

Multidisciplinary Students And Instructors: A Second-Year Games Course

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Collaborators

- Jonathan Schaeffer, CS Department Chair
- H. James Hoover, Finnegan Southey, Michael Bowling (CS)
- Sean Gouglas (Humanities Computing / History)
- Matthew Bouchard (Humanities Computing)
- Ghassan Zabaneh (Industrial Design)
- John Bartoszewski (Lab technician)

January 2005

- Started design of new Computer Game course
 - Interdisciplinary team of collaborators
 - Computing Science
 - History / Humanities
 - Industrial Design
 - Interdisciplinary teams students
- Second year course with no prerequisites

Course Goals

- Create a stimulating, collaborative learning environment
- Give CS students the opportunity to work with students of other disciplines
- Expose non-CS students to intellectual traditions of CS
- Explore theoretical and technical issues of game design

Course Goals

- Practical Goals
 - Engage new students in computing science discipline
 - Give students skills needed for their future careers

“It is one thing to just train students to have a set of skills, but it is much more important to train them to use those skills within the context of an interdisciplinary project. The ability to harmonize with a group is one of the most important employee skills when working for a company such as ours.

Dave Hibbeln, Art Director, BioWare Corp.

Course Overview

- Interdisciplinary Lectures
- Individual Labs
- Group Project



Major Lecture Topics

- Narrative
- Project Management
- Hardware/Graphics Technology Cycles
- Artificial Intelligence
- Cultural Aspects of Gaming
- Game Industry Guests
- *Game postmortems to tie ideas together*

Lab

- Practical experience using course tools
 - Tutorials and other exercises
 - TA interaction
- Lab Exam
- Motivate students to learn tools

Tools

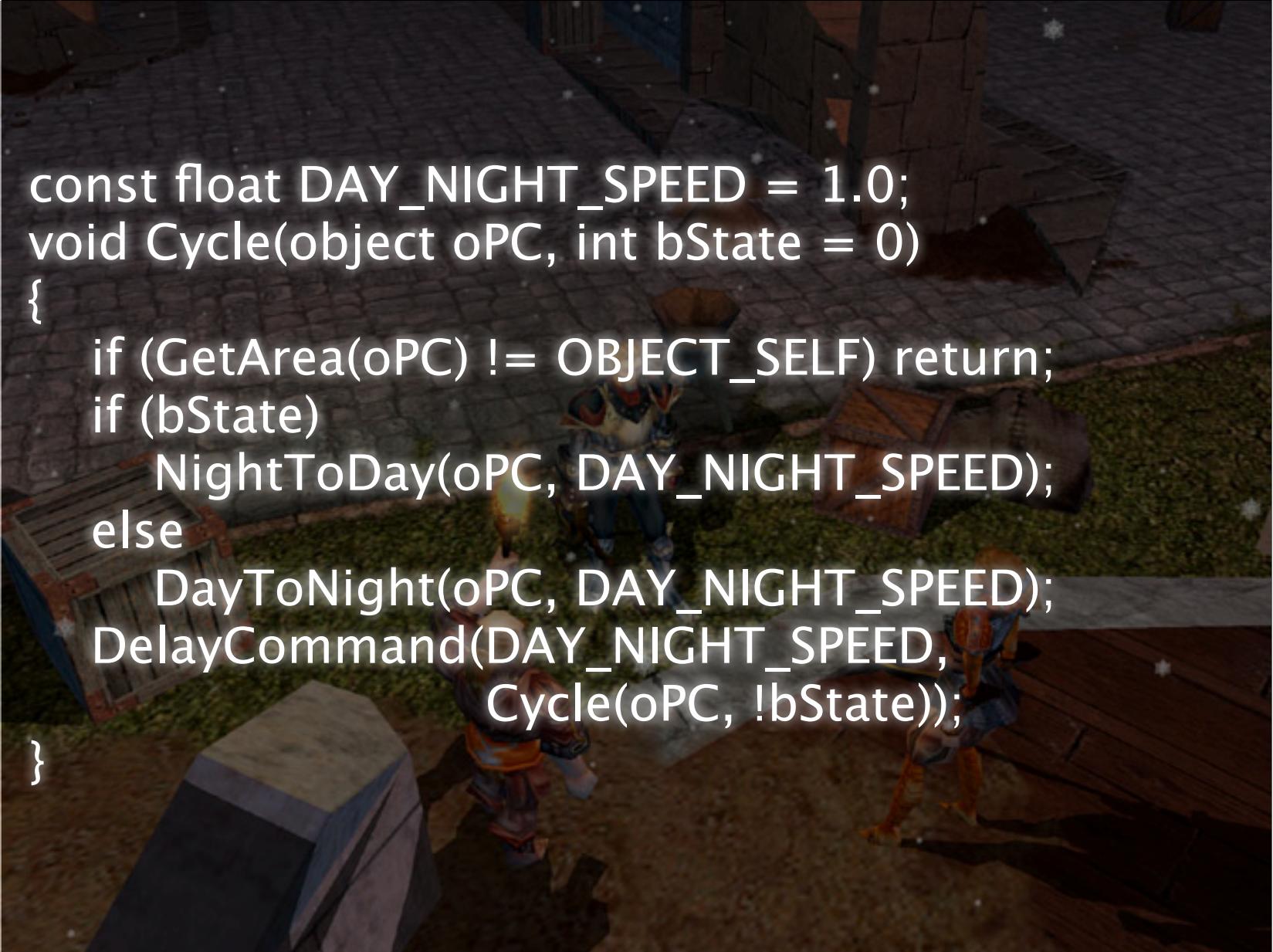
- Neverwinter Nights (BioWare)
- ScriptEase
 - Free scripting tool
 - <http://www.cs.ualberta.ca/~script/>



NWN / NW Script



NWN / NW Script



```
const float DAY_NIGHT_SPEED = 1.0;
void Cycle(object oPC, int bState = 0)
{
    if (GetArea(oPC) != OBJECT_SELF) return;
    if (bState)
        NightToDay(oPC, DAY_NIGHT_SPEED);
    else
        DayToNight(oPC, DAY_NIGHT_SPEED);
    DelayCommand(DAY_NIGHT_SPEED,
                 Cycle(oPC, !bState));
}
```



ScriptEase

ScriptEase Encounter Builder

File Edit Build Tools Help

CastleFullSE.mod (20)

- E Award XP for acquired potion
- E Award XP for acquired gold
- S Acquires item
 - V When an item in module Module is acquired
 - D Define PC Acquirer as a creature version of Item Acquirer
 - D Define Same Item as whether Acquired Item (50 Gold Pieces) is the same as Acquired Item
 - C If Same Item is Positive (True, Yes, On, etc.)
 - A Assign XP Awarded (250) XP to PC Acquirer

New Specific Encounter ▾

- New Situation
- Add a Definition
- Delete Ctrl-D
- Cut Ctrl-X
- Copy Ctrl-C
- Paste Ctrl-V
- Bedroom Door enter - P

Triggers ▾

- Placeables ▾
- Containers
- Conversations
- Doors
- Items
- Transitions
- Creatures
- Blank template
- Custom

- Placeable damage - damage object
- Placeable death - create placeable
- Placeable death - destroy objects
- Placeable death - kill objects
- Placeable heartbeat
- Placeable heartbeat - cast spell
- Placeable heartbeat - detect secret door
- Placeable heartbeat - ranged action
- Placeable heartbeat - sporadic action
- Placeable spell
- Placeable use
- Placeable use - (item not equipped) spawn object
- Placeable use - jump near object
- Placeable use - show monologue
- Placeable use - show dialogue
- Placeable use - sit
- Placeable use - toggle nearest door
- Placeable use/damage

Description Acquired Item

Award XP for acquired item - When an item is acquired is awarded.

Required Aurora Toolset Objects:

- 1) an Item - Use Paint Items to create and name a custom Item type in the module.

Related encounters:

- 1) This encounter specializes the Acquired item encounter.

Instance Name Award XP for acquired gold

Course Project

- Build a short game
 - ~15 minute Neverwinter Nights module
 - Interdisciplinary teams of 3-5 students
 - Open-ended

“In most courses students work on assignments with well defined goals and deadlines. The problems faced in industry are never so simple and clear-cut, so it is valuable for students to work on projects with more uncertainty including a need to adapt and refine goals as the project progresses.”

Loren Andruko, former Director of Programming,
BioWare Corp.

Project Milestones

- Group formation
- Setting Document
- Design Document
- Prototype Walkthrough
- Design Issue Presentation
- Pitch
- Beta
- Release

Student Groups

- Lead designer
 - Facilitate design decisions
- Assistant Producer
 - Help schedule and coordinate group

Experience Counts

- Hire former students from course as “producers”
 - Informal design feedback
 - Hands-on experience
 - Help groups with dynamics



Course Demographics

Year
Fall 05
Winter 06
Fall 06
Winter 07
Fall 07
Winter 08

Course Demographics

Year	Total Enrollment
Fall 05	21
Winter 06	24
Fall 06	14
Winter 07	17
Fall 07	25
Winter 08	24

Course Demographics

Year	Total Enrollment	Male	Female
Fall 05	21	15	6
Winter 06	24	20	4
Fall 06	14	14	0
Winter 07	17	16	1
Fall 07	25	19	6
Winter 08	24	24	0

Course Demographics

Year	Total Enrollment	Male	Female	CS	Science	Arts
Fall 05	21	15	6	6	0	15
Winter 06	24	20	4	7	9	8
Fall 06	14	14	0	8	4	2
Winter 07	17	16	1	11	3	3
Fall 07	25	19	6	13	3	9
Winter 08	24	24	0	7	8	8

Course Evaluation

Year	The instruction was excellent	The course content was excellent
Fall 05	3.8	3.8
Winter 06	4.3	4.7
Fall 06	4.8	4.4
Winter 07	4.9	4.9
Fall 07	4.9	4.9

On a scale of 1...5

Student comments

[CMPUT 250] was one of the most enjoyable and fascinating classes I have ever taken.

[CMPUT 250] is the culmination of great professors from different artistic and technical disciplines that integrates the course into one great learning experience.

Lessons learned

- Storyboard
 - Turned milestone into skeleton walkthrough
- Budget / Project restrictions
 - Students need help limiting their projects

Lessons Learned

- Design Issue Presentations
 - Try to get students to think critically about design choices faced
 - Limits on game can facilitate creative decisions
- Lab / Tools
 - Pay attention to non-CS students

Advice for duplicating course

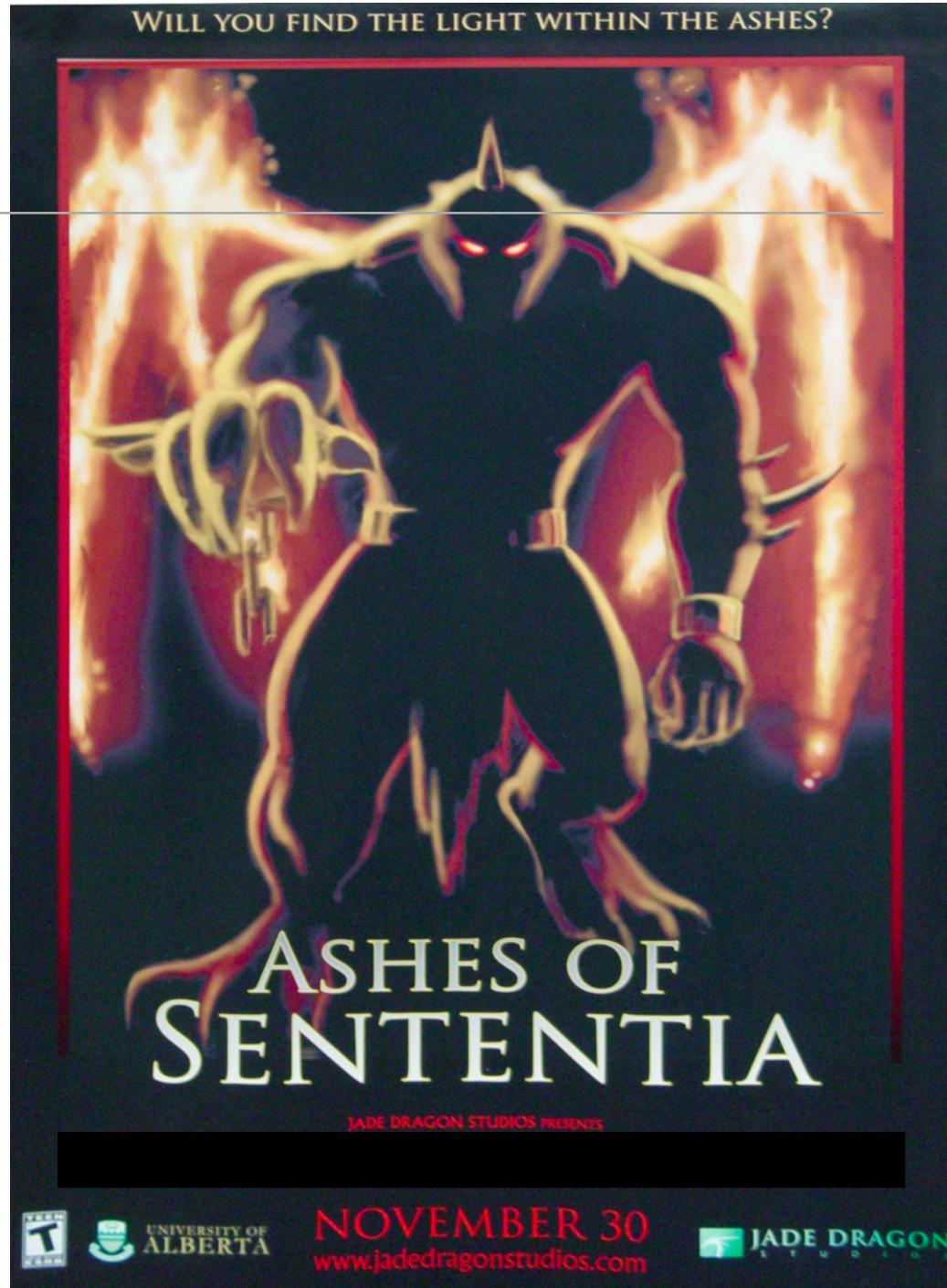
- Persuade the right people
- Cater to your strengths
- Good hardware support
 - Different issues than other courses
- Involve industry

Convincing game companies to help

- Academic Expansion - How Rare Recruits Graduates
- http://www.gamasutra.com/view/feature/3529/academic_expansion__how_rare_.php

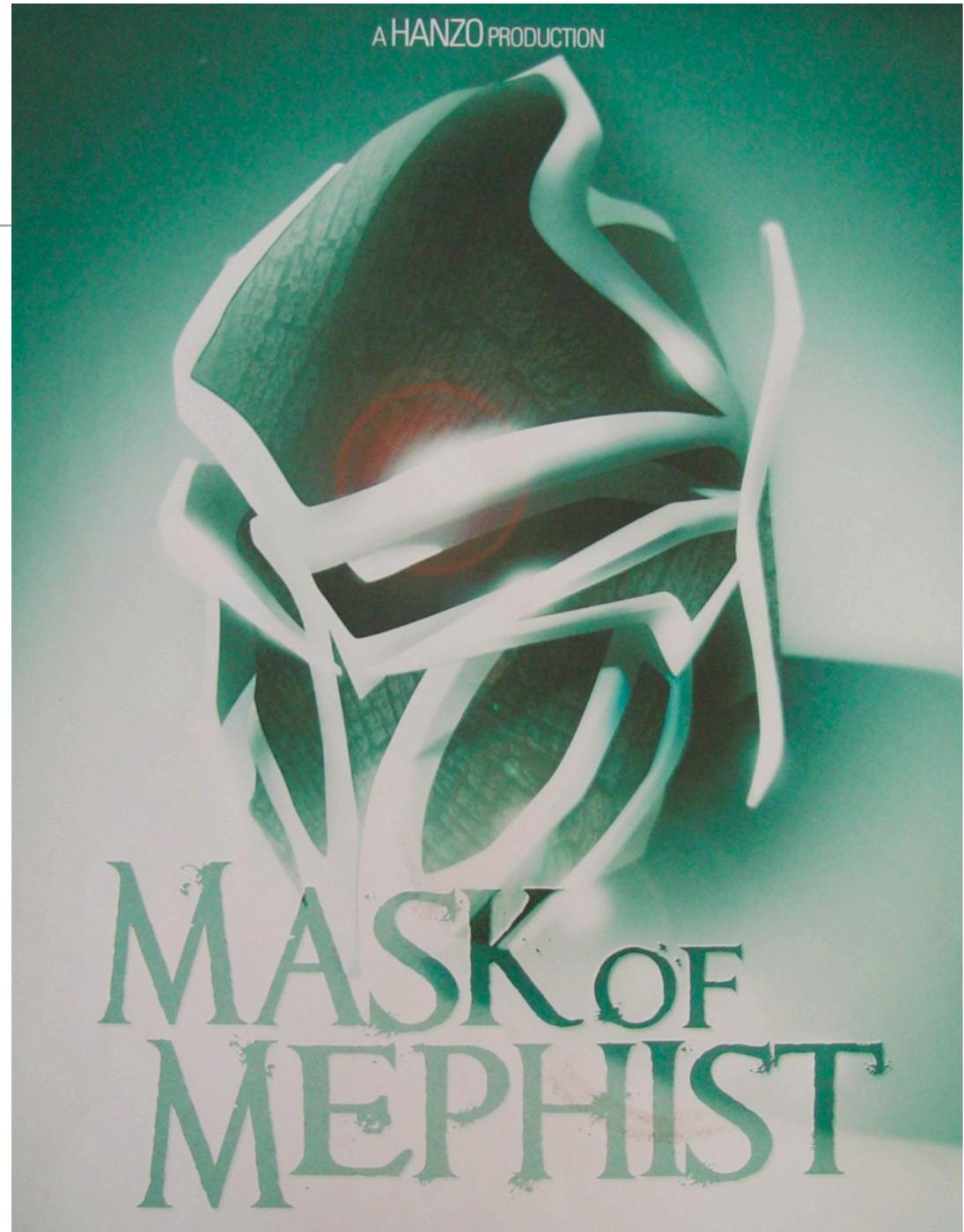
Ashes of Sententia

- Fall, 2005
- Poster



Mask of Mephist

- Winter, 2005
- Poster



Dirge

- Fall, 2007
- Box Art



Cosa Nostra

- Fall, 2007
- Poster



Questions

- Slides will be available:

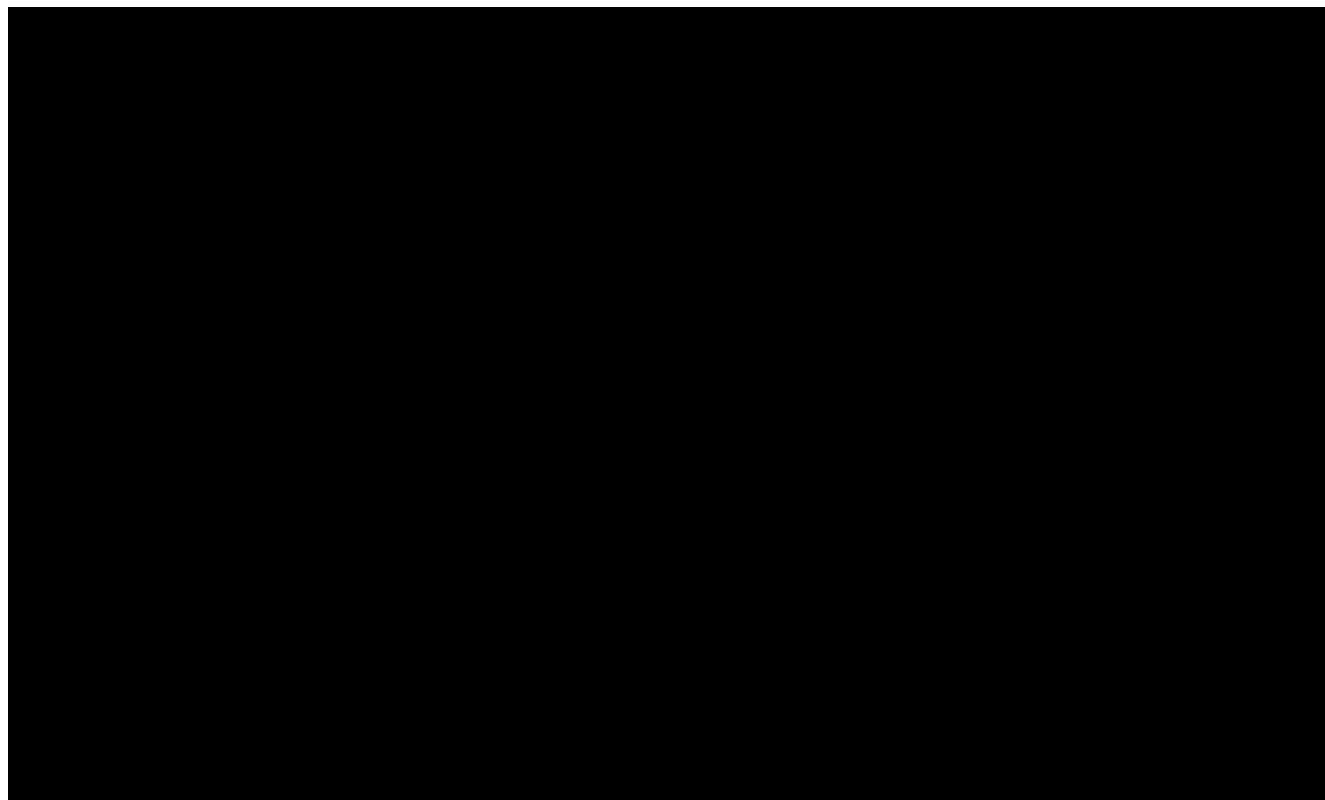
<http://www.cs.ualberta.ca/~nathanst/papers/>



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Questions

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A dead father...