (4) numeric encoding of the preliminary planning indications. The Italian–Central African work group was composed as well by technicians of the Central African government and of the Italian NGO "Africa 70".

The idea of a joint management of the Bambari Municipal GIS with the University of Bangui at the end of this co–operation project had not been realised.

The activities had been carried out by employing the facilities of the Venice University of Architecture. The used GIS software was Arc/Info, supported by the multivariate analysis package ADDATI produced by the IUAV.

1998–1999 and 2001–2002 GIS for the management of the zoning plan general revision *Comune di (Township of) Castelfranco Veneto, Province of Treviso / Franco Posocco*[14] *Architect, Venezia–Mestre* Participation to the planning team and development of a geospatial data base for the IT–based management of the general regulatory plan during a plan revision operation.

The data had been implemented by adopting the organisation in "rule spaces" and "rule sets" yet proved on the occasion of the revisions to the Venice GPUP (*see* "Commissions"). In addition to this, a sequence of bureaucratic and IT procedures had been tried, implemented, and proved in order to perform automatic plan dimensioning, plan dimensioning audit, and compilation of the corresponding tables prescribed by the Regional Venetian urban planning law. These procedures become necessary each time the geometrical or alphanumerical data base is modified.

Concerning the preliminary analysis issues, the following tasks had been developed. (1) A method for simulating contiguous urban surfaces (CUS) in

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[14]Architect at Venice–Mestre, electronic mail: *posocco@sit.iuav.it*.

order to identify urban–scale settlement systems. (2) An urban population distribution model used, on the one hand, to weight single CUSs, but above all to provide for an urban plan dimensioning method in those situations where more detailed georeferenced demographical data is not available.

After the commission had been adjourned as a consequence of the resignation of the mayor of Castelfranco Veneto in June 1999, during summer 2001 the work had been formally continued and finally completed in two steps on June 15th, 2002 by providing the final plan project, and on November 19th, 2002 by providing all the electronical materials. During the first phase in 1998–1999 the activities had been primarily carried out at the office of Franco Possocco; the used GIS software was AutoCAD Map linked to the DBMS Microsoft Access. During the second phase has been performed a data conversion towards the formats of the GIS software TNTmips. The work has been carried with own GIS facilities and in collaboration with the architects Alessandro Alì[15], Paolo Ceccon[16], Marco Ferretto[17], and Franco Posocco.

The GPUP Revision Project ad been adopted by the Town Council on July 6th, 2002, and is actually under examination in order to evaluate the observations provided by the population. Within an auxiliary work — fomally independent from the main commission to Franco Posocco — has also been carried out the rectification (by polynomial "warping") of the municipal technical base map for the historical town centre.

An article had been written for the Italian journal "Archi @ Media" concerning the first phase of the work. In addition to this, an Internet site has been created at address *http://www.gisurb.it/casfrave* containing all the materials related to the plan, excluding the geospatial data.

1998   Planning–related spatial analysis and corresponding cartography   *Comune di (Township of) Villorba, Province of Treviso / Franco Posocco Architect, Venezia–Mestre*   Structuring, georeferencing, querying, and visualisation of the town council data base on local commercial, industrial, and service activities within the preliminary analysis to the thematic revision of the general regulatory plan concerning industrial settlements.

The data base had been developed on the basis of the registers of the Treviso Chamber of Commerce which were yet available in electronical form, and of the enterprise locations which, on the contrary, had been provided by the township administration in the form of paper maps. Subsequently had been performed some spatial analyses on the typology, the age, and the dimension of the approximately 1200 enterprises; the results had been enclosed to the revision documentation.

The activities had been primarily carried out at the office of Franco Possocco. The used GIS software was AutoCAD Map linked to the DBMS Microsoft Access.

1996   Environmental numeric cartography and corresponding data base   *THETIS Consortium*   Production, within an environmental impact

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[15]Architect at Milan, electronic mail: *ali.alex@tiscalinet.it*.
[16]Architect at Venice–Marghera, electronic mail: *ceccon@iuav.it*.
[17]Architect at Venice–Marghera, electronic mail: *marco.ferretto@tin.it*.

study, of digital base and thematic maps, and organisation of the referring data base.

During the organisation of the data base used to produce the base and thematic maps, the adopted organisational model was based on theme sets that can be defined as the set of elements belonging to the same metrical space, and that are thus structured by attributes (in opposition to layer–based structures which are used in CAD). Also some display procedures had been set up to facilitate data input.

The work had been carried out at the offices of the THETIS Consortium (now THETIS s.p.a.[18]). The software used to develop the data base and the graphical display procedures was Arc/Info. On the contrary, the software used to produce thematic maps was Arcview.

1994–1996 Participation to the OPEN Project: Information requirements analysis and development of a GIS prototype for Porto Marghera *Comune di Venezia (Venice Township) / Consorzio "Venezia Ricerche" (Consortium "Research at Venice") / Venice University of Architecture* Development of a geospatial information system for the Porto Marghera industrial and harbour area as a prototype for a future system involving the whole township territory.

The work was characterised by (1) public relation activities (technical administration, town council, public utilities), (2) studying the theory of geographical information systems and the related commercial products, (3) drawing–up the general data base plan, (4) by handling the problem of the IT–based management of urban planning instruments, and by (5) the direct work with computers in order to perform geospatial data format conversion tasks and data organisation and manipulation using the destination software (Arc/Info).

The above–mentioned activities had been carried out mainly at the EDP–centre of the Venice University of Architecture.

1994–1995 Data input and GIS counselling at the Provincial planning office *Provincia di Venezia (Province of Venice) / Consorzio "Venezia Ricerche" (Consortium "Research at Venice")* Insertion of geospatial data concerning the Preliminary Project for the Province–Wide Regional Plan into the Planning Office GIS and consulting tasks on how to develop the spatial planning GIS of the Provincial administration.

Within the collaboration had been observed the following tasks: (1) organisation of the digital geospatial data classified as useful for drawing–up the Preliminary Project and, in the future, for managing the approved Regional Plan, (2) organisation of the data input procedures for the Planning Office GIS, (3) insertion of information layers of the plan and some analysis plates that had yet been drawn–up manually, (4) insertion of information layers derived from other electronical and traditional sources, (5) definition of the query procedures in order to produce thematic maps.

The work had been carried out at the Planning Office of the Provincial administration. The employed software was MicroStation, I/RAS B, and MGE.

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[18]Public Limited Company (PLC).

3.3   Didactics

2004–2005   Contract lecturer within the course of studies in Geographical Information Systems   *IUAV University at Venice / NETTUNO Consortium*[19]   Contract lecturer during the academic year 2004–2005 for the course in "Geographical Information Systems 2" (distance university format) within the course of studies in "Geographical Information Systems" totalling 4 CFUs[20] with 30 teaching hours.

The course has been assigned by the Faculty Council of the Planning Faculty on 15 September 2004. The course programme is currently under elaboration.

The course will be held in the form of distance teaching and schedules the supply (through the IUAV and NETTUNO Internet sites) of lecture notes and other study materials. At the end of the course a written or an oral exam will be arranged at the IUAV rooms.

The course programme will be shortly available on the Internet.

2003   Teaching within a vocation–oriented master course   *IUAV University at Venice*   Teaching within the "Vocation–Oriented ESF Master in Evaluation of Local Projects and Public Services" for module "Performance Evaluation: Clean–up Scenarios of Contaminated Sites" with a duration of 36 hours. The course was co–financed by the Social Fund of the European Union.

During the course have been deepened and critically rephrased the formulation and implemntation phase of the ELGIRA model (*see* at page 13). Particular attention was devoted to the knowledge engineering operations and to the multidisciplinary character of the overall task. The employed software tools during the course were TNTmips/TNTlite, RMK and Giuditta.

The course had been held at the buildings of the Venice University of Architecture.

The course programme is available — only in Italian — on the Internet at *http://www.gisurb.it/doctrina/docs/dvmav/dvmave1p-ITA.{pdf,ps.gz}*.

2000   Teaching within a vocational training course   *ISFID Venezia–Marghera*   Teaching within the vocational training course as "Environmental Impact Analysis Technician" for module "8b — EIA: EDP–Methodologies" for the duration of 36 hours. The course was co–financed by the Social Fund of the European Union.

During the course had been treated the theoretical fundamentals of geographical information systems, the applications Arc/Info, Arcview, CartaLInx, and AutoCAD Map, and had been fetched back some of the steps of an analytical study regarding soil consumption.

The couse had been held at the buildings of the Venice University of Architecture.

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[19] A university consortium which appears as a distance university and whose courses are organised by the single associated universities. Internet site *http://www.uninettuno.it*.

[20] Crediti formativi universitari (university training credits). CFUs were introduced in Italy by the University Reform of 2000. They are based upon the principles of the ECTS (European Credit Transfer System) and represent the unit of measurement of the students' workload: 1 CFU equals theoretically a load of 25 working hours. According to the reform, a first-level university degree (e.g. three-year BSc) may be obtained by totalising usually 180 CFUs (including those collected during practical training courses), while a second-level degree requires usually additional 120 CFUs.

The course programme is available — only in Italian — on the Internet at *http://www.hedorfer.it/docs/dgbis/dgbis1pp-ITA.{dvi,pdf,ps}*.

1998–1999 Teaching within a vocational training course *ENAIP Friuli–Venezia Giulia (Friuli–Venetia Julia)* Teaching within the vocational training course as "Urban Renewal Technician" for module "A2.2 — Geographical Information Systems (GIS)" for the duration of 56 hours. The course was co–financed by the Social Fund of the European Union.

During the course had been treated the theoretical fundamentals of geographical information systems, the applications MapInfo and AutoCAD Map, and a simulation had been carried out on a complete process of preliminary analysis, projecting, and implementation of a GIS on the Porto Vecchio (Old Harbour) Area at Trieste.

The course had been held at the Trieste seat of the Training Service Centre of ENAIP Friuli–Venetia Julia.

The course programme and some other information materials concerning the sample data used during the course are available — only in Italian — on the Internet beginning from address *http://www.hedorfer.it/docs/dgbef*.

1998 University students' training *CEPU Venezia–Mestre* Short course of fifteen hours in programming with the Java language at a private organisation specialised in additional university students' training.

The course was conceived as the continuation of an introduction to programming languages with a partcular reference to the Pascal programming language. Basic knowledges had been transmitted on object–oriented programming and, with less details, on event–driven architecture. For the practical applications had been employed the *Java Developer's Kit*, release 1.0.2, by Sun Microsystems, Inc.. As the course's text–book had been adopted the Italian translation of Patrick Naughton's and Herbert Schildt's "Java: The Complete Reference", edited in 1997 by McGraw–Hill.

The course had been held at the Venetian seat of CEPU at Mestre.

1997–1998 Didactic collaboration *Venice University of Architecture* Didactic collaboration at the Diploma Course[21] in Geographical Information Systems within the "Laboratory" (1997), by teaching within the courses of Numeric Cartography (1997), Programming Languages (1997), Representation of the Territory and the Environment (1998), and by teaching the students to directly work with GIS software (1998). The commission had been assigned after a competition by qualifications (without exam or interview).

The complete documentation of the lessons held within the course in Numeric Cartography, including the employed sample data, is available — only in Italian — on the Internet at *http://www.iuav.it/∼hedorfer/dgc-ITA.html#dgcavj96*.

Single Lessons

Contextual knowledge generated by a decision support system for brownfield development: The case of Porto Marghera (Venice, Italy) (with Domenico Patassini)   Lesson at the 19th cycle of the PhD programme in

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[21]A three–year's university diploma.

Analysis and Governance of Sustainable Development (lesson No. 10 of module 8 "Brownfield Management"), School for Advanced Studies in Venice Foundation, 1st April 2004.

Codifica elettronica di strumenti urbanistici: Castelfranco Veneto e Duino–Aurisina / Devin–Nabrežina[22]   Lesson at the course "The Role of GIS Within Town Planning"[*] (Prof. Stefano Alonzi[23]) of the Master in *Cartography and Geographical Information Systems*[*], University of Trieste, 11th November 2003.

Risk and Planning   Lesson at the *Venice Summer School in Analysis and Governance of Sustainable Development*, module "Risk–Based Rehabilitation of Contaminated Megasites", organised by the Venice International University (VIU), San Servolo Island, Venice 22nd–26th September 2003.

Sistemi informativi geografici: Una panoramica[24]   Lesson at the continuation course *Spatial Information Management: rules, methods, and instruments (GIS)*[*] organised by the Interdisciplinary Local Government Research Centre (CISEL), Rimini 22nd–24th April 1998. The lesson has been repeated during the second edition of the continuation course held at Rimini from 15th to 17th December 1998.

3.4   University Research

2001–2002   ELGIRA: A knowledge–support procedure for Porto Marghera brownfields at Venice, Italy   *IUAV University at Venice*[25] / *Lagoon Research Consortium*   Development and implementation of a methodological, information, and training model devoted to evaluation of different brownfield development techniques at Porto Marghera, Venice, Italy.

The research — which is still in work — is framed into both, the first COR-ILA (Lagoon Research Consortium) research programme 2000–2004, and more in detail as WP3 of research unit 1.1 "Economical Evaluation of Saveguarding and Environmental Protection Activities", as well as into the second programme of 2003–2006 as the independent research unit 1.2 "Evaluation of benefits and costs of restoration of contaminated sites in the Venice lagoon".

Starting from a set of data concerning ground and underground quality, firms located in the area, and land–use destinations within the industrial and port area of Porto Marghera, a methodological, information, and training model is being developed around four yet existant analytical and evaluation tools. (1) The multi–criteria technique "Electre II" in order to sort remediation techniques. (2) The risk analysis tool "Giuditta", developed at the Province of Milan. (3) The evaluation model "RMK", developed at the Vrije Universiteit at Amsterdam, in order to evaluate different remediation options. This model takes into consideration risk reduction concerning human beings, ecosystems,

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[22]In English "Electronical encoding of planning instruments: Castelfranco Veneto and Duino–Aurisina / Devin–Nabrežina"

[*]All the titles (not the related documents) provided with an asterisk have been translated from their original version into the English language.

[23]Town planner at Venice and Trieste, electronic mail: *stalonzi@tiscali.it*.

[24]In English "Geographical information systems: An overview"

[25]Formerly "Venice University of Architecture" (Istituto Universitario di Architettura di Venezia).

and other objects, as well as environmental quality differences and economical and finacial costs of alternative development activities. (4) The cellular atomaton "AuReS", deveeloped at the Venice University of Architecture, in order to interpolate pollutant concentrations and to simulate environmental quality and land income values.

The finale aim of the project is carrying out a complete evaluation model in order to individuate the most suitable remediation options, and to determine the economical and financial costs of brownfield development in the area. The research activities are supported also by the collaboration of the Venice Township Environmental Planning Division and the Venice mult–utility organisation "VESTA", which is encharged with removal and remediation of dust, water supply, and other environmental services.

The activities are being carried out at the EDP centre of the Venice University of Architecture and with own geospatial computing facilities. Research director is Domenico Patassini.

1999–2000   The Venice Metropolitan Area: Infrastructure systems and central places   *Venice University of Architecture*   Projecting, implementation, and management of a GIS supporting the research activities on the Venice metropolitan area, with particular attention to interoperability with mobility models and simulations and to new spatial analysis methods.

After the phase of projecting the organisational model of the GIS, the first data — obtained from former studies on the metropolitan phenomenon in the Venetia Region — had been implemented in order to delimitate one or more study areas for the working group "Modes of Change: New Development Patterns, Living Styles, and Relation Systems". In addition the following issues had been treated, too. (1) The data conversion problem between the specialised transport planning application Visum and the GIS application Arc/Info concerning the mobility graph for the Venetia Region, which had formerly been prepared by another reasearch group. (2) The question to solve if the simulation of contiguously urbanised surfaces and the urban population distribution model — both yet employed during drawing–up the Castelfranco Veneto GPUP (*see* "Consulting") — can also be used in this context. (3) The development of a 'fuzzy' integration model of land use data by enriching the topological base vector data with satellite image data, and avoiding alteration of the initial metrical and topological quality.

The activities had been carried out at the offices of the Graduation Course in Urban, Regional, and Environmental Planning at the Venice University of Architecture.

Some of the developed procedures are explained in the document entitled "Collection of Spatial Analysis Procedures" available — however only in the Italian language — on the Internet at *http://www.hedorfer.it/docs/guana/guana prc-ITA.{dvi,eps,pdf}*. Research director was Domenico Patassini.

1996–1997 and 1998–2000   Insertion of planning instruments into different GISs   *Venice University of Architecture*   Individuation of methods for computer assisted management of planning instruments, based on GIS technology and with respect to different configurations of the operating platform and base software.

The main purposes of the research were (1) to draw–up an organisational model for the morphological and legal data on which urban planning GISs are based, and (2) to develop a technical protocol in order to allow exchange of information regarding urban planning between systems based on different commercial solutions.

During the first part of the work, which was concluded in August 1997, the theoretical basis for electronic encoding of urban planning instruments had been set–up, and the characteristics of the logical and physical model of the urban planning GIS defined. During the second part, the same arguments had been issued, but by regarding them from a more practical point of view, and by developing some guidelines for drawing–up and implementing urban planning GISs with different commercial solutions. The research result took also into consideration the experiences made during revision of the Venice–Mestre GPUP[26] and consulting for drawing–up the new Castelfranco Veneto GPUP.

The activities had been carried out at the EDP centre of the Venice University of Architecture. The considered operating platforms were based on UNIX and on Microsoft Windows 95 and NT 4 and provided with the GIS software Arc/Info (only UNIX), ArcView (UNIX and Microsoft), AutoCAD Map, MicroStation Geographics, and MapInfo (only Microsoft). Research director was Francesco Gosen.

1996–1998   Optimisation of base cartography supporting items related to the Venice lagoon system   *Venice University of Architecture*   Development and implementation of an organisational model for an experimental geospatial information system within the Venice Lagoon.

During the research had been treated the issue of integration between work environments based on different hardware platforms and located at different places in order to form a unique logical system. Particular attention was devoted to the development of efficient guidelines for metainformation compilation and to the realisation of a communication protocol between a GIS environment based on Arc/Info and two peripherical modules dedicated respectively to mathematic modelling and to simulation using a cellular automaton.

The activities had been carried out at the EDP centre of the Venice University of Architecture. Research directors were Rosa Bonetta[27] and Alberta Bianchin[28].

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[26]"GPUP" stands for "General Programme of Urban Plannig", which is the translation I adopted during writing the English summary of my graduation thesis for the Italian term "Piano Regolatore Generale". Other translations found are "Land Use Plan" which refers to the German "Bauleitplan and to the French 'Plan d'Occupation des Sols'", "Development Plan" which refers to the British planning system, or even "Urban Regulation Plan" as an almost literal translation of the Italian name.

[27]Professor of Representation of Spatial Phenomena at the IUAV. Rosa Bonetta died in 1998.

[28]Professor of thematic and numeric carthography at the IUAV, electronic mail: *alberta@iuav.it*.

3.5 Practical Training

1986   Landscape Plan *Regionalverband (Region*[29]*) Neckar–Alb, Tübingen, FR Germany* Individuation of regional green belts and green caesurae between settlement agglomerations.

The work, carried out within a practical course, involved issues concerning protection of nature and landscape, the biotope connection network, soil quality, climate and microclimate, municipal planning instruments (preparatory land use plans and binding construction plans) in order to individuate a system of spaces to be kept free from built development ("Regional Green Belts" and "Green Caesurae Between Settlement Agglomerations")[30] as spaces for ecological counterbalances. Besides, some graphical charts on the migrational behaviour of the population had been prepared, too.

4   Publications and Contributions

4.1   Publications

Contextual Knowledge Generated by a Decision Support System for Brownfield Development: The Case of Porto Marghera (Venice, Italy) (with Domenico Patassini, Paola Cossettini, Enrico De Polignol, Chiara Paneghetti, and Enrico Rinaldi) In course of publication in *Beyond Benefit Cost Analysis — Accounting for Non-Market Values in Planning Evaluation*, edited by Donald Miller and Domenico Patassini, Ashgate, Aldershot, UK 2004.

Duino–Aurisina / Devin–Nabrežina — Il GIS bilingue per il PRGC / Dvojezični GIS za SORN In course of publication in *Archi @ Media*.

Castelfranco Veneto — Il GIS per la Costruzione del Nuovo PRG In "Archi @ Media" (2/2001 (April)).

Il Nuovo Piano Regolatore per Mestre — Struttura del Piano e Codifica Numerica In "Archi @ Media" (1/2000 (March)).

Informazioni Urbanistiche nei GIS In "Procedure Digitali per la Pianificazione Ambientale", edited by Igor Jogan and Domenico Patassini, 165–201, Il Rostro, Milan, Italy 2000.

Usefulness of GIS in Strategic Planning In "Marittima Workshop — G.I.S. and Strategic Planning", edited by Giuseppe Longhi, 53–70, Venice University of Architecture, Department of Urban Planning, October 1999.

Il GIS per la Gestione degli Strumenti Urbanistici del Comune di Venezia (with Francesco Contò, Massimo Mazzanti, and Paolo Barbieri) In "Geomedia" (1/1998 (February)). The same article, with few changes, has also been published on the conference proceedings of the itinerant conference *GIS Itinera 1997* and is referred to the contributions of Hedorfer, Contò, and Mazzanti

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[29]The Regionalverbände in the German Land of Baden–Württemberg are the authorities responsible for regional planning. Due to the limited extension of these Regions, often one refers to the subject as "subregional planning".

[30]The Regionalverbände in the German Land of Baden–Württemberg are the authorities responsible for regional planning. Due to the limited extension of these Regions, often one refers to the subject as "subregional planning".

held at the Venice (31st October 1997) and Perugia (18th November 1997) editions.

Le monografie — 1. Speciale GIS (with Pier Francesco Ricci) supplement to the review "l'ufficio tecnico", (3, March 1997). Chapters: Geographical Information Systems: An Overview For Everybody*; GIS Software*; Urban and Regional Planning*. Reprint in the numbers 1–6/1998 and 1/1999 of the journal "Geomedia" as a column entitled *The GIS Tutorial*.

Requisiti informativi e gestione informatica degli strumenti urbanistici: il SIT del Comune di Venezia In "Cronache Ca' Tron" (internal journal of the Venice University of Architecture) (8/1996). Summary of the Graduation Thesis.

4.2 Conference Participations

Un modèle structurel pour métadonnées (with Alberta Bianchin) Contribution to the *3èmes Journées Cassini*, Marne–la–Vallée, Seine–et–Marne, France, 26th–27th November 1998.

Strutturazione e Trattamento dei Metadati nel SISALV (with Alberta Bianchin) In "Rilevamento, rappresentazione e gestione dei dati territoriali e ambientali — Atti della 2ª Conferenza Nazionale delle Associazioni Scientifiche per le Informazioni Territoriali e Ambientali (ASITA) 24–27 novembre 1998" (conference proceedings), 2 voll., 113–117 (volume 2), ASITA, Bolzano, Italy 1998.

Il GIS per la Gestione degli Strumenti Urbanistici del Comune di Venezia (with Francesco Contò, Massimo Mazzanti, and Paolo Barbieri) Contribution to the itinerant conference *GIS Itinera 1997* at the Venice (31st October 1997) and Perugia (18th November 1997) editions.

Conference Participations within the ELGIRA Project (since 2002)

Valutazione di progetti di bonifica dei siti inquinati. El.GI.R.A. — Una procedura di aiuto alla conoscenza nelle aree di bonifica di Porto Marghera (Venezia) (with Paola Cossettini, Enrico De Polignol, Chiara Paneghetti, Domenico Patassini, and Enrico Rinaldi) Contribution to *input 2003 — terza conferenza nazionale su informatica e pianificazione urbana e territoriale: «costruzione e gestione della conoscenza»*, Pisa, Italy 5th–7th June 2003.

ELGIRA — Modello valutativo per la gestione degli scenari di bonifica a Porto Marghera (Venezia) (with Paola Cossettini, Enrico De Polignol, Chiara Paneghetti, Domenico Patassini, and Enrico Rinaldi) Contribution to the *VI Conferenza Nazionale dell'Associazione Italiana di Valutazione (AIV)*, Reggio di Calabria, Italy 10th–11th April 2003.

Hints on context knowledge within a support system for brownfield development: the case of Porto Marghera (Venice) (with Paola Cossettini, Enrico De Polignol, Chiara Paneghetti, Domenico Patassini, and Enrico Rinaldi) Contribution to the *Fifth International Workshop on "Evaluation in Planning"*, Venice, Italy 14th–15th February 2003.

ELGIRA — A knowledge support procedure for rehabilitating contaminated real estate in Porto Marghera (Venice) (with Enrico De Polignol, Chiara Paneghetti, Domenico Patassini, and Enrico Rinaldi) Contribution to the *1st Iuav Conference on: Brownfields as Opportunities for Sustainable Development*, Venice, Italy 31th January – 1st February 2003.

Valutazione di progetti di bonifica dei siti inquinati — Una procedura di aiuto alla conoscenza di contesto: El.GI.R.A. (with Chiara Paneghetti, Domenico Patassini, and Enrico Rinaldi) Contribution to the *V Conferenza Nazionale dell'Associazione Italiana di Valutazione (AIV)*, Bologna, Italy 9th–11th May 2002.

Conference Participations within the SISALV Project (1997–1999, *see* at page 15)

Utilisation intégrée de données cartographiques et de simulations de phénomènes de pollution: une proposition pour la Lagune de Venise (with Alberta Bianchin, and Donatella Schiuma) Poster presented at the conference *ICA 1999*, Ottawa, Canada, 16th–20th August 1999.

The Venice Lagoon Experimental GIS at the IUAV (with Alberta Bianchin, and Donatella Schiuma) Poster presented at the 2nd *AGILE (Association of Geographic Information Laboratories in Europe) Conference on Geographic Information Science*, Rome, Italy, 15th–17th April 1999.

Il GIS Sperimentale presso l'IUAV per la Laguna Veneta (with Alberta Bianchin, and Donatella Schiuma) In "Rilevamento, rappresentazione e gestione dei dati territoriali e ambientali — Atti della 2ª Conferenza Nazionale delle Associazioni Scientifiche per le Informazioni Territoriali e Ambientali (ASITA) 24–27 novembre 1998" (conference proceedings), 2 voll., 329–334 (volume 1), ASITA, Bolzano, Italy 1998.

Integrazione di un modello di qualità dell'acqua in ambiente GIS: applicazione alla Laguna di Venezia (with Alberta Bianchin, Roberto Pastres, Cosimo Solidoro, and Vittorio E. Brando) Poster presented at the *2ª Conferenza Nazionale delle Associazioni Scientifiche per le Informazioni Territoriali e Ambientali (ASITA)*, Bolzano, Italy 24th–27th November 1998.

SISALV — Venice Lagoon Experimental GIS at the IUAV — GIS Sperimentale presso l'IUAV per la Laguna Veneta (with Alberta Bianchin, Roberto Pastres, Vittorio E. Brando, Enrico Rinaldi, Donatella Schiuma, Cosimo Solidoro, and Sandro Soramaè) Poster presented at the *International Conference on Education and Training in Integrated Coastal Area Management: The Mediterranean Prospect*, Genoa, Italy, 25th–29th May 1998 and at the *2ª Conferenza Nazionale delle Associazioni Scientifiche per le Informazioni Territoriali e Ambientali (ASITA)*, Bolzano, Italy 24th–27th November 1998.

SISALV 1997 — Sistema Informativo Geografico Sperimentale presso l'IUAV per la Laguna Veneta Contribution to the itinerant conference *GIS Itinera 1997* at the Venice (31st October 1997) edition.

4.3   Minor Contributions

Beyond Benefit Cost Analysis — Accounting for Non-Market Values in Planning Evaluation edited by Donald Miller and Domenico Patassini. Ashgate, Aldershot, UK 2004 (in course of publication). Technical editing of the book.

Villici industrianti commercianti — Le radici storiche e culturali di una vicenda di sviluppo locale. Il caso di Bessica, Villa dell'Alto Trevigiano by Augusto Cusinato. Franco Angeli, Milan, Italy 2003. See "Organisation and visualisation of local trade data" at page 7.

4.4   Software Development and Documentation

Italian version of the TNT Products   Italian linguistic adaptation (translation, localisation, and maintenance) of the GIS software product familiy "TNT Products", produced by MicroImages, Inc., Lincoln, Nebraska, USA. Available since version 6.30 released in April 2000..Further information is available on the Internet at address *http://www.microimages.com/i18n/locales/italian/ v680.htm*.

Prodotti TNT — L'analisi geospaziale diventa facile   Italian translation of the English language publication *TNT Products — Geospatial Analysis Made Easy*, edited and published by MicroImages, Inc., Lincoln, Nebraska, USA 2000 (2002), 28 pages. The document is available on the Internet at address *ftp://ftp.microimages.com/pub/outgoing/fordealers/_it_italian/bro chure-ITA.pdf*.

Cartografia numerica: Creazione di carte topografiche   Italian translation of the English language publication *Digital Cartography: Making Topographic Maps* by Randall B. Smith, MicroImages, Inc., Lincoln, Nebraska, USA 2002 (2002), 12 pages. The document is available on the Internet at address *ftp://ftp.microimages.com/pub/outgoing/fordealers/_it_italian/ita_to pomap.pdf*.

5   Other Information

5.1   Public Institutions

Member of the Urban Planning (1991–1997) and of the Public Works (1995–1997) Commission of the Venice Township District n. 11. Member of the Building Commission of the Township of Mirano (Province of Venice, 1995–1996). Member of the Managing Board of the ATER (Azienda Territoriale per l'Edilizia Residenziale, Area Enterprise for [Public] Housing) of the Province of Venice as representative of the Venice Township (1997–1999).

5.2   Actual Contracts

My actual contract obligations concern only the research work at the IUAV on brownfield development issues at Porto Marghera and the teaching activity at the course of studies in GIS.