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FORENSIC ENGINEERING SCIENCE: DEVELOPING TOOLS FOR HUMAN IDENTIFICATION PROJECT ID: 2022S1-EEE-UG-13223 adelaide.edu.au

Introduction

Overview

- Project Motivation and Aim
- Background
- Objectives
- Literature review
- Progress
- Results
- Completion Plan
- Conclusion
- References

Project Motivation and Aims

- DNA is only viable when the deceased is in a database.
- To better the use of genealogical information for identification of remains

ISSUES WITH THE SYSTEM NOW

- Genealogical Data Communication (GEDCOM) files are not user friendly
- Need a visual medium

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4	CONT Provo, UT 84684	l
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	NAME "tmbc" Tammy /Bachman/ DWAtester-13	l
	SEX F	l
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The beginning of a GEDCOM file

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Background

Genealogical Science Cases

- Northwest Flight 4422 crash in Alaska 1948
- The Canal Killer
- Golden State Killer

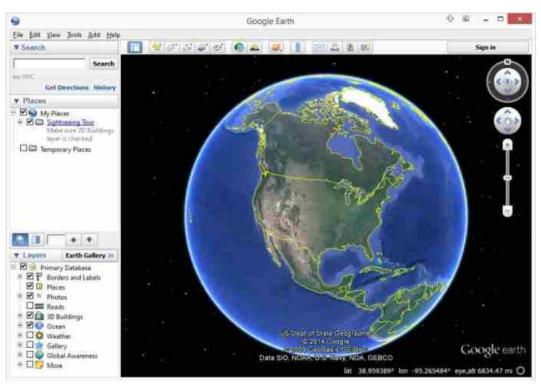
Objectives

- Objective 1
 - GEDCOM to .csv converter
- Objective 2
 - Get coordinates from location name
- Objective 3
 - KML file creation from .csv
- Objective 4
 - Display of information in visual medium

Literauture Review

Literature Review Existing Technologies

- GEDCOM to .csv converters
- EarthPoint



An empty map on EarthPoint

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Literature Review

DNA and genealogy

Types of information in DNA

- Y-chromosomal DNA
- Mitochondrial DNA
- Autosomal DNA

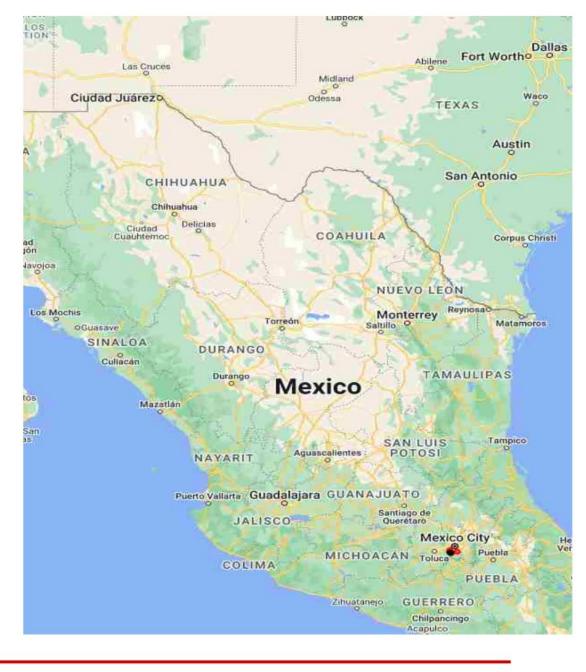
Progress





Results

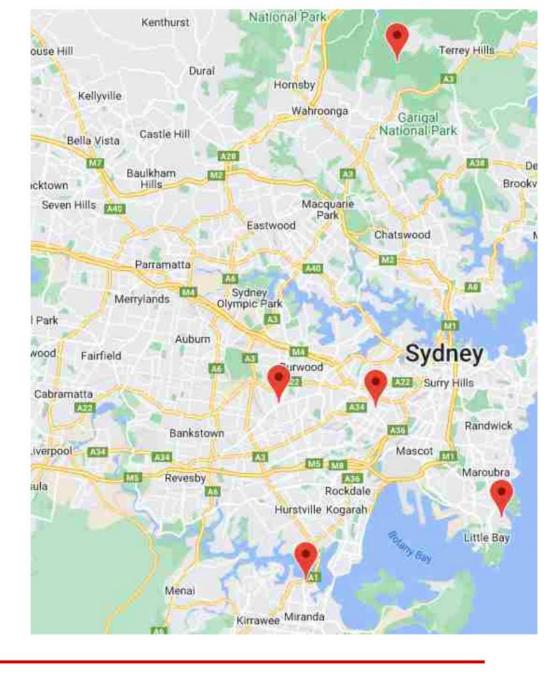
- Results
 - Google Earth editor



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- Results
 - Google mymaps editor



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Completion Plan

Completion Plan Objective 1- GEDCOM to Comma-Seperated Values (CSV) file Parser

- Week 2 finish making parser
- Week 4- finish testing for the parser

Objective 1

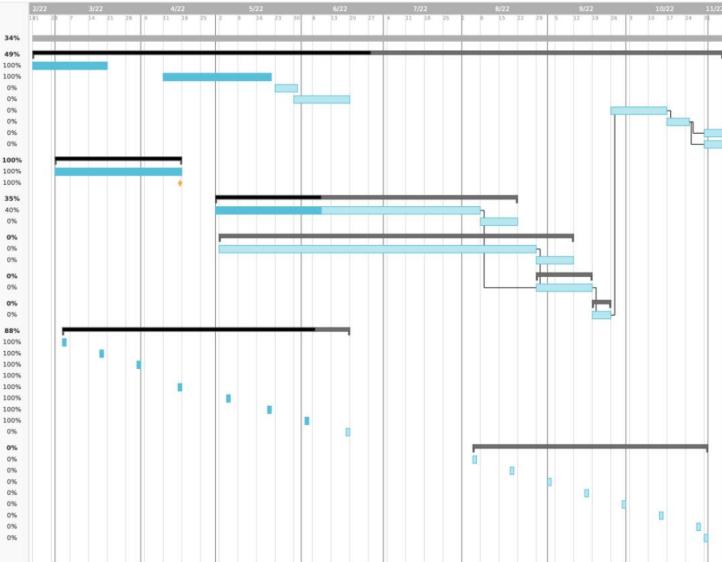
Completion Plan

Objective 3 and 4- Conversion to Keyhole Markup Language (KML) and Display in Google Earth

• Week 8 – finish both objectives

Completion Plan (Gannt Chart summary)

Project plan Forensic engi	Oh	34
Forensic Engineering : Developing	Oh	49
Project Plan	0	100
Draft Progress report	0	100
Final progress report	0	0
Seminar	0	0
Final report Draft	0	0
Final report	0	0
Ingenuity	0	0
Project wiki page and video	0	0
Change of deliverables by the pro	Oh	10
Objective 1- Getting markers on ma	0	100
Change of deliverables by collabora	0	100
Objecttive 1- GEDCOM to .csv pars	Oh	35
GEDCOM Parser	0	40
Testing for the parser	0	0
Objective 2- Get Coordinates from	Oh	0
Getting coordinates from location	0	0
Testing	0	05
Objective 3-Conversion to Keyhole	Oh	0
Conversion to KML files	0	0
Objective 4-Display in Google Eart	Oh	0
Markers on Google Earth	0	0
Group meetings Semester 1	Oh	88
Meeting 1	0	100
Meeting 2	0	100
Meeting 3	0	100
Metting 4	0	100
Meeting 5	0	100
Meeting 6	0	100
Meeting 7	0	100
Meeting 8	0	100
Meeting 9	0	01
Group meetings semester 2	0h	0
Meeting 1	0	0
Meeting 2	0	0
Meeting 3	0	0
Meeting 4	0	0
Meeting 5	0	0
Meeting 6	0	0
Meeting 7	0	0
Meeting 8	0	0



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Conclusion

Conclusion

- Finishing whole program
- Future work

References

References

- E. Greytak, C. Moore and S. Armentrout, "Genetic genealogy for cold case and active investigations", Forensic Science International, vol. 299, pp. 103-113, 2019. Available: 10.1016/j.forsciint.2019.03.039.





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