 UNIVERSITY OF LEEDS School of Computing	EXPERIMENT DOCUMENTATION	Date of experiment 17/05/2017
	Experiment title: Event log creation of cancer datetimeevents	Experiment code M3C-DAT001
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Area of investigation

This experiment is to create an event log of cancer patient records from the **datetimeevents** table of the MIMIC-III database. The format is [case_id, activity, timestamp].

All patients who diagnosed with cancer-related diagnose code, at least once, will be included.

Data source

The **datetimeevents** table in the MIMIC-III database. DATETIMEEVENTS contains all date measurements about a patient in the ICU.

Research question

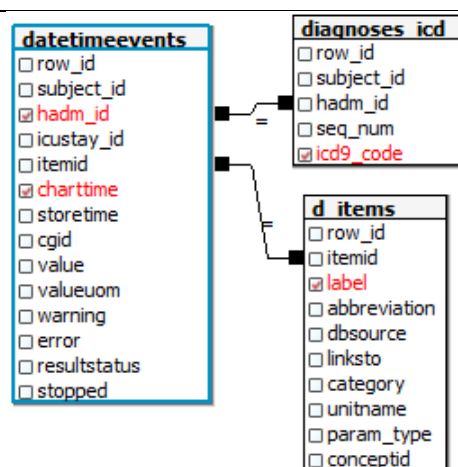
Is the **datetimeevents** table in the MIMIC-III database can be used for process mining of cancer patient treatment?

Hypothesis

The **datetimeevents** table can be used as it provides at least minimum requirements for process mining, which are case_id, activity, and timestamp.

Method

- Extract** the MIMIC-III database in PostgreSQL by selecting [hadm_id, d_item.label, charttime] of cancer patient admissions [icd9_codes 140x-239x].
case_id = subject_id/ hadm_id/icdstay_id
activity = d_item.label
timestamp = charttime/ storetime
- Save as .csv file
- Load** into ProM



Results

This resulted in 925,546 rows.

	hadm_id integer	activity character varying(200)	charttime timestamp(0) without time zone
1	109451	INV#1 Dsg Change [MM]	2134-09-12 14:30:00
2	109451	INV#1 Dsg Change [MM]	2134-09-12 22:00:00
3	109451	INV#1 Dsg Change [MM]	2134-09-13 08:00:00
4	109451	INV#1 Dsg Change [MM]	2134-09-13 12:00:00
5	109451	INV#1 Dsg Change [MM]	2134-09-13 18:00:00
6	109451	INV#2 Cap Change [MM]	2134-09-14 20:00:00
7	109451	INV#2 Dsg Change [MM]	2134-09-14 20:00:00
8	109451	INV#2 Tubing Change [MM]	2134-09-14 20:00:00
9	111970	INV#1 Cap Change [MM]	2135-01-31 21:00:00
10	111970	INV#1 Cap Change [MM]	2135-02-01 00:00:00
11	111970	INV#1 Cap Change [MM]	2135-02-01 04:00:00
12	111970	INV#1 Cap Change [MM]	2135-02-01 08:00:00

Discussion

The **datetimeevents** table contains minimum required columns for process mining. The resulted event log would be loaded into ProM in the Stage 2.

Conclusion

Hypothesis proved. The **datetimeevents** table can be used to create event logs.