NTCIR13-Lifelog
Task Introduction

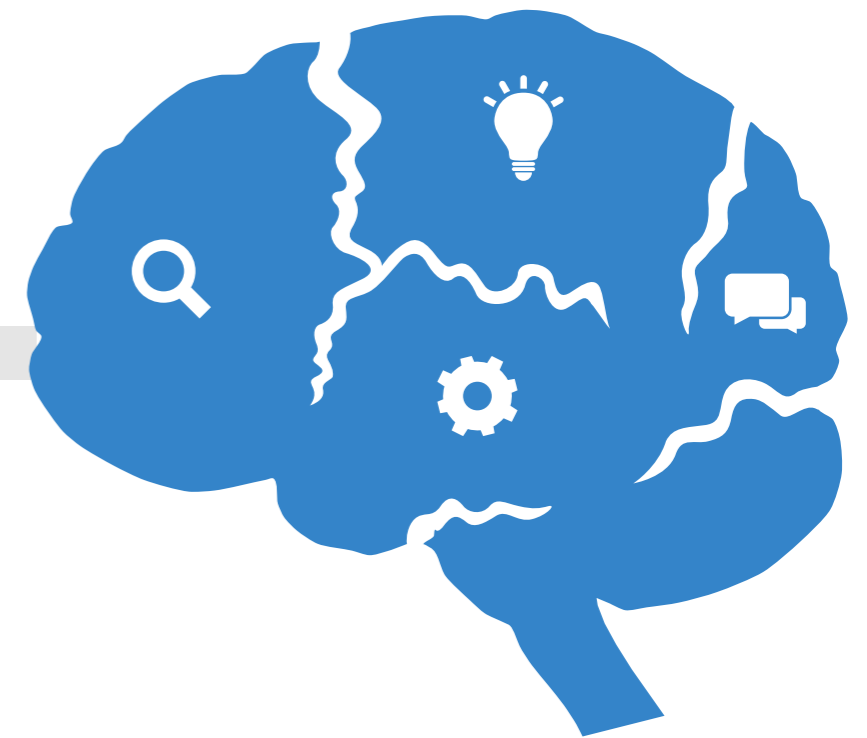**Cathal Gurrin[1], Hideo Joho[2], Frank Hopfgartner[3], Liting Zhou[1], Rami Albatal[4]**

[1]Dublin City University, [2]University of Tsukuba, [3]University of Glasgow, [4]HeyStaks

Life Experience

Digital Self

How to create a digital lifelog of life experience without manual input… activities, experiences, interactions, emotions? … **and make it useful…**

Narrative Clip camera : $200

Quantified Self… self knowledge though numbers

Motivation for NTCIR-13 Task

- NTCIR-12 Lifelog pilot task attracted 8 participants across two sub-tasks

    - LSAT - Semantic Access (known item search)

    - LIT - Insights Task

- NTCIR-13 Lifelog-2 is now a core-task with some significant changes:

    - New rich data (90 days, 2 people), less anonymisation

    - Two new sub-tasks:

        - LAT - Lifelog Annotation Task

        - LEST - Lifelog Event Segmentation Task

    - Staged tasks (LAT in phase 1, and 3 others in phase 2)

    - Hope to also have a co-located workshop in Europe

Data Summary

- Three months of rich lifelog data from two people

  - 2 x 45 days each, all day data (about 20GB)

  - With accompanying event segmentation, diet annotation and automatic visual-annotation

- Data released via individual and organisational agreement (as at NTCIR-12)

- Minimal anonymisation of the data

Wearable Multimedia

1,500 images per day from the Narrative wearable camera. Accompanying concept annotations. Periodic audio. Manual photos captured. Music listening history.

01

Human Biometrics

24x7 heart rate, galvanic skin response, calorie burn, steps, skin temperature. Daily blood glucose level & blood pressure. Weekly cholesterol and uric acid measurements.

02

MINUTE AS THE UNIT OF RETRIEVAL

03

Information Access

Onscreen reading, keystrokes on keyboard, mouse movements, computer activity, web pages viewed.
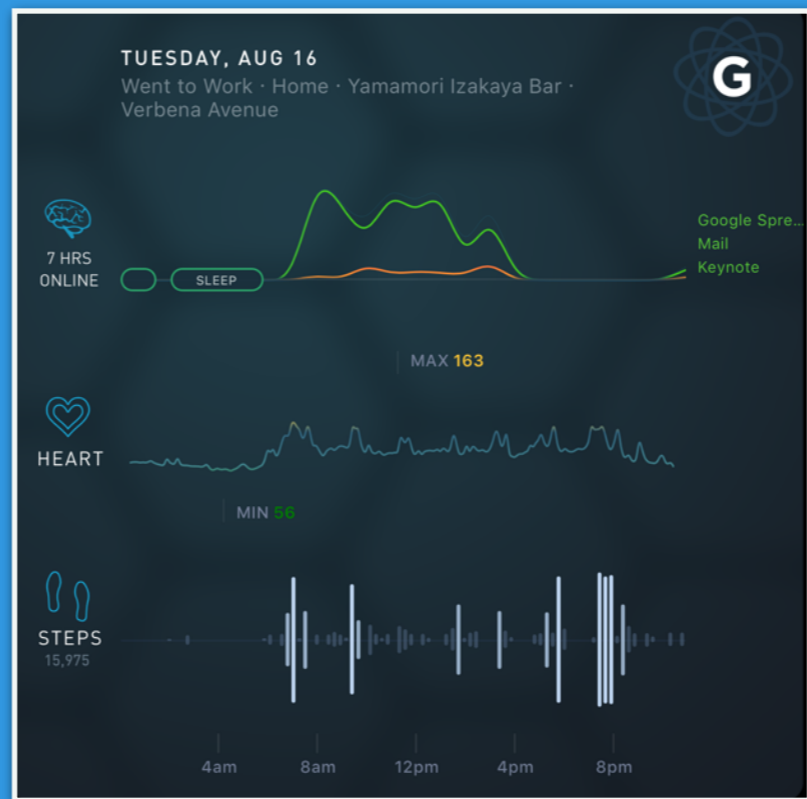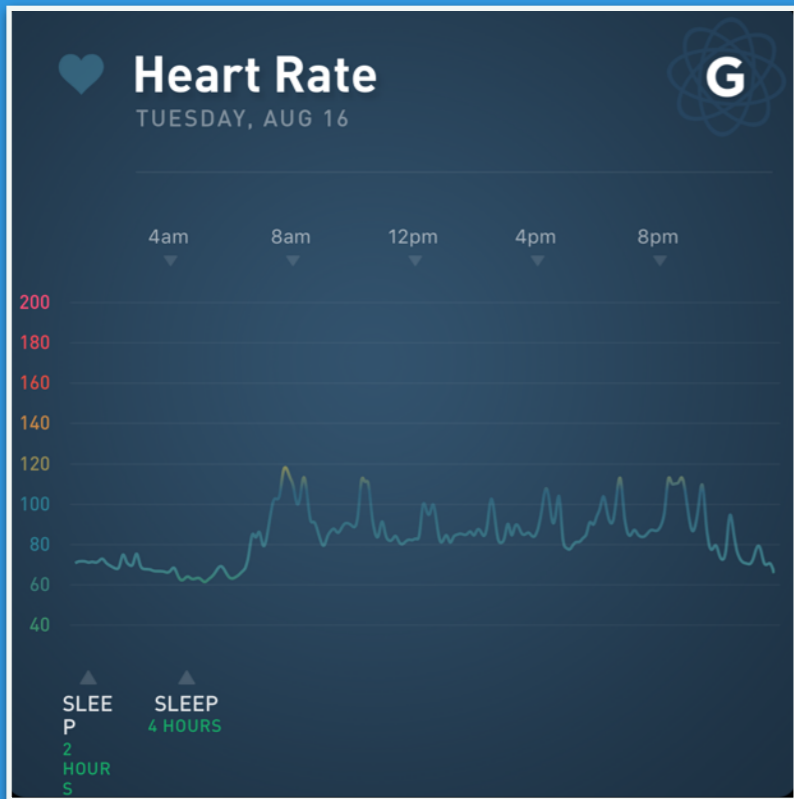
04

Human Activity

Physical activities (walking, running, transport, etc..), locations visited, food eaten, mood.

Heart Rate
TUESDAY, AUG 16

4am 8am 12pm 4pm 8pm

200
180
160
140
120
100
80
60
40

SLEEP
2 HOURS

SLEEP
4 HOURS

TUESDAY, AUG 16
Went to Work · Home · Yamamori Izakaya Bar · Verbena Avenue

7 HRS ONLINE   SLEEP

Google Spre...
Mail
Keynote

MAX 163

HEART

MIN 56

STEPS
15,975

4am 8am 12pm 4pm 8pm

LAST WEEK

4.3k   10k   4.5k

TUE 9
MON 8
WED 10
THU 11
FRI 12
SAT 13
SUN 14

10.9k   6.1k   9.2k   3.7k

48,652 steps total
Keep up the good work! That's an average of 7k per day.

43.4 hours online
Mostly in Microsoft word & Mail. 87% of time was very productive.

Your latest blood pressure was 108/77
Measured 5 hours ago with Withings

Blood Pressure, glucose, uric acid, cholesterol.

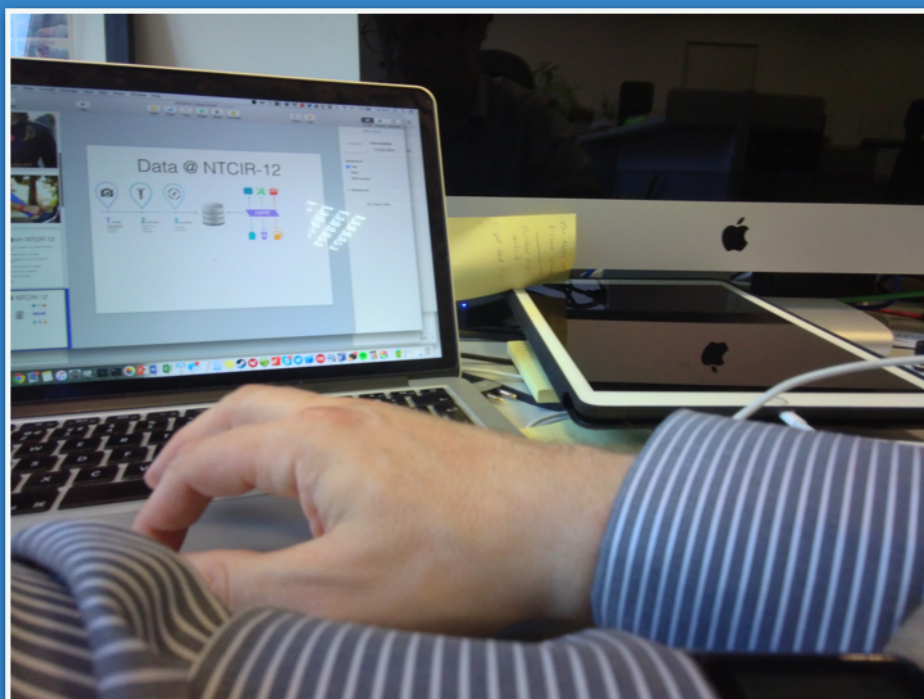24x7 heart rate & GSR, calorie burn, steps.

Wearable camera data from Narrative Clip 2 (1,500 per day).
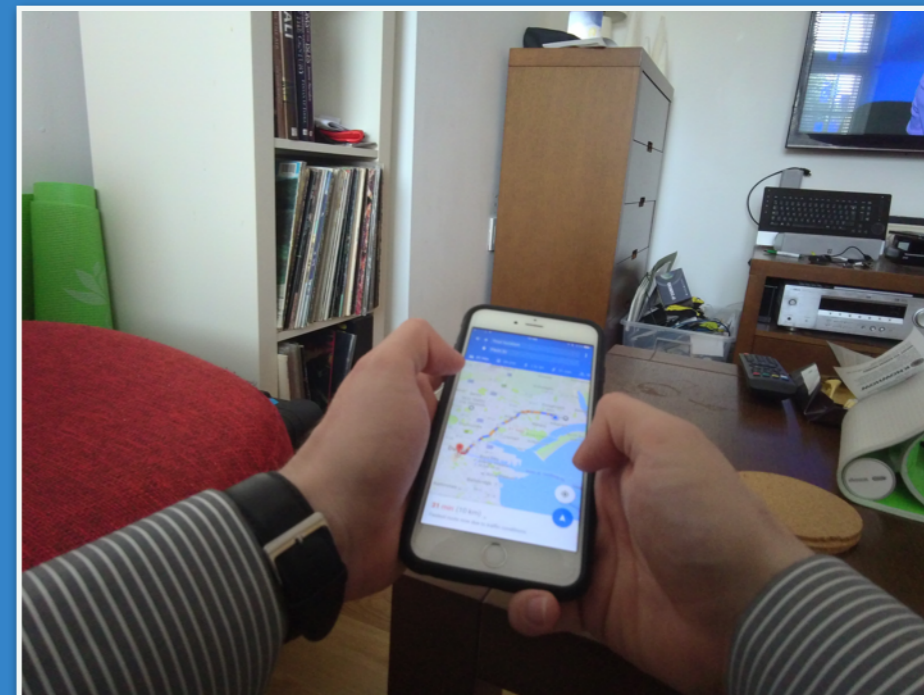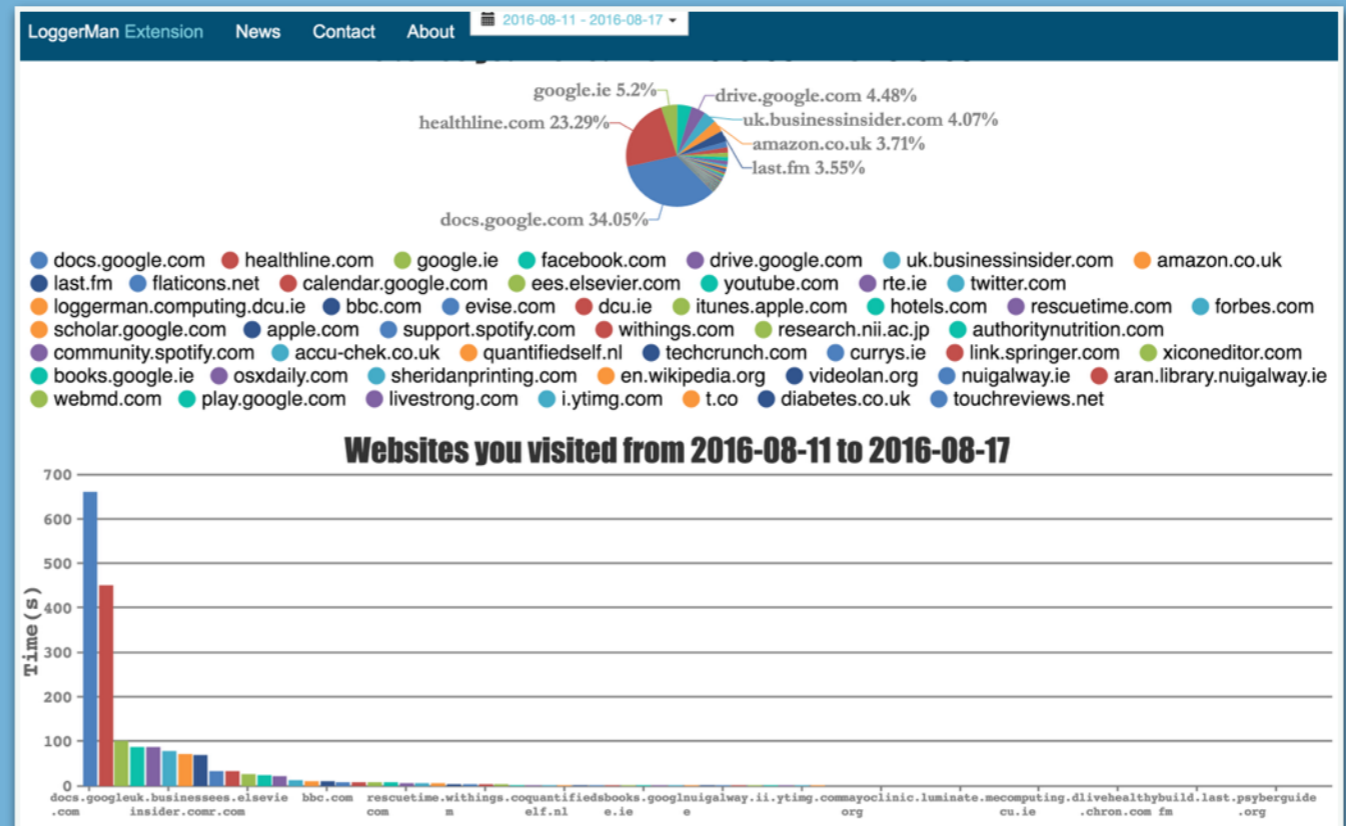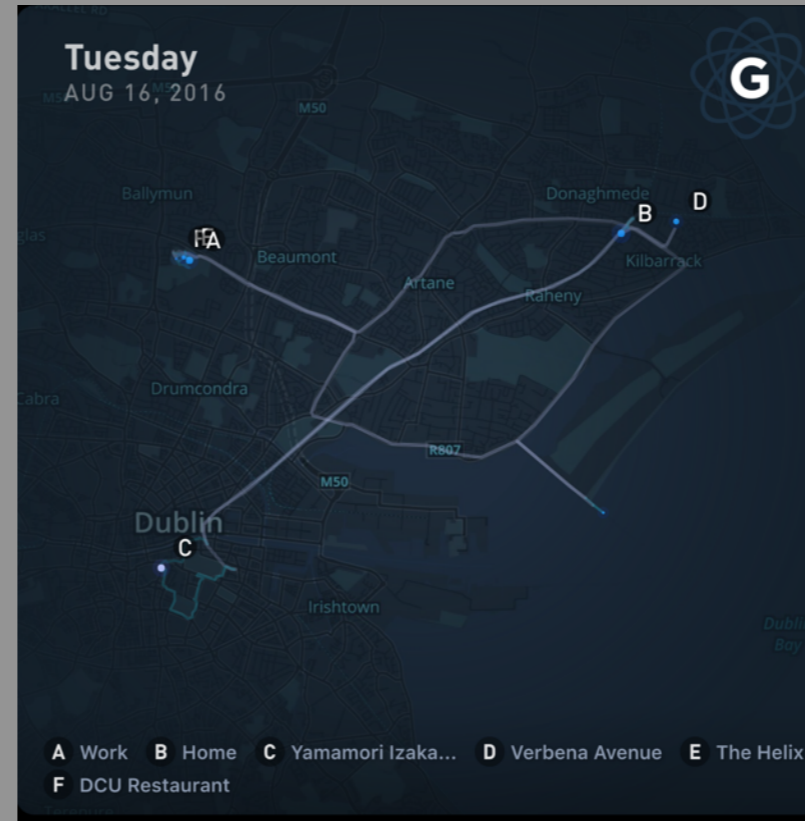
Manual Photos

Periodic Audio

Music listening records

Words written and read, grouped into minute-long documents with TFs.

Mouse movements.

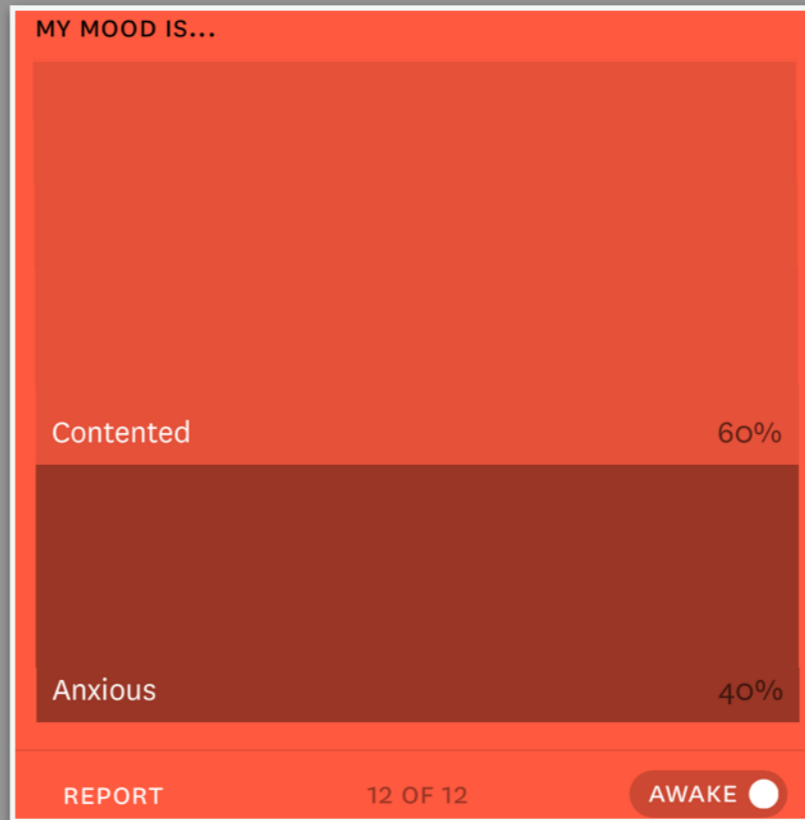Web pages browsed.

Computer activity.

TUESDAY EVENING

Verbena Avenue
Home
Yamamori Izakaya Bar
Home

AUG
16

4 5 6 7 8 9 10 11 12

STEPS
15,975 total

HEART RATE
56–163 bpm

COMPUTER
7 hrs online

Tuesday
AUG 16, 2016

G

M50
Ballymun
Donaghmede
Beaumont
Kilbarrack
Drumcondra
Raheny
Artane
Cabra
M50
R807
Dublin
Irishtown
Dublin Bay

A Work   B Home   C Yamamori Izaka...   D Verbena Avenue   E The Helix
F DCU Restaurant

Physical activities

Locations

Food eaten

Mood

MY MOOD IS...

Contented   60%

Anxious   40%

REPORT   12 OF 12   AWAKE

Sub-tasks

- **EARLY TASKS**

  - LAT - Lifelog Annotation Task

- **LATE TASKS**

  - LSAT - Known-item search (repeat from NTCIR-12)

  - LEST - Lifelog Event Segmentation

  - LIT - Lifelog Insights Task

Donated Annotations

LAT TASK

LAT - Lifelog Annotation Task. A multimedia data analytics task to automatically annotate the visual lifelog data.

Feb'17

LSAT Task

A known-item search task. Supports both automatic and interactive retrieval systems.

Jul'17

LIT Task

Insights task. This year the focus is on making themed diaries of life experience. Not evaluated by metrics.

Jul'17

LEST Task

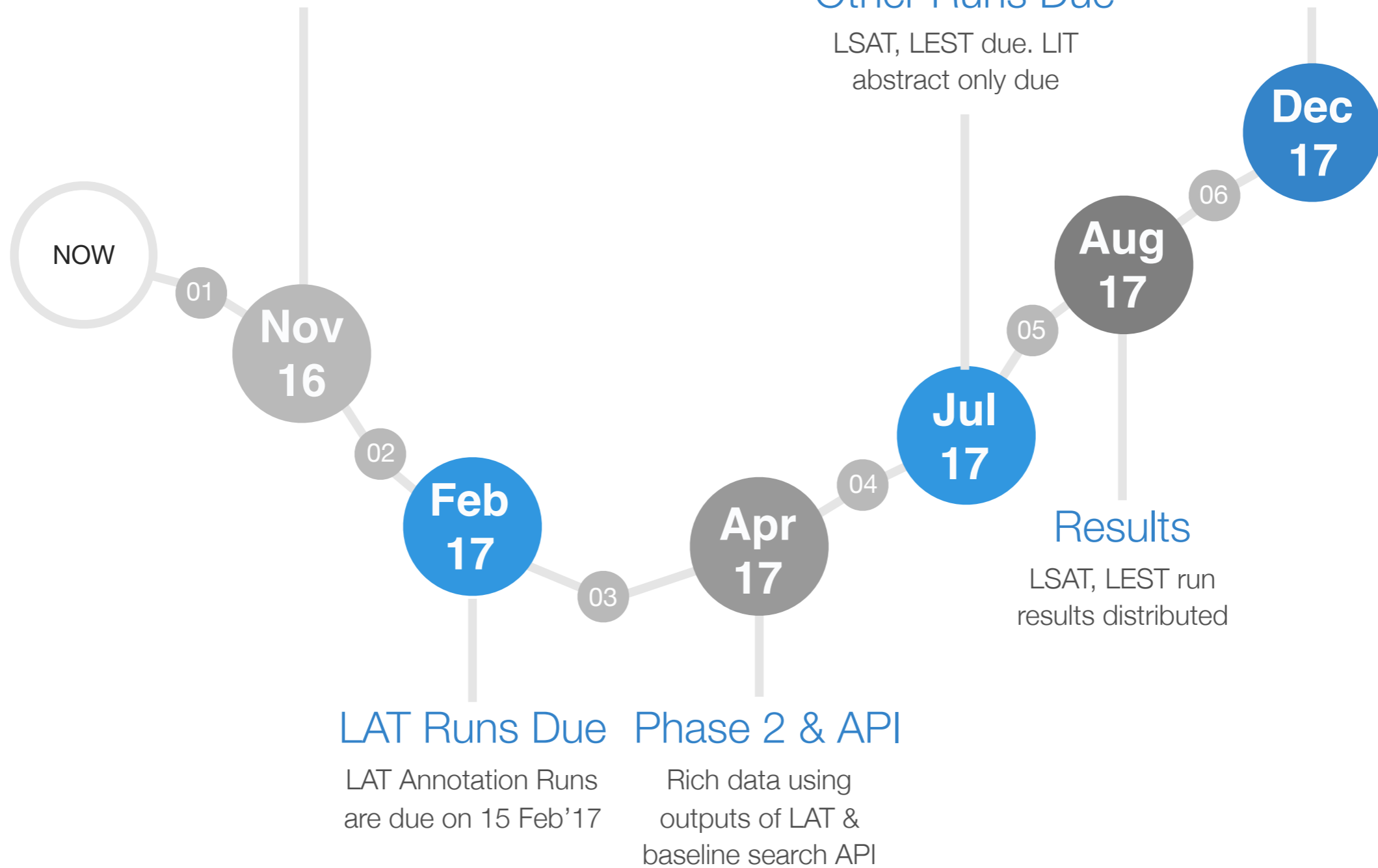Event segmentation task for lifelog data, evaluated against a groundtruth generated by the lifeloggers.

Jul'17

Phase 1 Data
Phase 1 raw data release

Other Runs Due
LSAT, LEST due. LIT abstract only due

NTCIR-13
Welcome to Tokyo or co-located event

NOW

01

Nov 16

02

Feb 17

03

Apr 17

04

Jul 17

05

Aug 17

06

Dec 17

LAT Runs Due
LAT Annotation Runs are due on 15 Feb'17

Phase 2 & API
Rich data using outputs of LAT & baseline search API

Results
LSAT, LEST run results distributed

01 Data Gathering

02 P1 experiments

03 P2 dataset enrichment

04 P2 experiments

05 Evaluation Phase

06 Paper writing

LAT - Lifelog Annotation Task

A multimodal annotation task, aimed at **multimedia data analysts** to annotate automatically annotate the visual lifelog data with concept labels, environment labels and activity labels.

1	2	3	4
~~Intimate relations~~	Socializing	Relaxing	Pray/worship/meditate
5	6	7	8
Eating	Exercising	Watching TV	Shopping
9	10	11	12
Preparing food	On the phone	Napping	Taking care of Children
13	14	15	16
Computer/Internet	Housework	Working	Commuting

Kahneman et al. A survey method for characterizing daily life experience: The day reconstruction method. Science, 306(5702):1776–1780, 2004.

LSAT - Known-item Search

A known-item search task in which participants have to retrieve a number of specific moments in a lifelogger's life. We define moments as semantic events, or activities that happened throughout the day. LSAT can be undertaken in an interactive or automatic manner. We will provide a **base-line retrieval engine (via API)** for participants who want to build an interactive LSAT system.
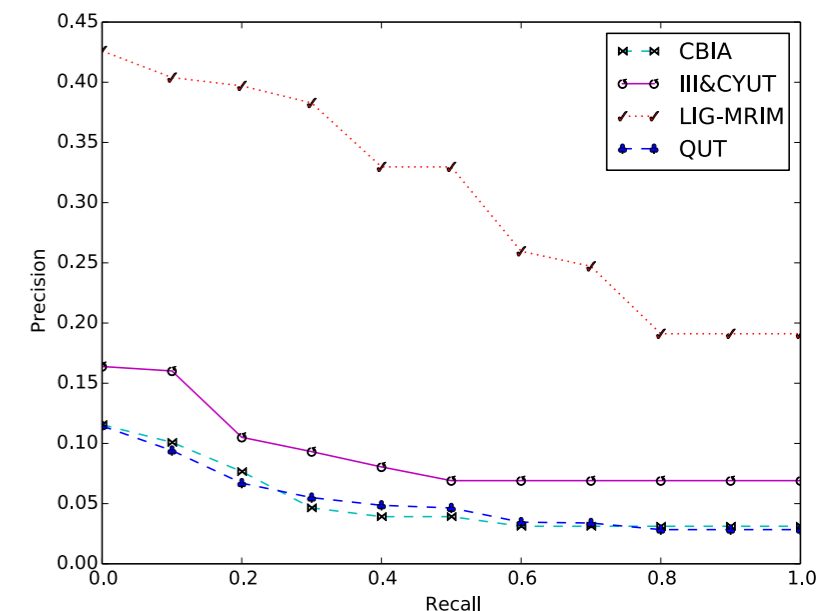
Example search tasks include:

Find the moment(s) where I was boarding an A380.
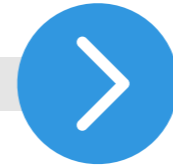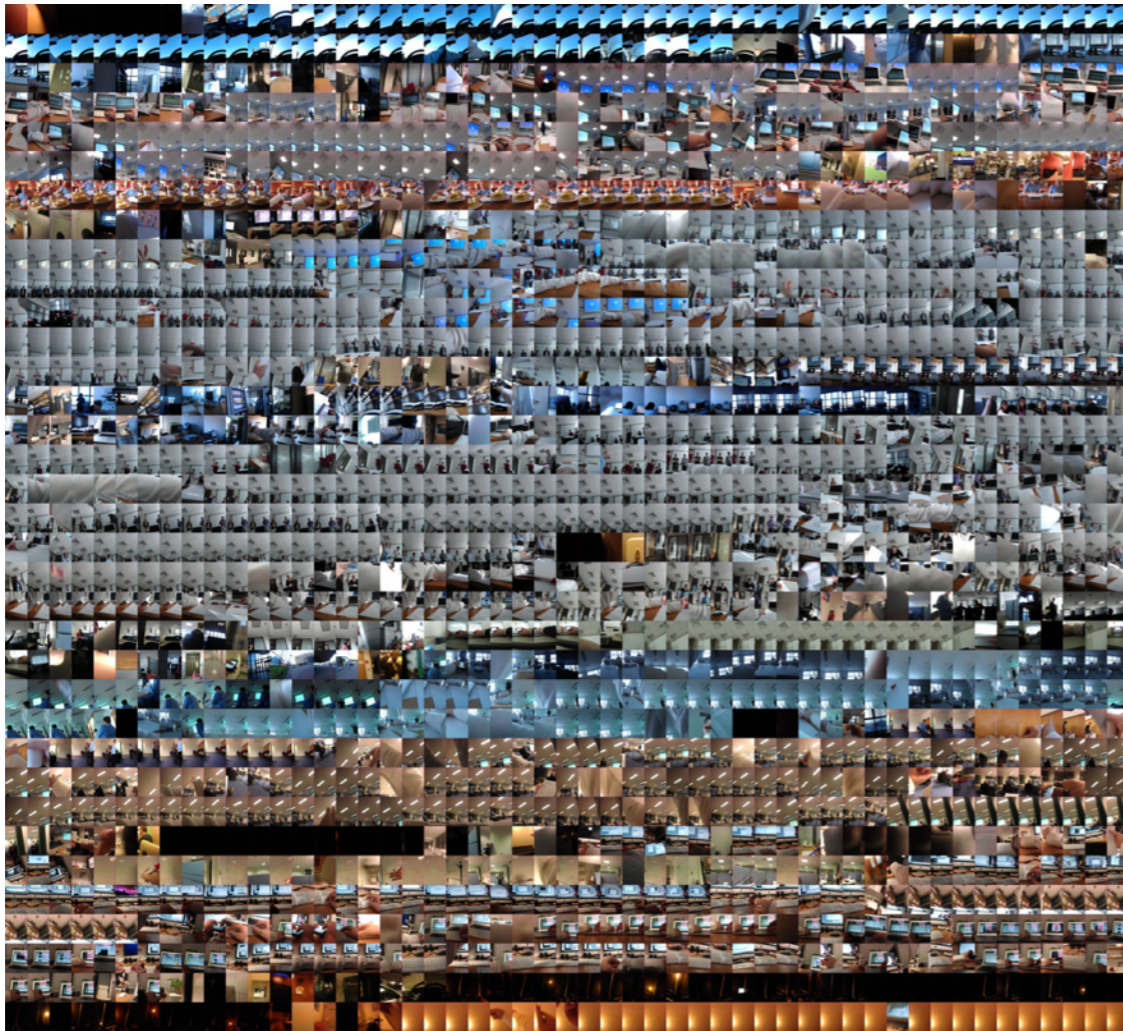Find the moment(s) where I am in my kitchen.
Find the moment(s) where I am playing with my phone.
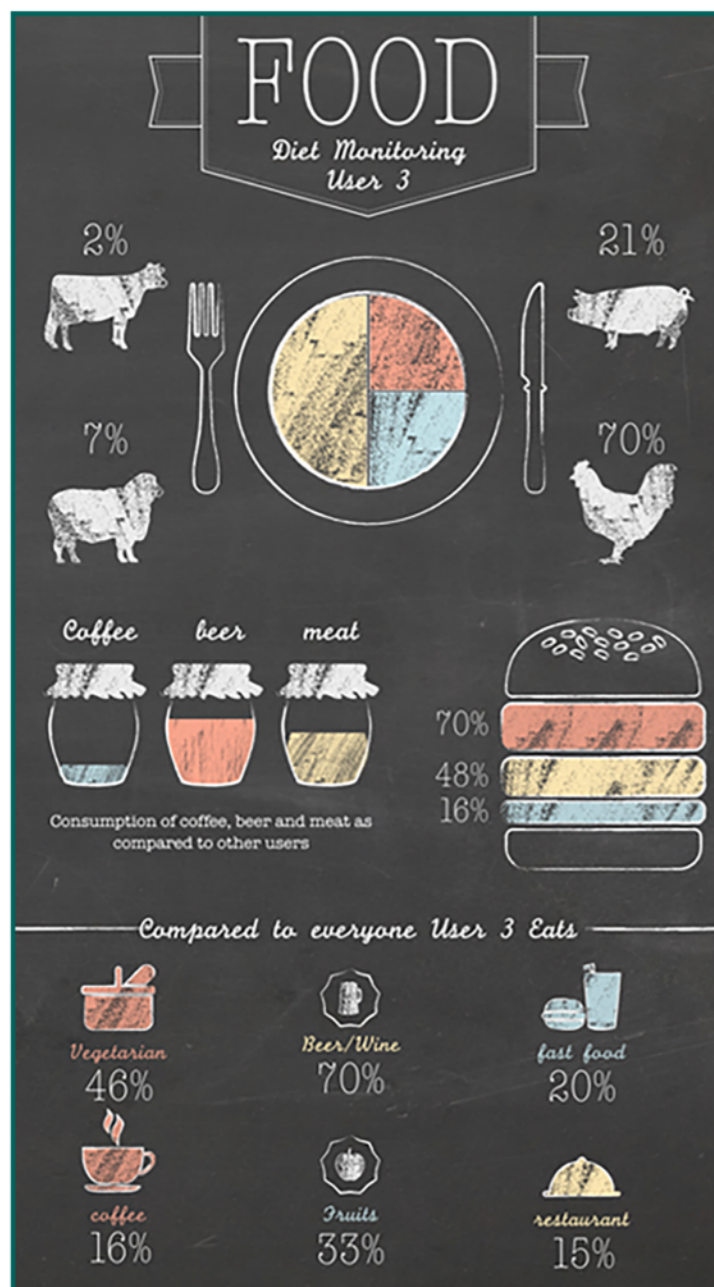Find the moment(s) where I am preparing breakfast.

Event Segmentation

LIT - Lifelog Insights Task

The aim of this subtask is to gain insights into the lifelogger's life. Participants are requested to generate new types of visualisations and insights about the life of the lifeloggers by generating a **themed diary**. This task is not evaluated in the traditional sense, but participants will be expected to present their work in a special session at NTCIR. An event segmentation will be defined for the data.

ありがとうございます

from:
NTCIR-13 Lifelog Organisation Team

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