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[SKS97]describesthegeneralconceptsandbackgroundofdatabasemanagement systems.Overallterminologiesaboutdatabaseinthissurveypaperwereadoptedfrom thisboo k.[Har99]coversbroadXMLandXMLrelatedtopics:metadata,style languages,andapplications.ThisbookwasusedtounderstandthemeaningofXML beforestartingtowritethissurveypaper.OverallXMLrelatedterminologieswere adoptedfromthisboo k.

Bosak[Bos98]pointedoutthecommonmisunderstandingofXMLstandardand explainedthefeaturesoftheXML.HisopinionreflectsthedescriptioninChapter2,the XMLpartofthissurveypaper.   [CFP00]describesawideoverviewoftheresearch directionsrelatedtotheXMLstandard.Insection2.1,theauthorsannouncedthefeatures ofDTDandXMLschemaandthosecontentsarereferredtoinChapter3ofthissurvey paper.

[LC00]comparessixXMLschemalanguages:DTD,XMLSchema,XDR,SOX, Schematron,andDSD.Thissurveypapercoversthemostcommonschemas:DTDand XMLschemainsection3.1and3.2.[MBR01]suggestsanXMLschemamatch algorithm,Cupid.ThismatchalgorithmisnotfortheXMLstoragesasinthesection 5.1.4and5.1.5of   thissurveypaper,butfortwoschemas.Thesection2.2ofthissurvey papercoversthegeneraldescriptionofXMLSchema.

Bray[Bra01]describedtheconceptofRDFandexamplesofitsusage.Theexplanation
ofRDFstructureinsection4.1ofthissu   rveypaperreflectstheRDFstructuredescription
inthispaper.[DMH+00]providestheconceptofthesemanticwebandtherolesofXML
andRDFforimplementationofsuchaWeb.ThedifferencesinXMLandRDFusages
arereferredtoinsection4.1ofthis   surveypaper.Halfhill[Hal99]describedthegeneral
purposeandfeaturesofXML.ThevariousmetadatausagesoftheXMLwerealso
explained.Thesection4.1ofthissurveypaperreflectstheconceptofRDFinthispaper.
XPathversion2.0[XPa01]is   inworkingdraftstatus.Version2.0reflectstherequirement
ofXQuery.Thesection4.2.1ofsurveypapercoversXPath1.0.
[BBB00]describesanimplementedutility,XMLDatabaseManagementSystem,that
implementsmappingbetweenobjectmodelsandre   lationalschemas.Thepapergivesan
ideatowriteintroductorypartofchapter5inthissurveypaper.   Levy[Lev99]addedtwo
researchissues toWidom'snote[Wid99]:dataintegrationusingXML,andXMLcontext
drivingissues.Hisdataintegrationusin   gXMLsectionaffectstheintroductorypartof
chapter5inthissurveypaper.[CS01]presentsthesummaryofXMLdatamanipulations
inrelationaldatabases.Thispresentationinfluencedchapter5ofthissurveypaperto
selectthreemajordatabasessupp   ortingXMLandtounderstandtheirsimpleexamples.
Shanmugasundaram'sdissertation[Sha01]covershisresearchofXMLstorageand
publishingusingexistingrelationaldatabases.Thechapter3ofthethesisisthesameas
[15].Hispapergivesthebroad   viewofXMLandrelationaldatabaseresearch.
[Ora01A]providesthemethodsofXMLtechnologiestodevelopsoftwareonOracle9i.
TheexamplesanddescriptionsofOracleXMLsupportinsection5.1.1ofthissurvey
paperwerepartlyinspiredbythismanu   al.Thedemonstrationpage[Ora01B]givesa

practicalexampletoleveragethefunctionalitiesofanXMLobjecttype,XMLTypein

Oracle9i.ThisWebpageaffectedthedevisingofexamplesinsection5.1.1ofthis

surveypaper. TheTorontoXMLEngine(ToX   )[BBM+01]isanXMLrepositorywith

mappingofXMLdocumentsintorelationalorobject   -orienteddatabases.Theirmapping

methodsincludethetwoapproachesintroducedinsection5.1.2and5.1.4ofthissurvey

paper.[Sul02]announcesthenewIBMDB2rele   aseinthesecondquarterof2002.The

newversionwillsupportXQueryfortheXMLquerying.Thesection5.1.2ofthissurvey

papercoversXMLsupportinIBMDB2.[Con00]presentsthefeaturesofXMLsupport

onMicrosoftSQLServer2000withexamples.   Examplesinsection5.1.3ofthissurvey

paperwerepartlyinspiredbytheexamplesofthisarticle.Suciu[Suc01]pointedout

theoreticalproblemsinXMLapplicationsinthispaper.Hediscussedtheproblems

withinthreefields:XMLpublishing,XMLtype   checking,andXMLstorage.InXML

storage,heannouncedtwomethodswhicharealsointroducedinsection5.1.4and5.1.5

ofthissurveypaper.   [BFR+02] introducedanXMLstorage   -LegoDBthatprovidesa

mappingalgorithmfromXMLdocumentstorelational   databasetables.XMLquery

workloadisconsideredasinSTORED.Whilethemethodsintroducedinsection5.1.4

and5.1.5ofthissurveypaperarebasedonDTD,LegoDBusesXMLdocumentdefined

withXMLschema. [SSK+01]suggestsatechniquethatprovides   aqueryprocessorused

ondifferentrelationalschemagenerations.Thetechnologyintroducedinsection5.1.5of

thissurveypaperistheoneofcoretechnologiestogeneratearelationalschema.

[TVB+02]suggeststhreemethodstoreflecttheorderedfe   aturesoftheXMLdocument

inunorderedrelationaldatabasetables.Inthispaper,thereisanannouncementofthe

Inliningtechnologydescribedinsection5.1.5ofthissurveypaperforefficiencyincases

whereanXMLSchemaorDTDexists.Widom[Wid99   ]describedthebackgroundof

XMLontheWeb,andresearchissueshowXMLaffectsthedatabasecommunity.She

introducedLoreasanXMLdatabasesystemusingasemistructuredstructure,DataGuide.

TheSection5.2reflectsherdescriptions.Suciu[Suc98]   announcedtheresearchon

semistructureddataanditsrelationtoXML.Thispaperprovidesanothersourceforthe

descriptioninsection5.2ofthissurveypaper.