 UNIVERSITY OF LEEDS School of Computing	EXPERIMENT DOCUMENTATION		Date of experiment 17/05/2017
	Experiment title: Event log creation of cancer cpthevents		Experiment code M3C-CPT001
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Area of investigation

This experiment is to create an event log of cancer patient records from the **cpthevents** 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 **cpthevents** table in the MIMIC-III database. This table contains current procedural terminology (CPT) codes, which facilitate billing for procedures performed on patients.

Research question

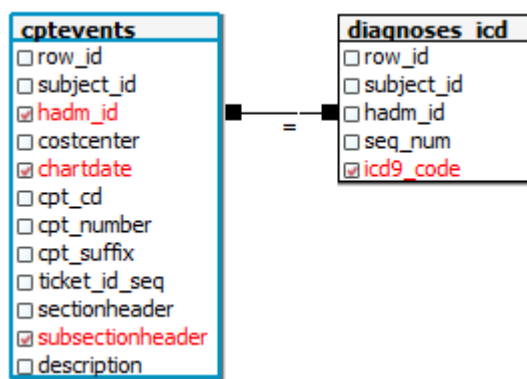
Is the **cpthevents** table in the MIMIC-III database can be used for process mining of cancer patient treatment?

Hypothesis

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

Method

- 1) **Extract** the MIMIC-III database in PostgreSQL by selecting [hadm_id, subsectionheader, chartdate] of cancer patient admissions [icd9_codes 140x-239x].
case_id = subject_id/ hadm_id
activity = subsectionheader
timestamp = chartdate
- 2) Save as .csv file
- 3) **Load** into ProM



Results

This resulted in 46,050 rows.

	hadm_id integer	activity character varying(255)	chartdate timestamp(0) without time zone
1	100006	Hospital inpatient services	
2	100010	Critical care services	
3	100010	Digestive system	
4	100010	Other procedures	
5	100010	Urinary system	
6	100018	Pulmonary	2176-08-30 00:00:00
7	100018	Pulmonary	2176-08-31 00:00:00
8	100018	Pulmonary	2176-09-01 00:00:00
9	100018	Hospital inpatient services	
10	100018	Musculoskeletal system	
11	100018	Nervous system	
12	100018	Neurology and neuromuscular procedures	

Discussion

The **cpthevents** 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 **cpthevents** table can be used to create event logs.