Group Project 2017/18

Rationale: Group Work

- Motivation
  - –Start thinking about uses of information in the real world, including ethical considerations
  - –Practice modeling of information using UML
  - –Practice team-work
  - –Discover no “one way” to design
  - –Practice implementation of info designs using XML/XPath/XQuery
- Assignments
  - –Presentation Tasks (20% marks)
    - –aspects of group design as it evolves
    - - Miscellaneous Individual tasks assigned along the way
  - - Design-Implementation Tasks
    - - UML Design (40% marks)
    - - XML-based Implementation (40% marks)

Problem Topics:
Information Modelling to support some aspect of operations for…

TOPIC REFERENCE

T1. Irish Red Cross

T2. Bord Gais

T3. Trade Union (e.g. SIPTU, ASTI etc.)

T4. Fast Food delivery service, e.g. deliveroo

T5. Car Insurance broker (e.g. AA)

T6. Event ticket seller (e.g. Ticketmaster)

T7. Scouting Ireland

T8. Car sharing online service

T9. Emergency responder service (e.g. Lifeboats or Ambulance)

T10. Local Sports Club

T11. Amnesty International @ Trinity Society

T12. National Library

T13. Waste Management Company (e.g. Greyhound)

Part 1: Information Modeling Task

Develop an Information Model design given your domain describing**:**

Background Research undertaken

Description of Ethical Consideration for your system (using Ethics Canvas)

8 fully described **UML Use Cases (ovals)**

- **Including for each UC/oval text descriptions for normal scenario and an error scenario**

A UML Class diagram comprising: at least 15 information classes, with focus on each class having at least 2 data attributes (with types)

- Associations to be named and include role and cardinality information
- No more than 2 subclass or aggregation special associations to be included

2 detailed **UML Activity diagram** for 2 selected use cases/ovals

Part 1: Deliverables

1. A **5 minute** presentation by the group on a stated aspect of your interim design, **including** strengths and weaknesses of the aspect of design
   - **Presentation MUST be in PDF format with SPEAKER NOTES included per slide**
   - ***** To be Emailed to me by 5pm on DAY before a presentation DEADLINE. Presentations after that date OR brought on laptops or USB sticks will NOT be accepted****
2. A printed hard-copy report from the group including:
   - Introduction to system, your background research, how you went about researching the domain and how you went about undertaking the task
   - UML use case diagrams and detailed scenario descriptions
   - UML Class diagram and description of design decisions made
   - UML activity diagrams and description
   - Ethics Canvas and description
   - Listing of who did what
   - Discussion of Strengths and Weaknesses of the overall UML Design
   - ***** ALL GROUPS To sign in report at lecture 10am on Monday 13th November 2017*****

Part 2: XML Implementation

STEP 1: XML DESIGN

From your group's UML Class diagram, pick **at least** 7 classes and for each create a different XML document (that is they each have a different DTD for each XML document), with the following characteristics for each XML document:

a) **At least 6** different XML elements/tags are used.

b) **At least one third** of the XML elements should have 1 XML attribute

c) There is **interlinks between** some of the documents (reflecting the assocations/relationships between the classes within the UML design), with enough information information to allow for interesting cross document XML Queries to be designed

1. **For each DTD**
   Use comments to clearly state what is the purpose of the document, and comments describing purpose of each element and for each attribute, and why certain cardinality (*,+ etc.) is used.

You should end up **7 XML** documents with **7 commented DTDs**.

Part 2: XML Implementation

STEP 2: XML QUERY DESIGN

Design and Document **at minimum 8** interesting **XQuery** queries that support some of your UML use cases, with the following characteristics:

- At least 3 of the queries should retrieve information from two or more interlinked XML documents, using the WHERE clause
- At least 2 of the queries should use the FOR clause
- At least 1 of the queries should use the LET clause
- At least 2 of the queries should use a Built-in XQuery function
- At least 2 of the queries should use User Defined Functions

In the report, for each query, you need to document:

(a) identification of the UML use case that it supports

(b) description of the purpose of the query

(c) provide example of output that you expect when query is executed.

Part 2: XML Implementation

STEP 3: Submit Report and demonstrate XQueries

1. **ALL** GROUPS Sign in Group Report on **Monday 11th December 2017at 10am**

2. Demonstrate your XQueries at allocated lab on either Monday **December 11th** or Thursday **December 14th 2017**

GROUP REPORT

- Final UML Design report with Ethics Canvas (as per part 1)
- What (if anything) did you need to change in going from UML design to XML implementation?
- List who did what in the group for XML implementation
- Strengths and Weaknesses of the XML design and XQueries design
- Include XML documents and commented XML DTDs (see earlier slides)
- Include the documented XML Queries (see earlier slides)

Group-work Evaluation

- Team mark, allocated to each team member
  - –But individual mark may need to take account of performance in group and individual task assignments
- Project Criteria
  - –Adherence to the criteria (see earlier slides)
  - –Quality of the designs, demos, reports
- Presentations
  - –Quality of presentations made

First Tasks for your Group

- Do some Research on the organisation
- Decide on aspect of operations information modelling is going to support
  - Email me a paragraph including rationale for that focus and the kind of things you things you think you will need to be modelling
  - ONE email per group to me by 7pm Wednesday 4th October. In subject header you MUST include Group Number in the Subject line of Email

- Develop UML Use Cases of Information Model
- Prepare for presentation Thursday 12th October
  - problem being tackled
  - research done
  - UML Use Cases diagrams
  - example of scenario text for 1 Use Case
  - strengths & weaknesses of design
- Deadline for presentation material
  - Email by Wednesday 11th October 5pm
  - PDF version to be of presented
  - PDF version that includes presentation with speaker notes
  - You MUST include Group Number in the Subject line of Email

		GROUP	TOPIC
ADEBUSUYI	MICHAEL AYOMIDE	1	1
COMERFORD	CALUM PAUL	1	
GILDEA	CONOR	1	
KINSELLA	CATHAL EOIN	1	
ORESKOVIC	TIN	1	
ARMSTRONG	MATTHEW	2	2
CONNAUGHT	DANIEL	2	
GILMARTIN	CONOR	2	
LAIT	EKATERINA	2	
PHILLIPS	SARAH	2	
BANAGA	SETH GRACE	3	3
CULLEN	MICHAEL	3	
GORMAN	JAMES	3	
LEAHY	EOIN	3	
BANG	SHARLEEN	4	4
CVETIC	SVETLANA	4	
GREBELSKI	MARIUSZ	4	
LEE	CHIHUN	4	
QUEALLY	PETER	4	
BARAT	GABRIEL	5	5
DABEK	KAMIL	5	
GRIBBIN	CLAIRE	5	
LEONARD	ROBERT	5	
RAJ	SWAPNIL	5	
BARLOW-LA	MATHIEUX	6	6
DEERY	CONALL	6	
HALLEN	TOBIAS	6	
LEONG	KAI LER	6	
BARRON	RYAN	7	7
DEVANEY	PAUL	7	
HARLEY	JACK	7	
MASTERSON	DARRAGH BERNARD	7	
RETE	CATALINA ALEXANDRA	7	
BARTOSIK	PAWEL	8	8
DIXON	HALEY	8	
HARRISON	BEN	8	
MCALEER	SINEAD	8	
SACHDEV	DHRUV	8	
BEGLEY	CIAN FRANCIS MICHAEL	9	9
DOOLEY	BRANDON	9	
HARTY	PATRICK WILLIAM DENIS	9	
MCANDREW	MICHAEL	9	
SASUNTS	ARTHUR	9	

		GROUP	TOPIC
BENNY	EBIN	10	10
DORAN	MATTHEW	10	
HASSETT	SEAN	10	
MCDONNELL	JOSEPH	10	
SCOLARD	DAVID FERGAL	10	
BENT	JORDAN	11	11
DUFFY	LAUREN	11	
HEFFERNAN	CONOR	11	
MCENTEE	CASEY	11	
SETTY	PRAPTI	11	
BETKA	MAREK	12	12
DUFFY	OWEN	12	
HONER	ANNA-ZORINA	12	
MCGLOIN	COLLEEN	12	
SHAHEEN	THORAYA	12	
BEYL	TIADEN	13	1
DUGGAN	AARON OLIVER	13	
HUNT	NIALL	13	
MCKAY	MICHAEL	13	
SLOWINSKI	JAKUB	13	
BRADISH	PHILIP	14	2
EMMANUEL	JULIEN	14	
HURLEY	DARRAGH	14	
MONTES	SULLA VIVIA	14	
STAFFORD-L	SARAH-ELIZABETH	14	
BRIEFFIES	SEAN	15	3
FALLON	KEVIN	15	
HYER	GARY	15	
MORAN	STEPHEN	15	
STEACY	BEN	15	
BROWNE	DANIEL	16	4
FARRELLY	KEVIN	16	
JENNINGS	PATRICK KEVIN	16	
NGUYEN	HIEU	16	
TAIT	JAMES	16	
BURKE	OWEN	17	5
FIELDS	ALEXANDER	17	
JENNINGS	ROBERT	17	
NI DHOMHN	NUALA	17	
TEEHAN	ADAM	17	
CAMPBELL	LEE	18	6
FITZPATRICK	SEAN	18	
JOSE	SHAUN ALFRED	18	
NI NUALLAIN	AOIFE	18	
TEISERSKIS	EDVINAS	18	

Subject to minor additions/corrections

		GROUP	TOPIC
CANDON	SEAN	19	7
FONG	DANIEL WENG YANG	19	
KELLEHER	JAMES	19	
O BRADY	CIAN ST JOHN	19	
TIMMINS	LUKE	19	
CAPPONI	DAVIDE	20	8
FOWLEY	THOMAS	20	
KETTLE	AOIFE EILISH	20	
O DWYER	CORMAC	20	
TONY	IRENE ANN	20	
CARBECK	JOHN DAVIS	21	9
GAL	SZABOLCS	21	
KHAN	SABAH	21	
O LAOGHAIR	CON OG	21	
WALKER	ISAAC	21	
CLEARY	DOMINICK	22	10
GALBRAITH	SINEAD	22	
KILLEEN	AIDAN	22	
WHELAN DA	MEGAN	22	
CLERY	CONOR	23	11
GHOSE	SIMON	23	
KILROY	DAVID	23	
ODUKOYA	ABRAHAM AYOOLUWA	23	
WILLIAMS	LUAN	23	
COLLINS	JACK DONAL	24	12
GIBNEY	FINTAN	24	
KINANE	COLMAN	24	
OLORUNNIW	SHARON	24	
WISNIOWSK	TOMASZ	24	
PRASAD	TONY	25	13
RAMOS	ALEXION	25	
WOODS	SEAMUS	25	
ZHANG	TIANYI	25	