A "cane" for thinking
an optimistic information engineering viewpoint on dementia
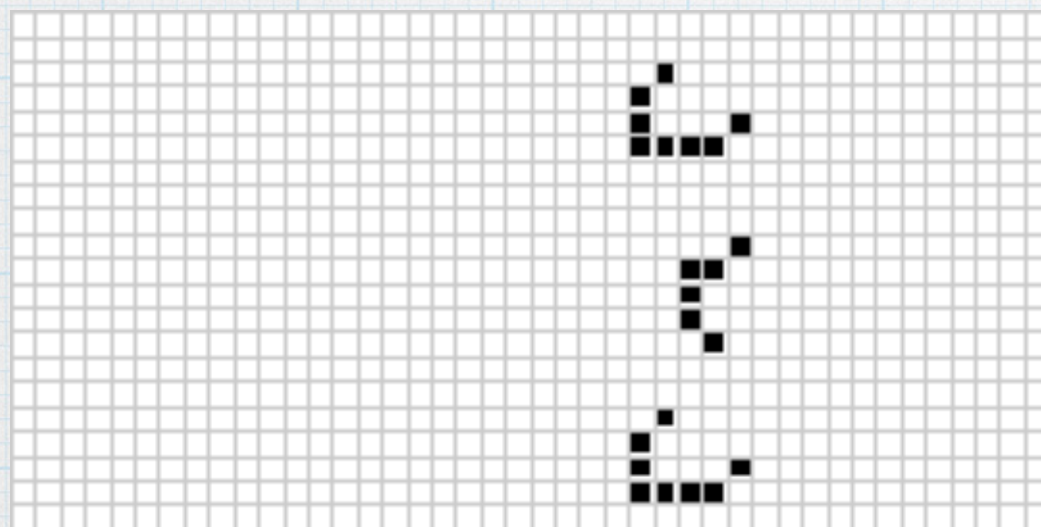
Katsunobu Imai (Hiroshima University)

May 25, 2018 Akita

The game of life

* The game of Life (an extremely simple model of bacterial growth)
  Conway 1970

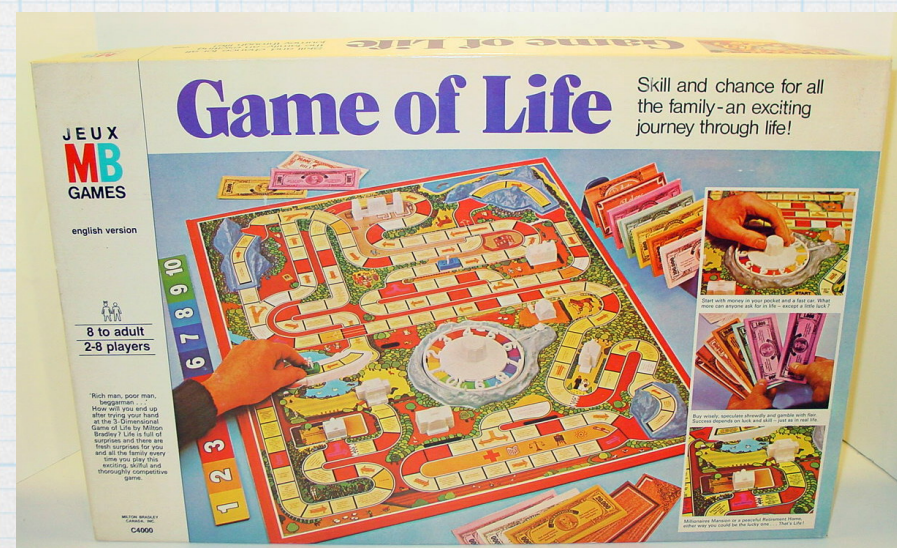 * To study the asymptotic behavior of the game of life — death, periodic repetition, unbounded growing

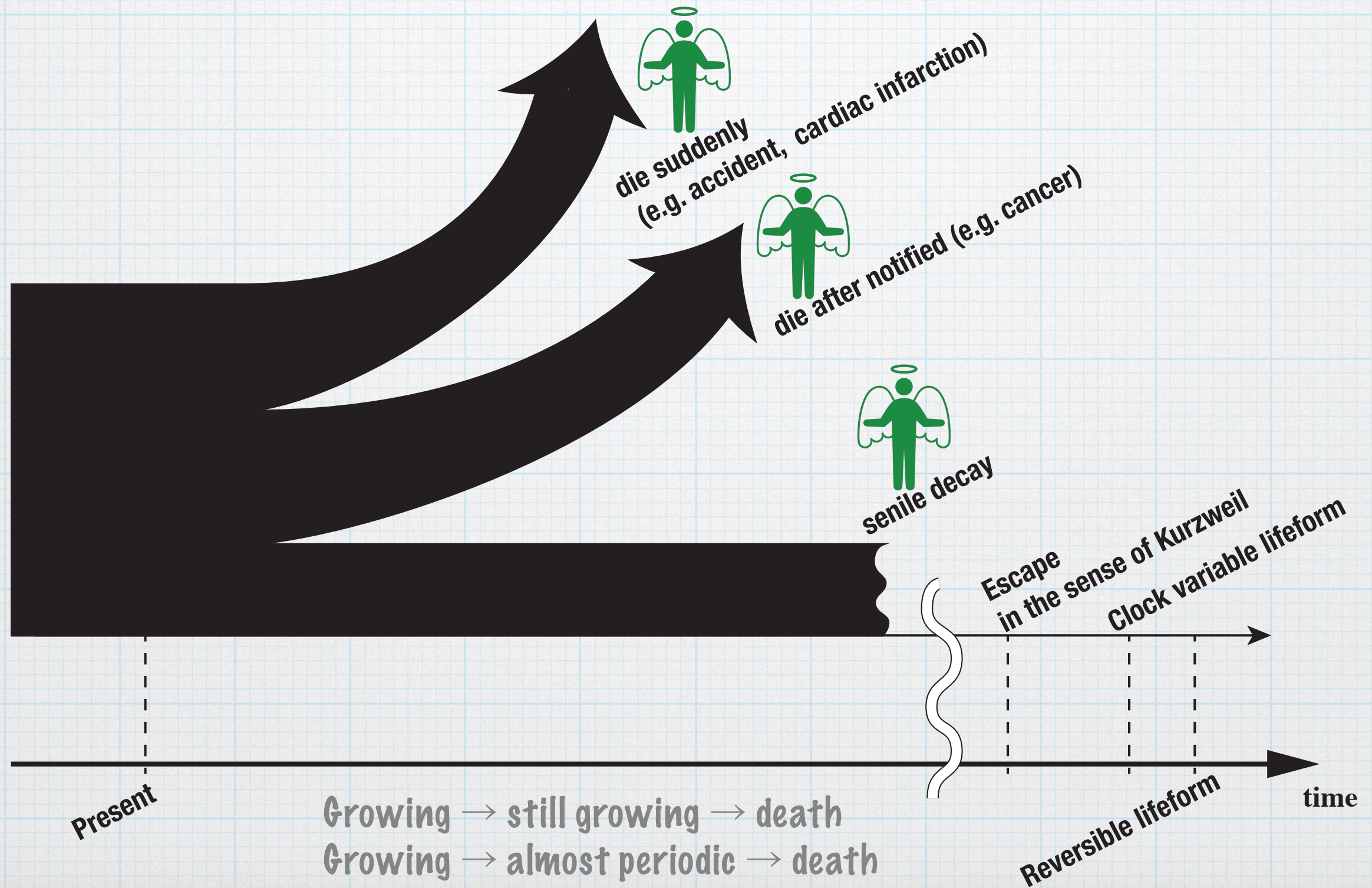http://mathworld.wolfram.com/CellularAutomaton.html

Wikipedia

Growing: particularly, increasing the complexity of its pattern is interesting.

Yet another game of life

* To study the asymptotic behavior of my life — death, periodic repetition, unbounded growing

My life plan

die suddenly
(e.g. accident, cardiac infarction)

die after notified (e.g. cancer)

senile decay

Escape
in the sense of Kurzweil

Clock variable lifeform

Reversible lifeform

Present

time

Growing → still growing → death
Growing → almost periodic → death

My life plan

There are some nice books for preparing for the day of these two cases.

オタクの逝き方

オレのコレクション死んだらどうなる？

オタクらしい遺言書の書き方教えます！

読まずに逝けるか！

● PCや携帯電話のヤバいデータを完全消去
● 価値の分かる友だちにコレクションを残す方法
● コレクションを少しでも高く売るポイント

BULLRUNS

die suddenly
(e.g. accident, cardiac infar

die after notif

senile decay

Here is the problem.
Particularly dementia

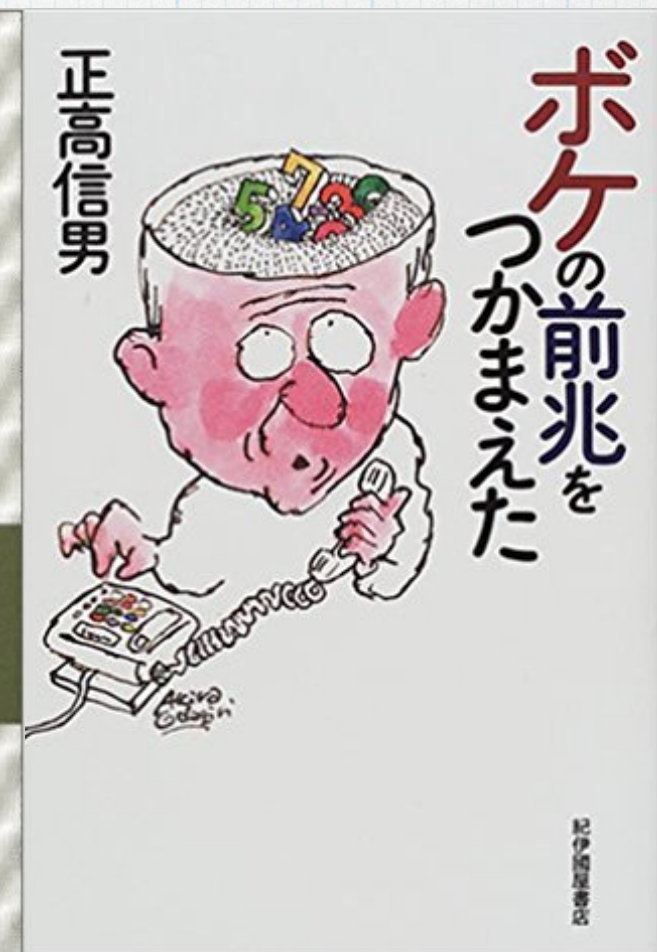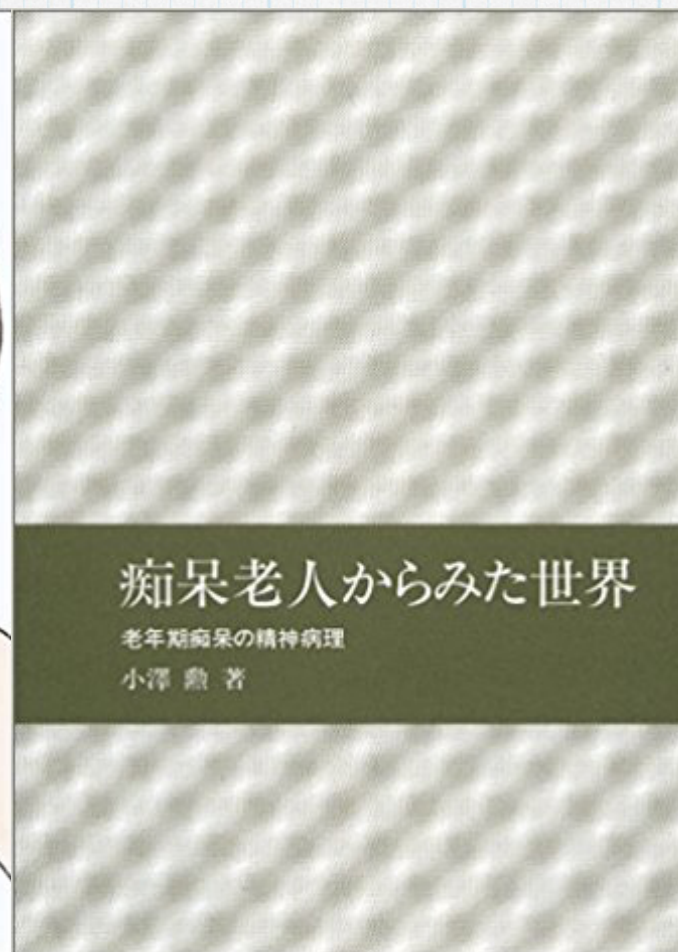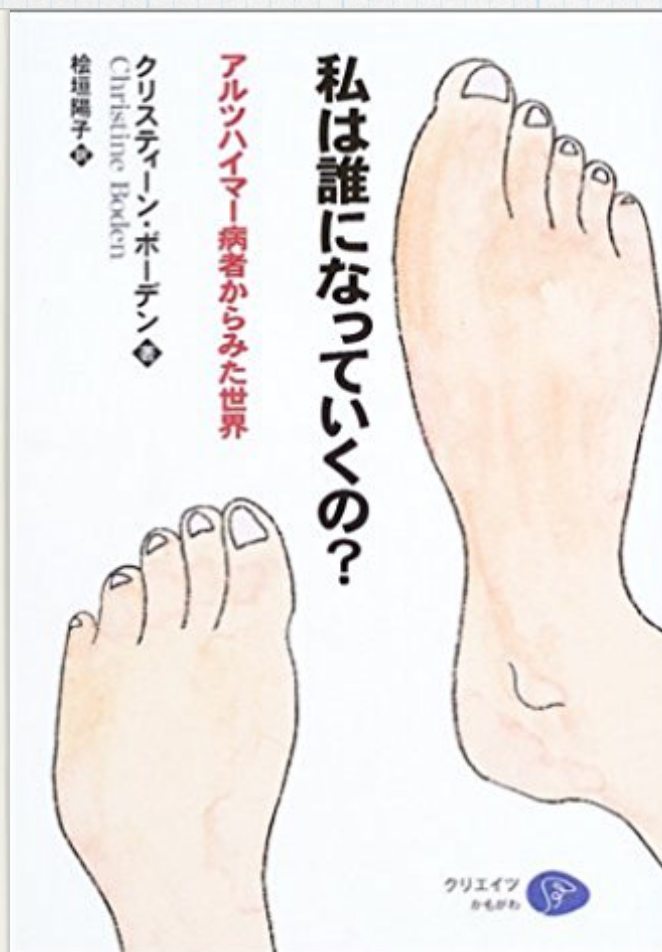Escape
in the sense of Kurzweil

Clock variable lifeform

Reversible lifeform

time

Present

Growing → still growing → death
Growing → almost periodic → death

Dementia

* Memory disorder and Disorientation

The case of a functional disorder of limb:

Functional electrical stimulation (FES)

* Recording one's electromyography (EMG).

* Storing the measured data.

* Playing it to support a patient of motor paralysis.

It seems useless for supporting one's thinking process, because we don't want to think the same thing repeatedly.

Even if a different thinking process is invoked, it must be another person's thinking.

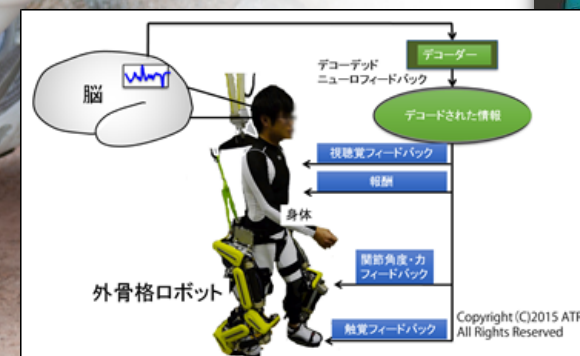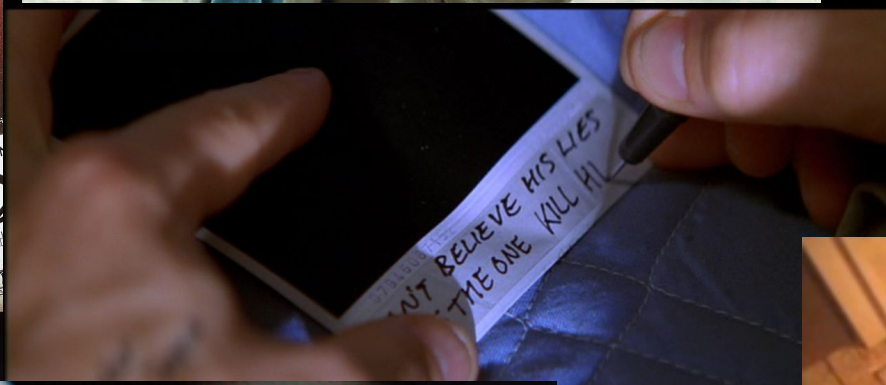Exoskeletal robot

Funct

Bioness H200

図1：提案したブレイン・マシン・インタフェースと外骨格
ロボット技術に基づく脳機能理解に向けた新しい枠組み。
https://www.atr.jp/topics/press_150114.html

Dementia: living in a world like that of Memento?

Memento

博士の愛した数式

小川洋子

掟上今日子の忘備録

Anterograde amnesia
(by herpes simplex encephalitis)
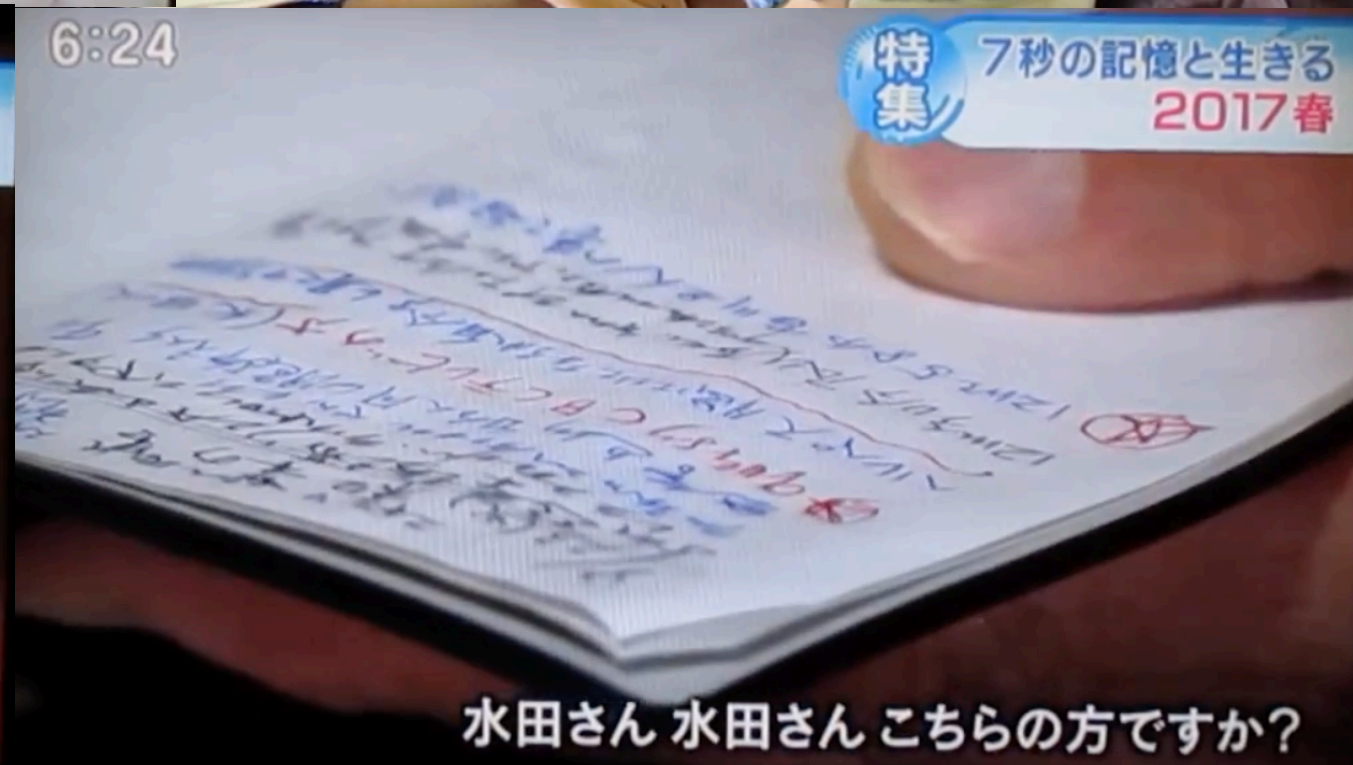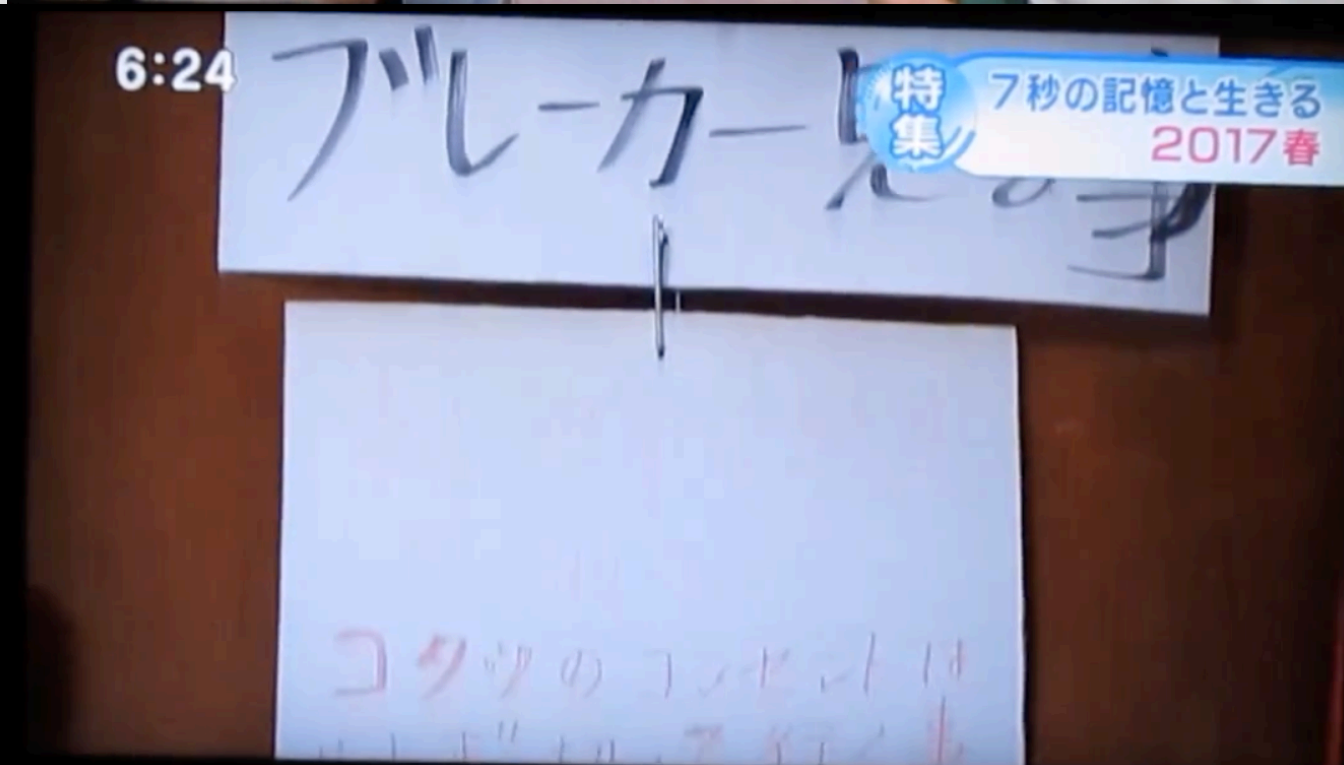
Early-onset dementia
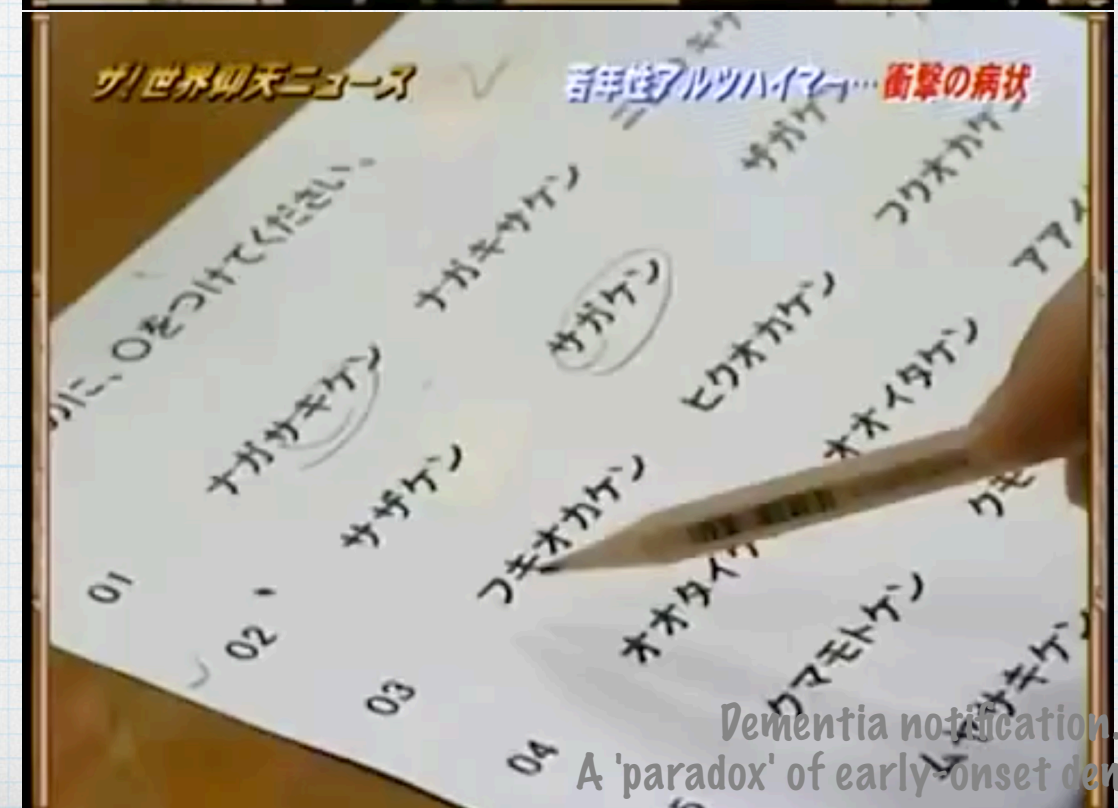
Memory disorder

* Memory

    * Semantic memory, episodic memory (apt to be lost by dementia)

    * Procedural memory (e.g. riding a bicycle, etc.)

* Memory Processing

    * Memorization

    * Retention

    * Recall   (You need to recall a thing at a proper time and a place.)

        * Recollection (self associative, apt to be lost in aging)

        * Familiarity (not self associative but can recognize)

	Anterograde amnesia	Early-onset dementia (advanced)	Senile dementia (early stage)	Senile dementia (advanced)	Senile dementia (last stage)
Memorization	✖	▲	◯	▲	✖
Retention	✖	▲	◯	▲	✖
Recollection	✖	✖	✖	✖	✖
Familiarity	✖	▲	◯	▲	✖
Motivation	◯	◯	▲	✖	✖
Physical	◯	◯	◯	▲	✖

Losing the ability of 'recollection.'
Losing the 'driving forth' of thinking.

Losing the ability of 'recollection' and the 'driving forth' of thinking

I cannot but completely rely on other's recommendation.
I have to be satisfied with things by a collective knowledge.

recommendation (a new story is made by the system)

What is your favorites?

1: Sports

✔2:Travel

3: Driving

...

Submit

the actual timeline of my photo album

* Can't I escape from giving up thinking?

* Is everything directed by the others?

No, I want to stay geeky!

I don't want to obey the result of a big data analysis!

cf. "... for the rest of us" which is the 'rest'?

Knowledge Home

This word by Toffoli 2002, 2004

Memory disorder and disorientation might be the same.

* Moving to another house results in worsening of symptoms of dementia. One loses one's orientation.

* I do not want to move from my 'knowledge home!'

* Then what is my knowledge home?

To begin with,...

What is my thinking process?

* ### This is the problem of biometrics.
  If my thinking process will properly estimated, the prodromal stage of dementia (depression, schizophrenia,...) might be captured.

* ### A thinking process makes a work process as a trajectory (a projection).

* ### My thinking process may be a <u>serialization</u> of things stored in my brain. This ability will be lost in the beginning of Dementia.

* ### It will be estimated by capturing my work process.

* ### How to capture my work process?

Let's start from our very old experiment.

An experimental mailing list

* The 1st motivation: how to discuss something by email communications without the divergence of the discussion?

At the time,

* We had to submit our work to a workshop.

I usually don't want to take care of such deadlines, but,...

* We found a difficulty in discussing about it by emails.

inherently asynchronous,
tired of merging branches

編集委員：武市正人
米澤明憲

レクチャーノート／ソフトウェア学

4

オブジェクト指向コンピューティングⅠ

日本ソフトウェア科学会WOOC'92

田中克己・西尾章治郎 編
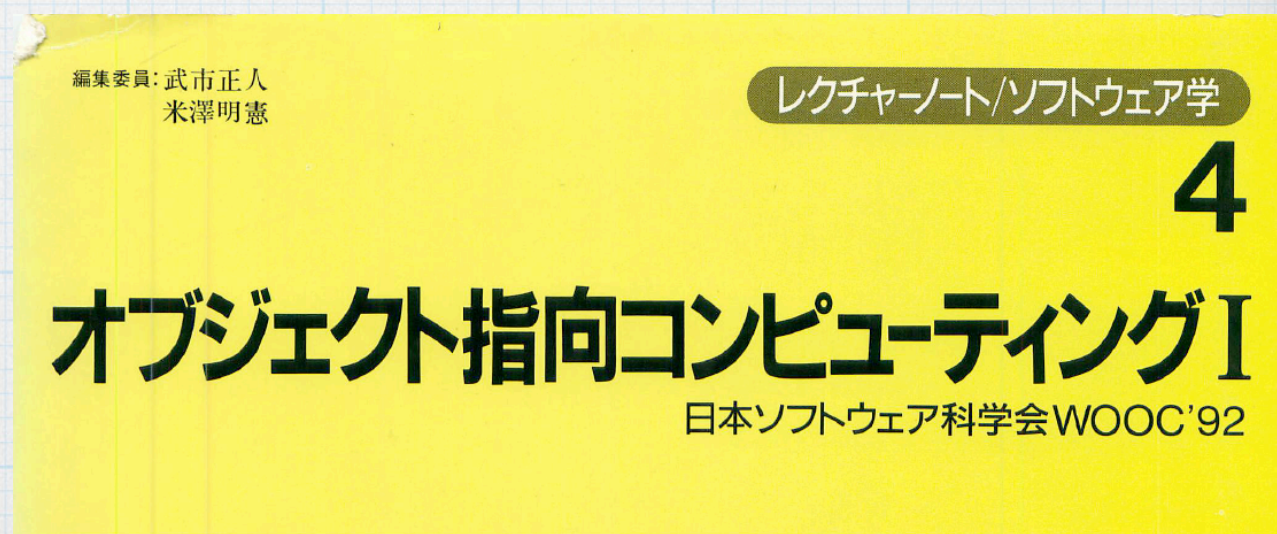
We hated a traditional BBS, a file, and a hierarchical directory

* スレチ (off topic) on a BBS is usually blamed, but tracking a discussion over different topics must be important.

* File: If the goal of a discussion is not fixed, it is difficult to combine into a file.

* A discussion structure may not form a thread or tree but a web (graph).

Mailing list v.s. Outline processor

* ## We desired an online collaborative outline processor.

  ### Now available but they still depend on a file!

* ## A mailing list is write once and you can't edit.
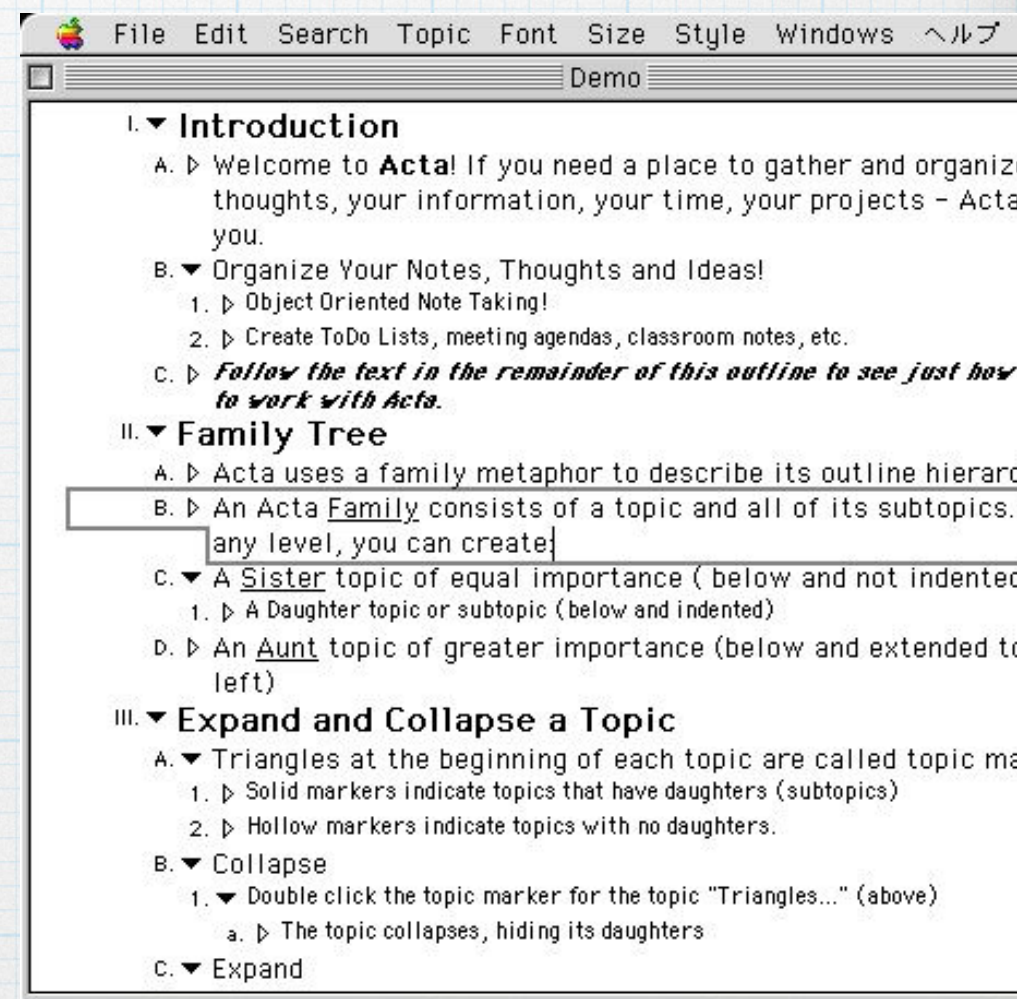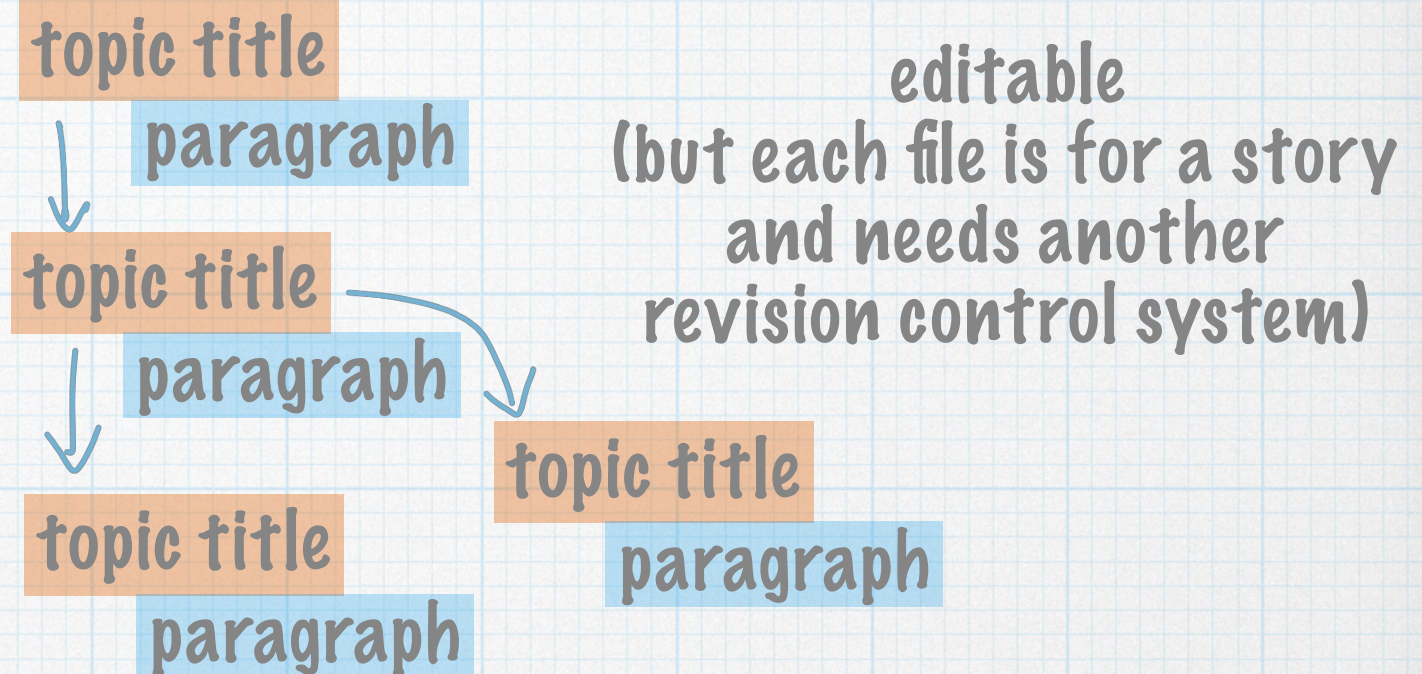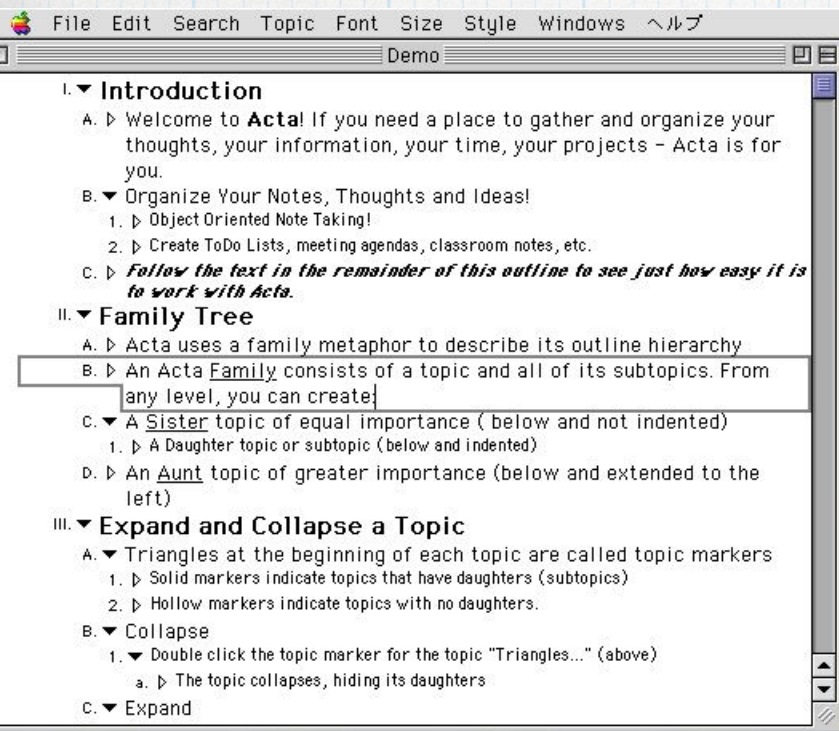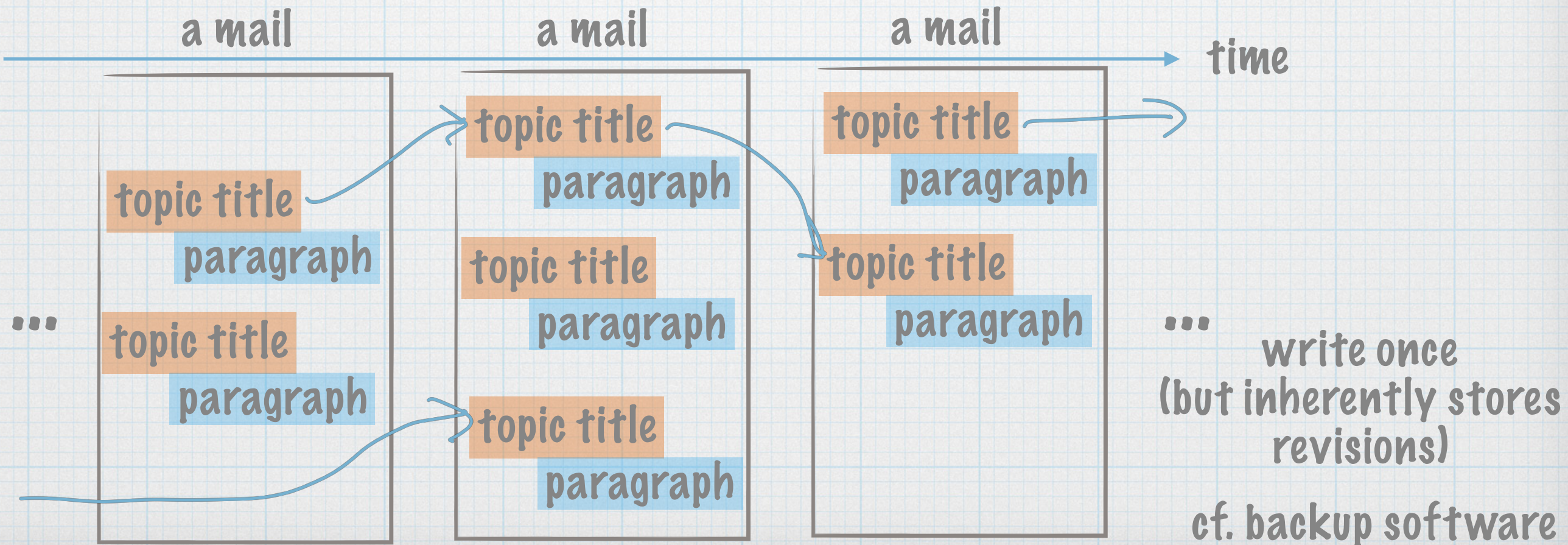
File   Edit   Search   Topic   Font   Size   Style   Windows   ヘルプ

Demo

I. ▼ **Introduction**
   A. ▷ Welcome to **Acta**! If you need a place to gather and organiz
      thoughts, your information, your time, your projects – Acta
      you.
   B. ▼ Organize Your Notes, Thoughts and Ideas!
      1. ▷ Object Oriented Note Taking!
      2. ▷ Create ToDo Lists, meeting agendas, classroom notes, etc.
   C. ▷ *Follow the text in the remainder of this outline to see just how*
      to work with Acta.
II. ▼ **Family Tree**
   A. ▷ Acta uses a family metaphor to describe its outline hierarc
   B. ▷ An Acta <u>Family</u> consists of a topic and all of its subtopics.
      any level, you can create|
   C. ▼ A <u>Sister</u> topic of equal importance (below and not indente
      1. ▷ A Daughter topic or subtopic (below and indented)
   D. ▷ An <u>Aunt</u> topic of greater importance (below and extended t
      left)
III. ▼ **Expand and Collapse a Topic**
   A. ▼ Triangles at the beginning of each topic are called topic ma
      1. ▷ Solid markers indicate topics that have daughters (subtopics)
      2. ▷ Hollow markers indicate topics with no daughters.
   B. ▼ Collapse
      1. ▼ Double click the topic marker for the topic "Triangles..." (above)
         a. ▷ The topic collapses, hiding its daughters
   C. ▼ Expand

http://ascii.jp/elem/000/000/083/83426/

A file of an Outline processor

File Edit Search Topic Font Size Style Windows ヘルプ

Demo

I. ▼ **Introduction**
  A. ▷ Welcome to **Acta**! If you need a place to gather and organize your thoughts, your information, your time, your projects – Acta is for you.
  B. ▷ Organize Your Notes, Thoughts and Ideas!
    1. ▷ Object Oriented Note Taking!
    2. ▷ Create ToDo Lists, meeting agendas, classroom notes, etc.
  C. ▷ *Follow the text in the remainder of this outline to see just how easy it is to work with Acta.*
II. ▼ **Family Tree**
  A. ▷ Acta uses a family metaphor to describe its outline hierarchy
  B. ▷ An Acta <u>Family</u> consists of a topic and all of its subtopics. From any level, you can create
  C. ▼ A <u>Sister</u> topic of equal importance (below and not indented)
    1. ▷ A Daughter topic or subtopic (below and indented)
  D. ▷ An <u>Aunt</u> topic of greater importance (below and extended to the left)
III. ▼ **Expand and Collapse a Topic**
  A. ▼ Triangles at the beginning of each topic are called topic markers
    1. ▷ Solid markers indicate topics that have daughters (subtopics)
    2. ▷ Hollow markers indicate topics with no daughters.
  B. ▼ Collapse
    1. ▼ Double click the topic marker for the topic "Triangles..." (above)
      a. ▷ The topic collapses, hiding its daughters
  C. ▼ Expand

topic title
paragraph

topic title
paragraph

topic title
paragraph

topic title
paragraph

editable
(but each file is for a story
and needs another
revision control system)

Our usage of emails

a mail   a mail   a mail   time

...

topic title
paragraph

topic title
paragraph

topic title
paragraph

topic title
paragraph

topic title
paragraph

topic title
paragraph

topic title
paragraph

...

write once
(but inherently stores
revisions)

cf. backup software

How to write an email sent to our mailing list?
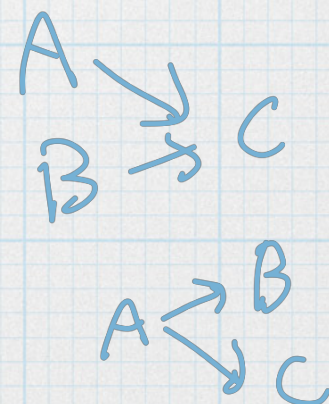
* Each topic title has an id.

◎ topic A
paragraph

* A paragraph has at most three topic titles.

◎ topic A
○ topic B
paragraph

* Quoting a sentence in a paragraph must be specified by using a special quote marker.

◎ topic A
○ topic B
· topic C
paragraph

A → C
B →
A → B
→ C

Three topic titles are enough to represent "multiple inheritance" and the splitting of a topic. Two are not enough.

用いたメーリングリストのメールの例

```
From oops-adm@satsuki.ics.es.osaka-u.ac.jp Sat Sep
Message-Id: <199609061403.XAA02365@satsuki.ics.es.c
From: imai@ke.sys.hiroshima-u.ac.jp (Katsunobu IMA
Reply-To: oops@satsuki.ics.es.osaka-u.ac.jp
To: oops@satsuki.ics.es.osaka-u.ac.jp
Subject: reino are neta
Date: Fri, 6 Sep 96 23:03:33 +0900
Errors-To: oops-adm@satsuki.ics.es.osaka-u.ac.jp
X-Ml-Posted: Fri, 6 Sep 1996 23:03:04 +0900
X-Ml-Name: OOPS Mailing List
X-Ml-Counter: 3657

これも omote に移そう．


◎ 生体・生理工学シンポジウム[ki 1358]
○ バーチャル実験室[ki 1359]
・ AltaVista[ki 1365]


<a href="http://kelp.ke.sys.hiroshima-u.ac.jp/expo
第11回 生体・生理工学シンポジウム</a>
まったく，つくづくもっと熱烈に断るんだったと
後悔しきりだが（笑）

ここ一週間ぐらい悩んでいたのだが，全然らちが
あかない．何にも思いつかないのだった．


ともかく，基本は AltaVista[ki 1365]みたいな
Web 検索サーバの検索結果に何らかの小細工を入
れて，ちょっと便利なものにしようという方針で
あるわけだが，もう締め切り近いのになんにも手
が無くて本当に困り果ててしまったわけだ．

他に打つ手がないので，また例によって誰かれ構
わず「突然失礼します」攻撃をかけて，戻ってき
た返事のメールを参考に現状を打破しようと，い
ろいろ悩んでいるわけだが．
```

oops: 3657

[prev]/[index]/[next]-----[qm]

Date: Fri, 6 Sep 96 23:03:33 +0900
Subject: reino are neta
From: imai@ke.sys.hiroshima-u.ac.jp (Katsunobu IMAI)

これも omote に移そう．

◎ 生体・生理工学シンポジウム[ki 1358] (prev/next)
　○バーチャル実験室[ki 1359] (prev/next)
　　・ AltaVista[ki 1365] (prev/next)

　　　第11回 生体・生理工学シンポジウム
まったく，つくづくもっと熱烈に断るんだったと
後悔しきりだが（笑）

[3739]
ここ一週間ぐらい悩んでいたのだが，全然らちが
あかない．何にも思いつかないのだった．

ともかく，基本は AltaVista[ki 1365]みたいな
Web 検索サーバの検索結果に何らかの小細工を入
れて，ちょっと便利なものにしようという方針で
あるわけだが，もう締め切り近いのになんにも手
が無くて本当に困り果ててしまったわけだ．

[3689]
他に打つ手がないので，また例によって誰かれ構

oops: 3739

[prev]/[index]/[next]----[qm]

Date: Mon, 30 Sep 96 12:34:53 +0900
Subject: uchidome
From: imai@ke.sys.hiroshima-u.ac.jp (Katsu

◎ 生体・生理工学シンポジウム[ki 1358]
　○バーチャル実験室[ki 1359] (prev/next)
　　・ AltaVista[ki 1365] (prev/next)

HoTaMaLe[ki 1383]で変換したものに
ない部分だけをちょっとだけ手直し

　　生体生理シンポ96用原稿
に置いた．標準設定のまま使ってい
変えると出なくなってしまうので手
それが，ドキュメントが日本語だか
HoTaMaLe[ki 1383] がこの程度だから

内容がないんだ．細かい実装の話な
ないし，だいたい，

-*- Quote (from 3657) -*-
ここ一週間ぐらい悩んでいたのだ
あかない．何にも思いつかないの
-*- Unquote -*-

のあと実働はプログラム書きと文章
一週間ぐらいだからこんなもんだろ

書けと言われたら「全部 a-list です，
しかない（笑）新しい技などひとつ

oops-archive

Yet another "Knowledge Home",
Multi-purpose archives for our junk mailing list...

- **oops-omote** (guest login: name `guest`, password `guest`)
- **oops-ura**

- Powered by
- update log

↵ | Imai's |

imai@iec.hiroshi
System last modi

10.30.95.160

Contents

i. **Main**

- 🔵 Main Page
- 🔵 Index
- 🔵 Alphabetical

ii. **Ranking**

- 🔵 Branching

iii. **Search**

- 🔵 Topic

iv. **Topics**

- 🔵 imai
- 🔵 aga
- 🔵 ebine
- 🔵 hyuuga
- 🔵 miyasita
- 🔵 nisida

RelationFrame

oops-archive

2018 /[4], [5]

Recent mails:

- #6549, 2005.09.05 10.44.51 fb (HandyCam 1080i インターレースの呪縛)
- #6548, 2005.09.03 15.08.09 im (落雷 iChat 教育用計算機システム Xserve SUN Fire IBM zSeries 10Gbit Ethe Balancer WebCamera 水冷ラック 自爆ボタン Virtual Private NEtwork (VPN) FirePass SSL-VPN DCR-PC10 SSL-VPN FirePass 臨場感 サーバ室の臨場感)
- #6547, 2005.08.04 15.31.16 im (iChat デジタルゲーム学科)
- #6546, 2005.07.22 14.51.02 im (HandyCam DCR-PC10 1080i HDR-HC1 手ぶれ補正 iMovie HD Apple Intern レースの呪縛)
- #6545, 2005.06.27 12.36.50 im (iChat 未踏ソフトウェアセミナー Invisible electronics MyLifeBits は何から debugger 生体計測 debugger Invisible electronics 臨場感)
- #6544, 2005.06.27 12.24.21 im (iChat 未踏ソフトウェアセミナー BBS Apple 社の戦略 Intel)
- #6543, 2005.06.27 12.17.21 im (iChat 収納壁 Spotlight)
- #6542, 2005.06.16 13.00.29 im (訃報 後藤英一 無発熱計算 Firing Squad Synchronization Problem(FSSP))
- #6541, 2005.06.16 12.05.32 im (映画 Hitchhiker's Guide to the Galaxy DON'T PANIC)
- #6540, 2005.06.08 10.33.59 im (デジタルゲーム学科)
- #6539, 2005.06.08 10.26.28 im (デジタルゲーム学科)

Important topics:

人の人生 registration 使い方 引っ越し 郵便番号 電話(Tel. , Telephone) mail address 住所(address) 通販 通信販売 URL bookmark 雑誌(Magazine, Journal) 本 映画 映画 テレビ テレビ 予定

Stat:

4115 topic-items, 19880 quote/quoted links, 1566 external links and 4394+15385 topit-to-topic reations in 6504 mails.

Relation:

Toffoli[lst] [cf]

- 自己触媒集合[lst][rel]
- MIT AI lab.[lst][rel]
- 時間[lst][rel]
- Knowlege Home[lst][rel]
- テスター [lst][rel]

- MIT AI lab.[lst][rel]
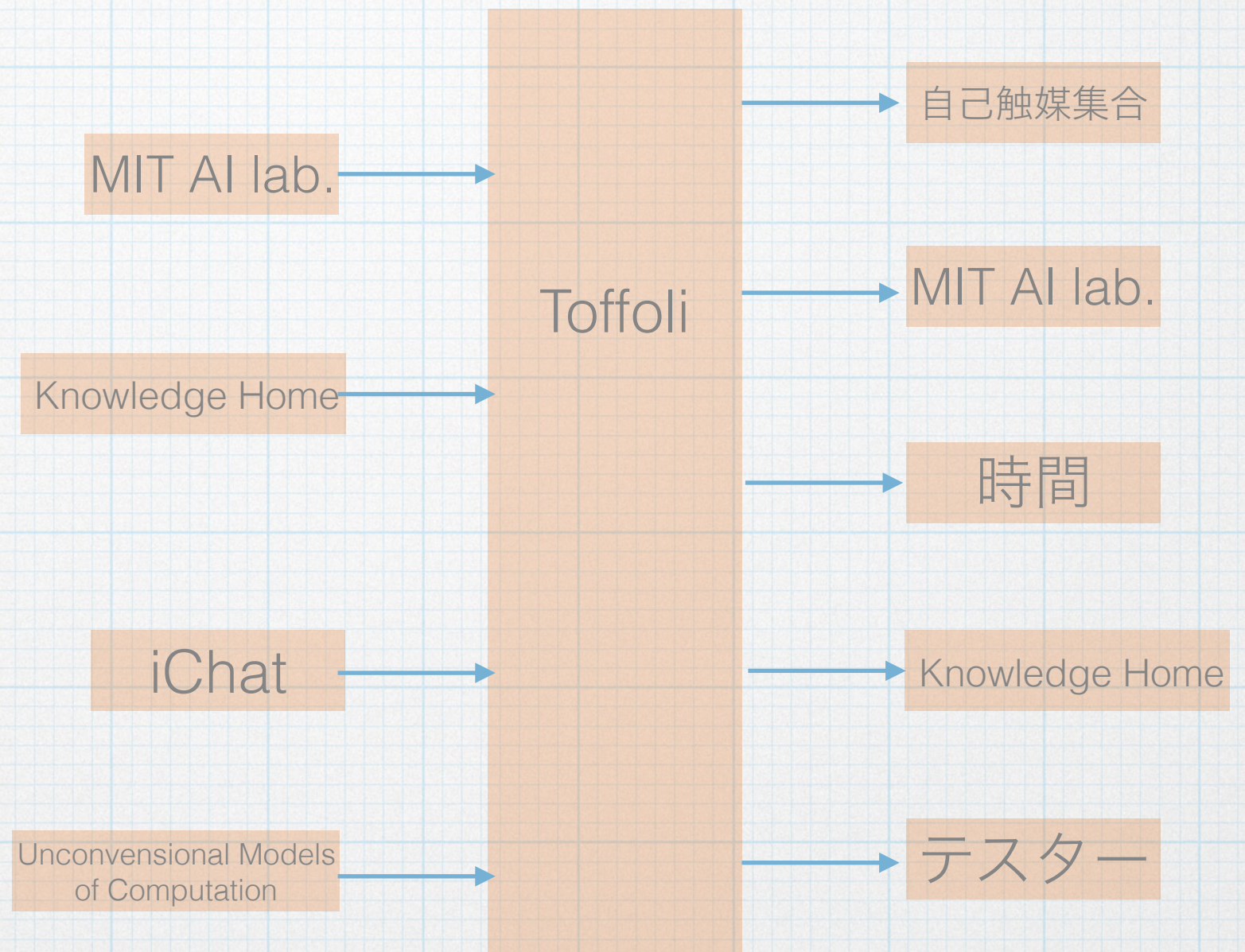- Knowlege Home[lst][rel]
- iChat[lst][rel]
- Unconvensional Models of Computation[lst][rel]

---

cf.level 0

- 自己触媒集合 [lst] [rel] (6444)
- topic title [lst] [rel] (6444)
- うっぷすえむえるloops mailing list [lst] [rel] (6444)
- packing [lst] [rel] (6444)
- Toffoli 先生，最小作用を語る [lst] [rel] (5986)
- Wolfram [lst] [rel] (5986)
- Toffoli [lst] [rel] (5986)

level 1

- ナチュラリスト [lst] [rel] (5994)
- Toffoli 先生，最小作用を語る [lst] [rel] (5994)
- 自己触媒集合 [lst] [rel] (5994)
- topic title [lst] [rel] (5994)
- うっぷすえむえるloops mailing list [lst] [rel] (5994)
- packing [lst] [rel] (5994)
- Minsky [lst] [rel] (5994)
- アシモフ死去 [lst] [rel] (5994)
- Reversible Cellular Automata(RCA) [lst] [rel] (5994)
- 日本橋 [lst] [rel] (5992)
- MIT AI lab. [lst] [rel] (5992)

Ex: Topics in the neighborhood of the topic 'Toffoli'

MIT AI lab. → Toffoli → 自己触媒集合

Knowledge Home → Toffoli → MIT AI lab.

Toffoli → 時間

iChat → Toffoli → Knowledge Home

Unconvensional Models of Computation → Toffoli → テスター

Employed topics in the context of 'Toffoli'

自己触媒集合, packing, reversible cellular automata, …

World Wide Webの検索を支援するシステムの構築
A system for aiding users in retrieving data on World Wide Web

広島大学工学部
○今井克暢

Faculty of Engineering, Hiroshima University
○Katsunobu Imai

Abstract. Today, there are many World Wide Web (WWW) servers on the Internet and it is very difficult to get proper informations from WWW. Of cource we can use WWW search engines which make index of pages on WWW and allow users to search WWW pages. But users are bothered to maintain their searching results, because pages on WWW are updated frequently. So we constructed a system to aid user in maintaining their searching result, using mailing lists and a WWW server.

* **Motivation: we need a search engine of the accumulated searching results and used searching keywords.**

* **Storing used searching keywords and a searching method is more important than storing the searching result.**

A simple record of search results is useless.

第11回 生体・生理工学シンポジウム 論文集

BPES '96

Proceedings of the 11th Symposium on Biological and Physiological Engineering

11月27日（水）

	A 会場	B 会場	C 会場	D 会場
9:00		受 付		
9:45 ～ 12:00	機能代行とリハビリテーション	学習・記憶と神経コーディングI	生体リズムとゆらぎ,そのダイナミックスI	生体計測I
13:00 ～ 16:00	医療・福祉支援とバーチャルリアリティ	学習・記憶と神経コーディングII	生体リズムとゆらぎ,そのダイナミックスII	生体計測II
16:00 ～ 18:30	生体生理工学のためのバーチャルラボラトリ			

11月28日（木）

	A 会場	B 会場	C 会場	D 会場
9:00 ～ 12:00	感覚と運動の統合	培養神経細胞とその神経細胞における情報処理	眼球運動・姿勢制御	生体負担の計測
13:00 ～ 16:40	脳活動の無侵襲計測I 脳活動の無侵襲計測II	運動と代謝の生理機構	運動の制御機構	循環器系・呼吸器系の解析I
17:00 ～ 18:00	特 別 講 演			
	表彰式・懇親会（大会議室）			

11月29日（金）

	A 会場	B 会場	C 会場	D 会場
9:00 ～ 13:00	脳活動の無侵襲計測III 脳活動の無侵襲計測IV	感覚系における情報処理I 感覚系における情報処理II	生体機能の計測と解釈のための信号処理*	循環器系・呼吸器系の解析II 循環系のモデリングの意義とその限界

*日本エム・イー学会専門別研究会「生体機能の計測と解釈のための信号処理研究会」と共催

主 催　（社）計測自動制御学会
期 日　平成8年11月27日（水）～11月29日（金）
会 場　大阪大学医学部銀杏会館

How to record searching activities?
How and where to store searching activities?

I want store in my knowledge home.

I already have my knowledge home for storing them!

cf.
Masui et al. 2003
Information Navigation by Neighbor Hopping
　　　近傍検索

Bell 2004
MyLifeBits　ライフログ
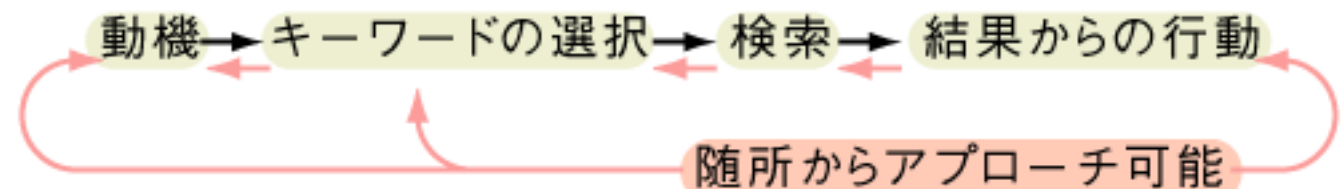
...

検索履歴をどこへつなぎ止めておくか？

発行した検索パタン，検索履歴の格納方法

1. 日付順のリストやキーワードインデックス
　　これだけでは従来の検索サービスと同じ一面的検索
　　サイズが肥大化すると破綻
2. 自分の独断的な見方（リンク）を与えること

ユーザにとって自然な手がかりをいかに残すか

ユーザの作業履歴をすべて記録できたら…
動機 → キーワードの選択 → 検索 → 結果からの行動

随所からアプローチ可能

⬇ 電子メール（メーリングリスト）を用いる

作業履歴記録のモデルとしてメーリングリスト

登録ユーザ全員にメールが送られる
時間順に蓄積される

履歴追跡のために
・内容を表すタイトルを複数付ける（ユーザの独断で）
・引用を記述する書式を規定

⬇

作業の流れが追跡可能なメールリストに
検索結果も保持しよう

Thinking crystal

My impression when I am watching a patient of dementia: 'Trapped in a periodic repetition'.

How to escape from the periodic repetition?

* Even one can recognize a small size of context, one can add a new paragraph or topic title to the wave front and possible to avoid the periodicity with the help of a carefully tuned stimulation.

* I am still not sure the forcing effort to escape from the period is actually making me happy or not in my last days.
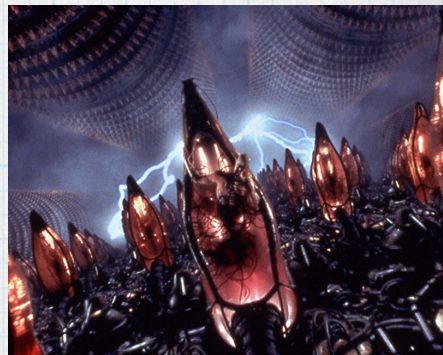
But wait! Even a simple crystal growth can be more complex.

I want to think like an amoeba growth without focusing on a special path!
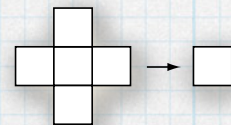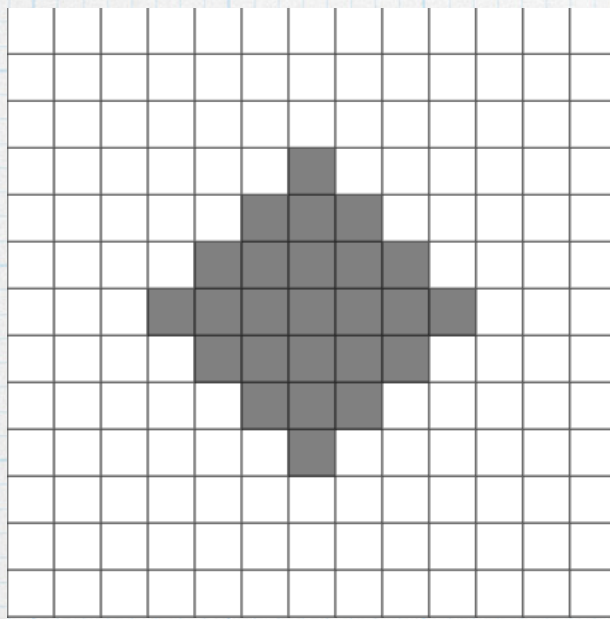
The 'light cone' of
a cellular space.

↑ is simple because the 'background' is simple.
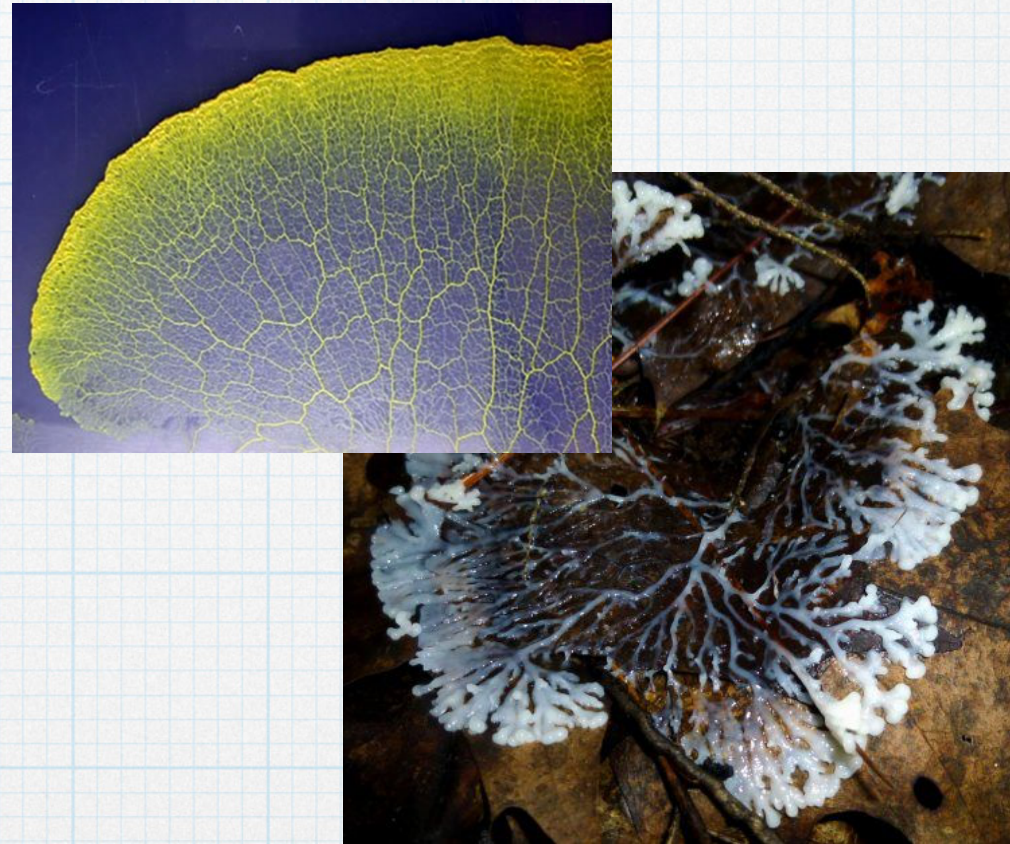
The shape of the wave front of
amoeba growth.

↑ is complex because the 'background' is complex.

'Fairness' of the 'background.'

Turing Machine

$$(state, symbol) \rightarrow (state, symbol, action)$$

$$action = left \text{ or } right \text{ } move$$

Once I thought it is too simple for a model of thinking, but now I think...

It is reasonable as a model of thinking:
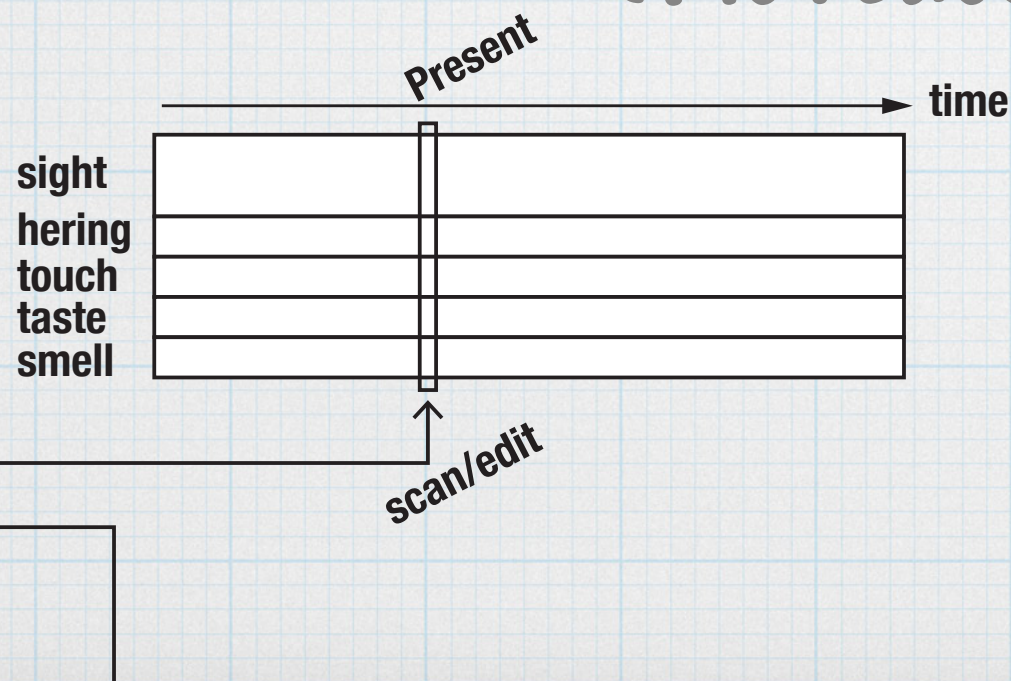
Dementia can be regarded as

* Scanning area will be shrinking.

* Errors in each part will be increasing.

Universal Turing Machine

A Turing machine which computes anything.
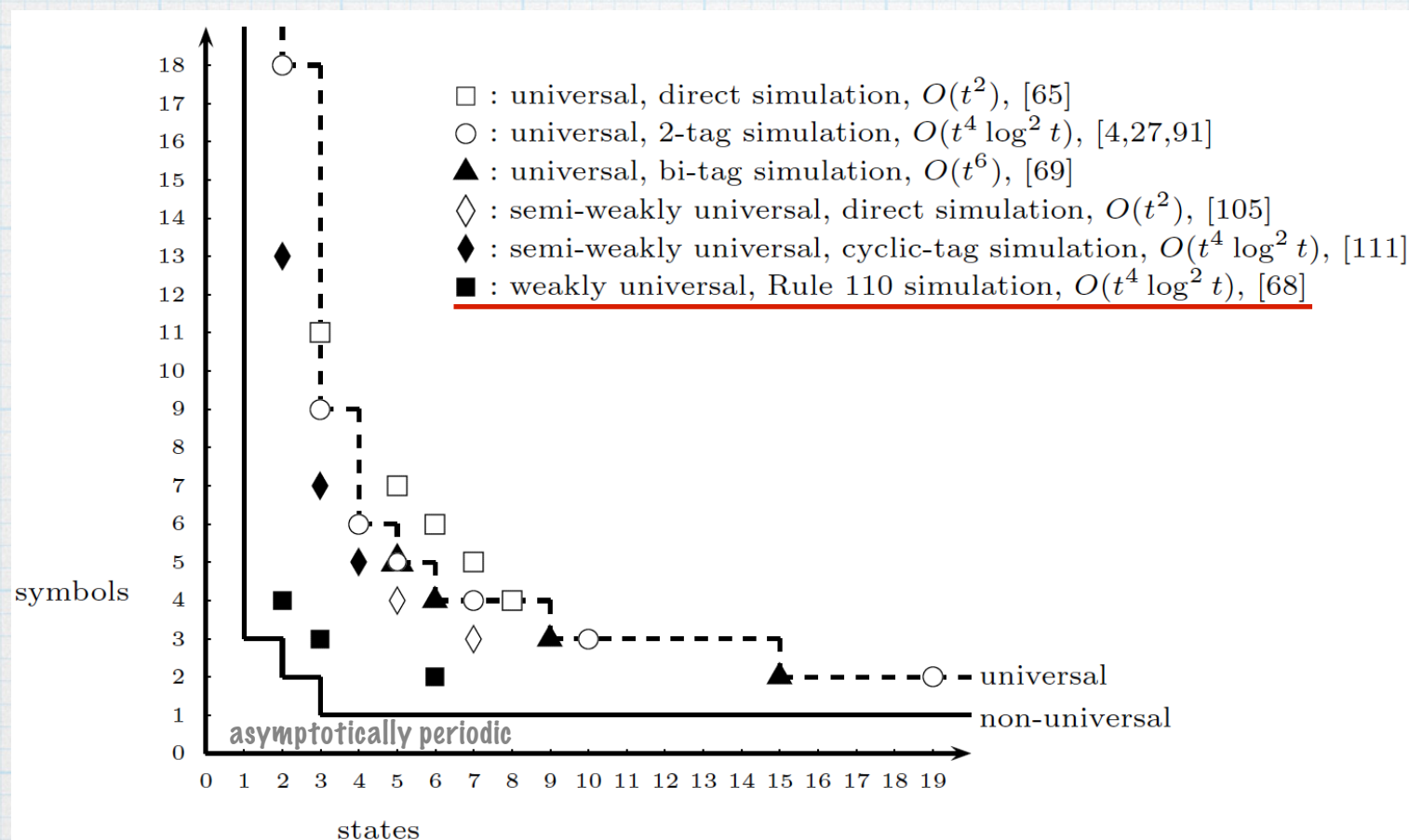
Woods, Neary 2011

Weakly universal: with an infinite asymptotically periodic input.

Although the sizes of memory (state) and scanning information at a time (symbol) are small,
it is possible to compute anything employing a proper encoding and infinite periodic input of data.

The definition of brain death might be changed in future...

Thinking in a weakly universal manner.

A 'cane' = a knowledge home + an asymptotically periodic 'background' as a driving force?

I wake up every morning by the sound of an alarm clock as a 'periodic background' and I have a knowledge that I have to wake up and go to my office when I hear the sound. If I can't remind the knowledge, I need to be informed.

'FES' for thinking

* Recording one's work process as a network discussed above.

* Storing the measured data in one's knowledge home.
  recommendation (but a new story is not needed to be made by the system)

  complexity
* Show the most proper topic and its 'tuned' neighborhood topics in the data to support the next decision.
  Show one's past work processes and make one try to connect the fragments of one's thinking process by oneself.

* The decision should be made by oneself.
  'Familiarity' is not lost.

'Fairness' of the 'cane.'
My work process (thinking process) is hijacked or not...

Thinking without serialization

* Thinking seems to be a serialization of a knowledge subgraph.

* Dementia first attacks the serialization ability.

* 'Recording any clue for finding, creating a new path and showing it' is the most important for the system.

Wandering by a self-driving car?
Wandering in a 'programmable house'?

* Wandering (徘徊) is a good effort to cope with dementia.

  A real wandering also seems to be good and inevitable for a patient, but it is a source of worry for families and helpers.

* The system should promote "wandering in the graph". Because each wandering path is the projection of a serialized thinking process anyway. Showing some of the recorded paths are useful as a hint when one can't make one's decision.

* Detect wandering and try to control the degree of the graph to keep one's knowledge home sound.

  cf. brain storming

What I need is a multimodal extension of our mailing list.

I might loose my eyesight.
I might loose my motor function.
I might forget how to read/write.

https://1000ya.isis.ne.jp/1628.html

But, not too interference as far as I can do by myself...

頭をひねらずにモノを捜し出せるようになったらおしまい[ki 2626]

But the system must be essentially 他力本願.

relying on others.

die suddenly
(e.g. accident, cardiac infarction)

die after notified (e.g. cancer)

Personal singular point

senile decay

Escape
in the sense of Kurzweil

Clock variable lifeform

time

Present

"I can't fix the system"

"I forget why I am
using the system."

Reversible lifeform

写真
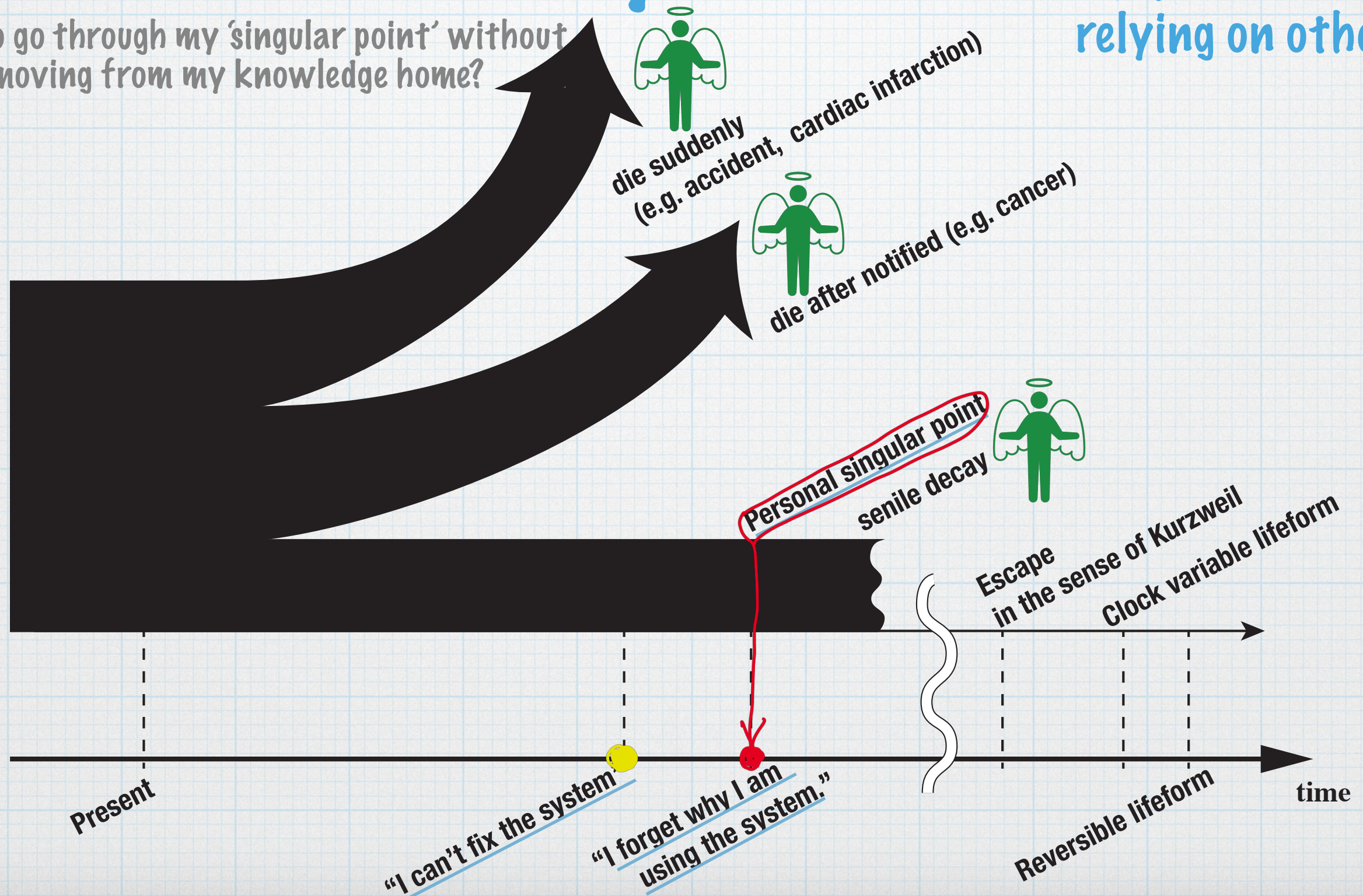
Timeline　0　0

特殊清掃業
５年間で１５倍増　家族関係の希薄化背景に

2018年5月13日

2枚目/2枚中

民間資格の特殊清掃士が在籍する業者数と高齢者の独居世帯数の推移

写真

Timeline　4　1

特殊清掃業
５年間で１５倍増　家族関係の希薄化背景に

2018年5月13日

1枚目/2枚中
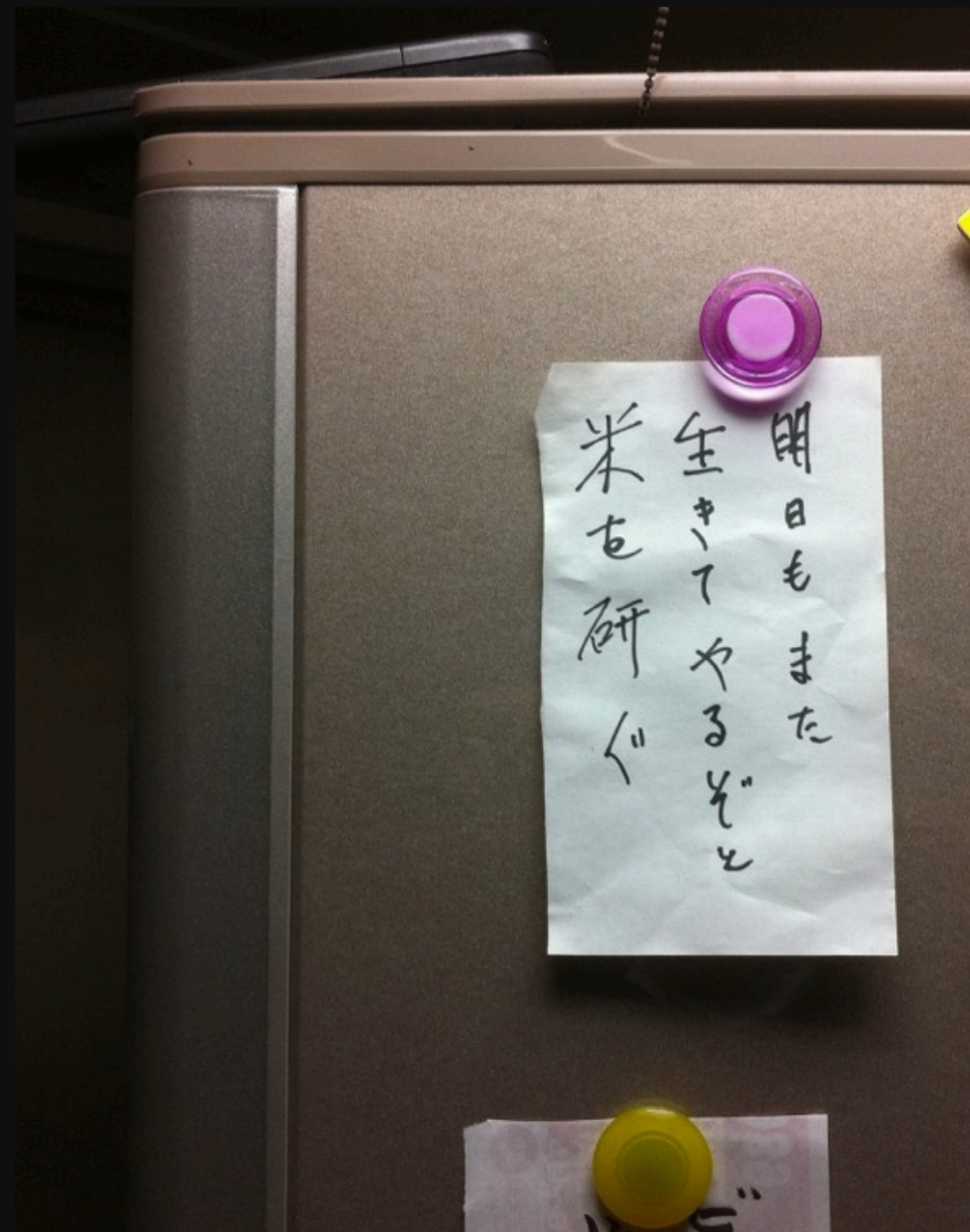
「メモリーズ」が特殊清掃を請け負った大阪市内の一軒家には、孤独死した住人男性が記したとみられる張り紙が冷蔵庫の扉に残されていた（同社提供）

I thought I would rely on Softbank...

pepper

ぽたぽた焼
http://nlab.itmedia.co.jp/nl/articles/1505/11/news132.html
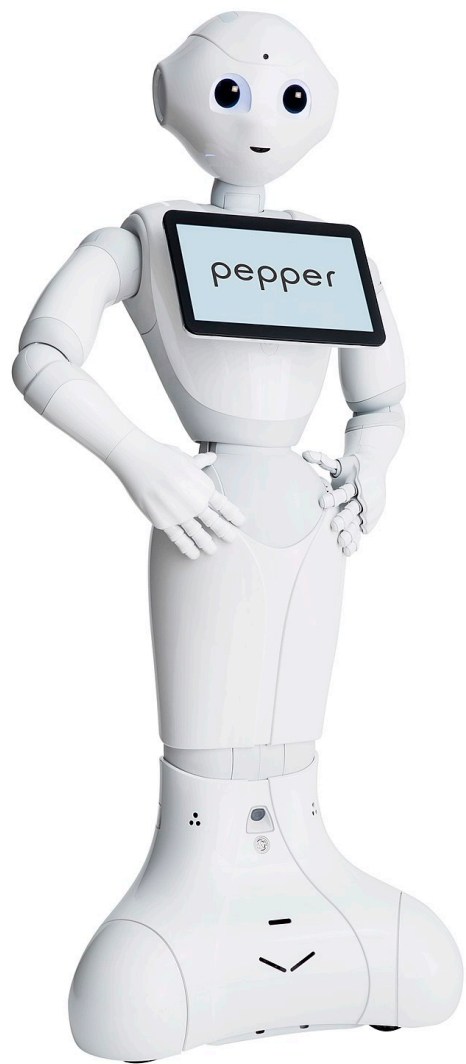
Pepper as a crony?

* **"Polygons are not sexy."**
Jaron Lanier (in a talk with Rudy Rucker)

Sharing times with another human is essentially needed for our life, but we have to avoid bothering helpers.

* An "AI" can reduce the time of talking with helpers.

* We are also responsible for reducing the time by our effort.

cf. Minister for Loneliness (UK)

Geeky human project

人類総オタク化計画

An isolated (active and even young) geek in 100 years ago without a 'cane'...

漱石のはがき100年ぶり発見＝留学中「独リボツチデ淋イヨ」

時事通信 5/23(水) 10:53配信

福井県は２３日、文豪夏目漱石が英国留学中、ドイツに留学している友人２人に送った自筆のはがき３通（写真）を発見したと発表した。現物の確認は約１００年ぶりという＝福井県立こども歴史文化館提供

headlines.yahoo.co.jp

cf. Minister for Loneliness (UK)

I thought I would rely on Softbank...

日経ビジネス
ONLINE

2018年5月20日（日）

TOP 　小売り・サービス 　**情報・通信** 　製造 　政治・経済・国際 　スキル・ライフ 　テーマ特集 ∨

総合トップ ＞ 情報・通信 ＞ 孫正義の焦燥

孫正義の焦燥

「ペッパーの夢を見て号泣して目が覚めた」

ソフトバンク・孫正義社長に聞く（上）

大西 孝弘

☰ バックナンバー

2016年1月21日（木）

　　ソフトバンクグループのロボット「ペッパー」が順調に販売を伸ばしている。2015年6月から毎月1000台を完売している状態だ。2015年末までに累計7000台を販売し、ヒト型のロボットでは世界最大の販売台数と見られる。生産能力が増えたため、1月末から店舗やホームページでいつでも購入申し込みができるようになる。

　　一方、まだ期待ほどの性能に達していないとの声もある。会話を特定のパターンに誘導することが多く、現状では人間ほどの当意即妙の会話は成り立ちにくい。

　　そのペッパーは今後、どのような方向に向かうのか。孫正義社長に聞いた。

But after reading this article, I became anxious that 孫-san

might not correctly understand the issue... （先急ぎすぎ）

孫『心の部分がないと、24時間一緒に過ごしたくない』

It seems difficult to embed a human mind into Pepper so far.

cf. Polygons are not sexy.

It seems impossible to stay together all day even if Pepper is a human.

So I am now talking to you to find an AI-engineer who has a first-person viewpoint on it...

Losing the ability of 'recollection' and the 'driving forth' of thinking

A patient of early-stage dementia tries to memorize things.
But he lost them or forget watching them.

A patient of advanced dementia loses the motivation of memorize things.

How to record and exhibit user activities

* Any 'passive' recording devices is useless.

  * I will be apt to forget bringing it.

  * Finally I should forget why I need it.

Where is the best position for recording?

ubiquitous and autonomous

Max Headroom (1987)

2001: A Space Odyssey (1968)

Where is the best position for recording?
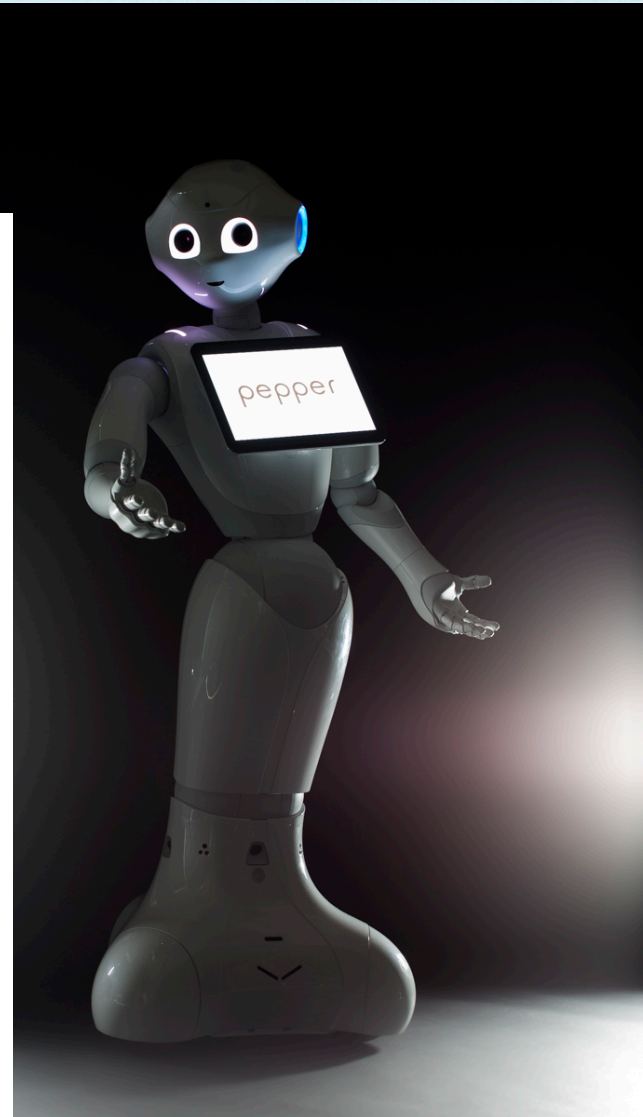
www.cyrilabad.com/projects/corporate/a-venir-confidential-project/ 22052016-Aldebaran-Pepper-test4216.jpg
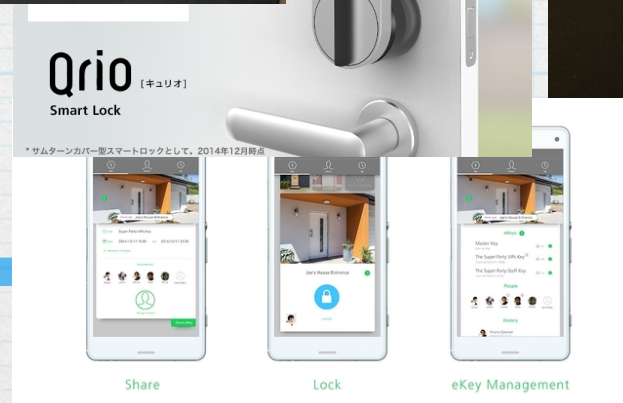
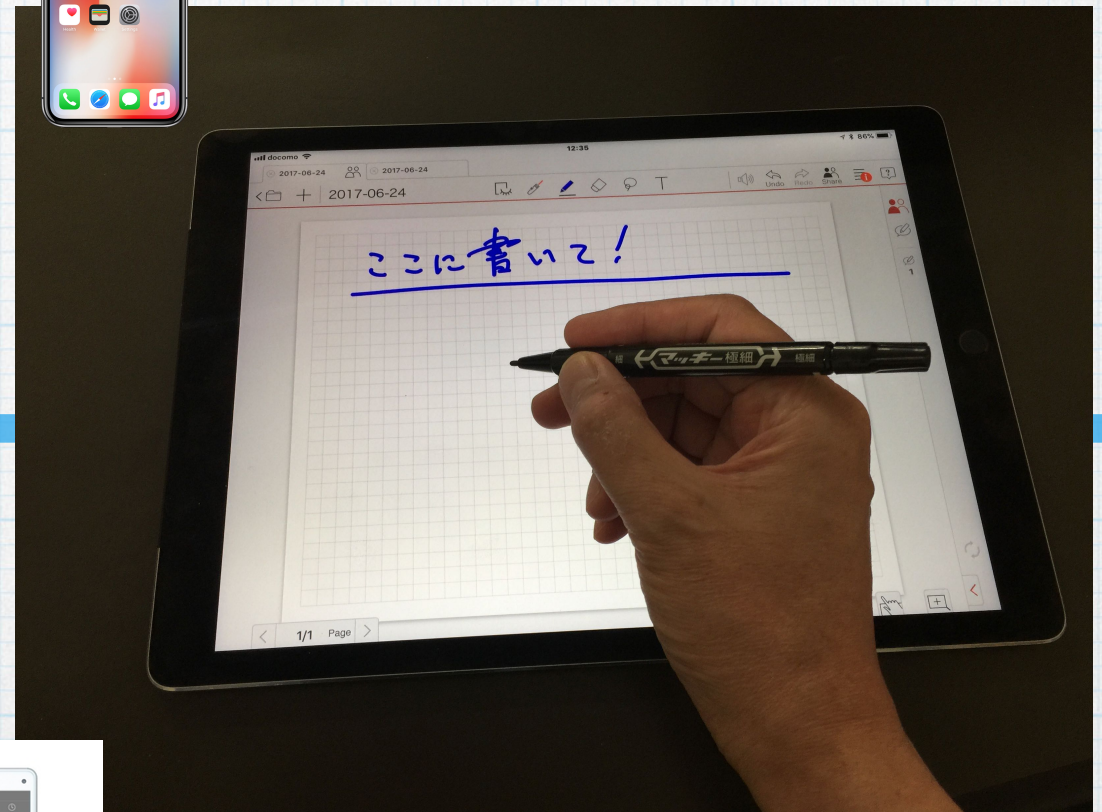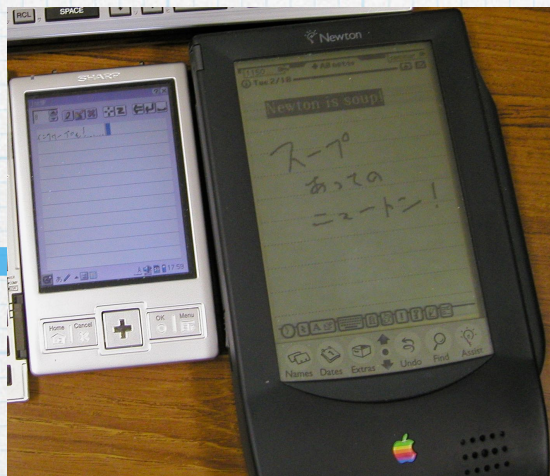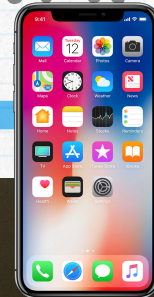But I do not want it too active as far as I can do daily tasks.
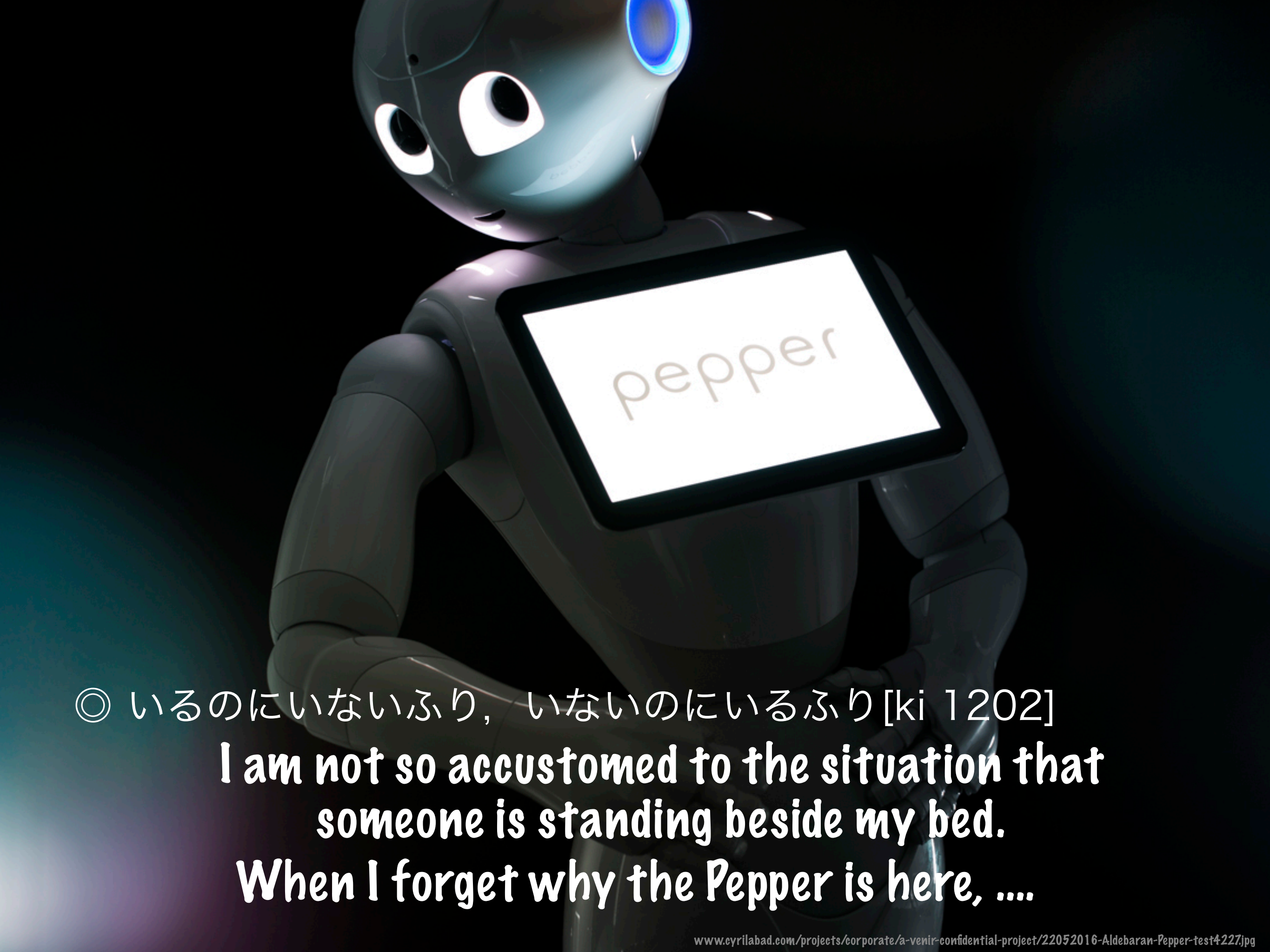
◎ いるのにいないふり, いないのにいるふり[ki 1202]
I am not so accustomed to the situation that
someone is standing beside my bed.
When I forget why the Pepper is here, ...

Icons for each generation are important

When the stage advances, recent things will be lost one by one.

My memory will be shrinking.

20 years old

introduced time in one's life

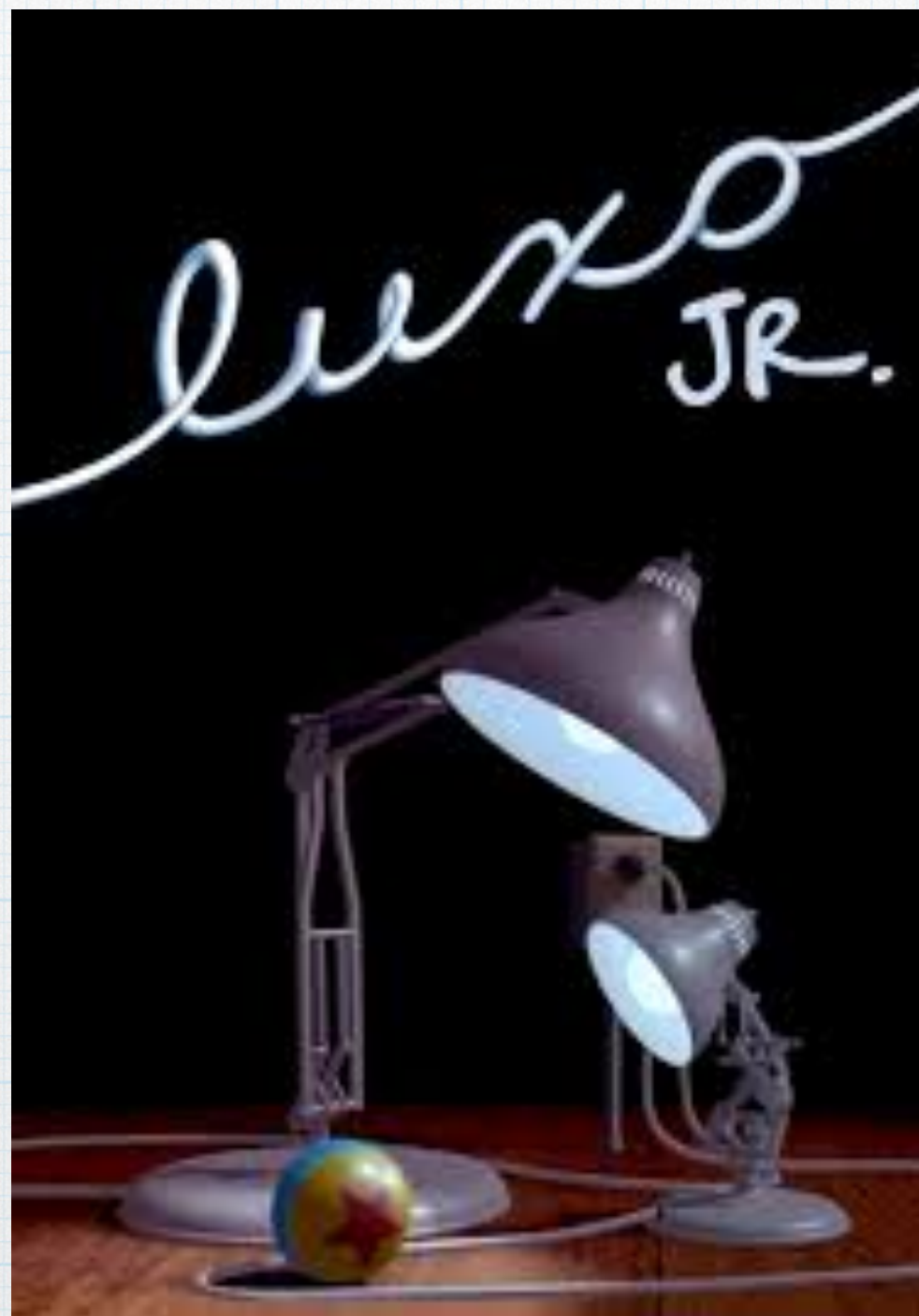# Where is the best position for recording?

Not the position of Pepper but that of lighting equipment!

So far I want 'Luxo' style Pepper in my bedroom and on my desk!

cf. AWS DeepLens

No shadow!

round

aws

luxo JR.

Pixar

In the case of losing my eyesight...
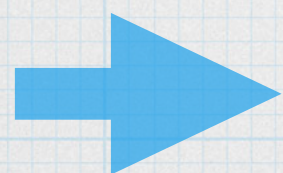
Privacy issue
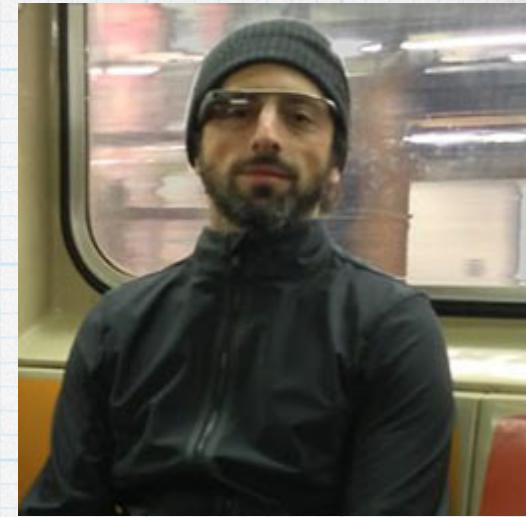
* Google failed to introduce the Google glass but Amazon so far successfully introduces a number of 'privacy violating' services.

* I want to make a <u>contract</u> with an IT company which will be the 'driving force' of my thinking.

* This will cause a serious privacy problem.

* But I would face to a <u>more serious</u> one with health care workers if I were not to ask it to any IT company in advance.

The future after consigning my 'soul'... paradise or nightmare?

* Does doping a periodic background (with my finite network) help to reduce my fear of the future?

Moreover

* Switching my thinking context by a periodic background might be a doorway to my new time sharing 'Nondeterministic' Life...

Any questions?

* Questions and suggestions for practical techniques are welcome!

* Philosophical and privacy related questions: at a pub in the evening!

Detection and palliation of Behavioral and Psychological Symptoms of Dementia (BPSD)
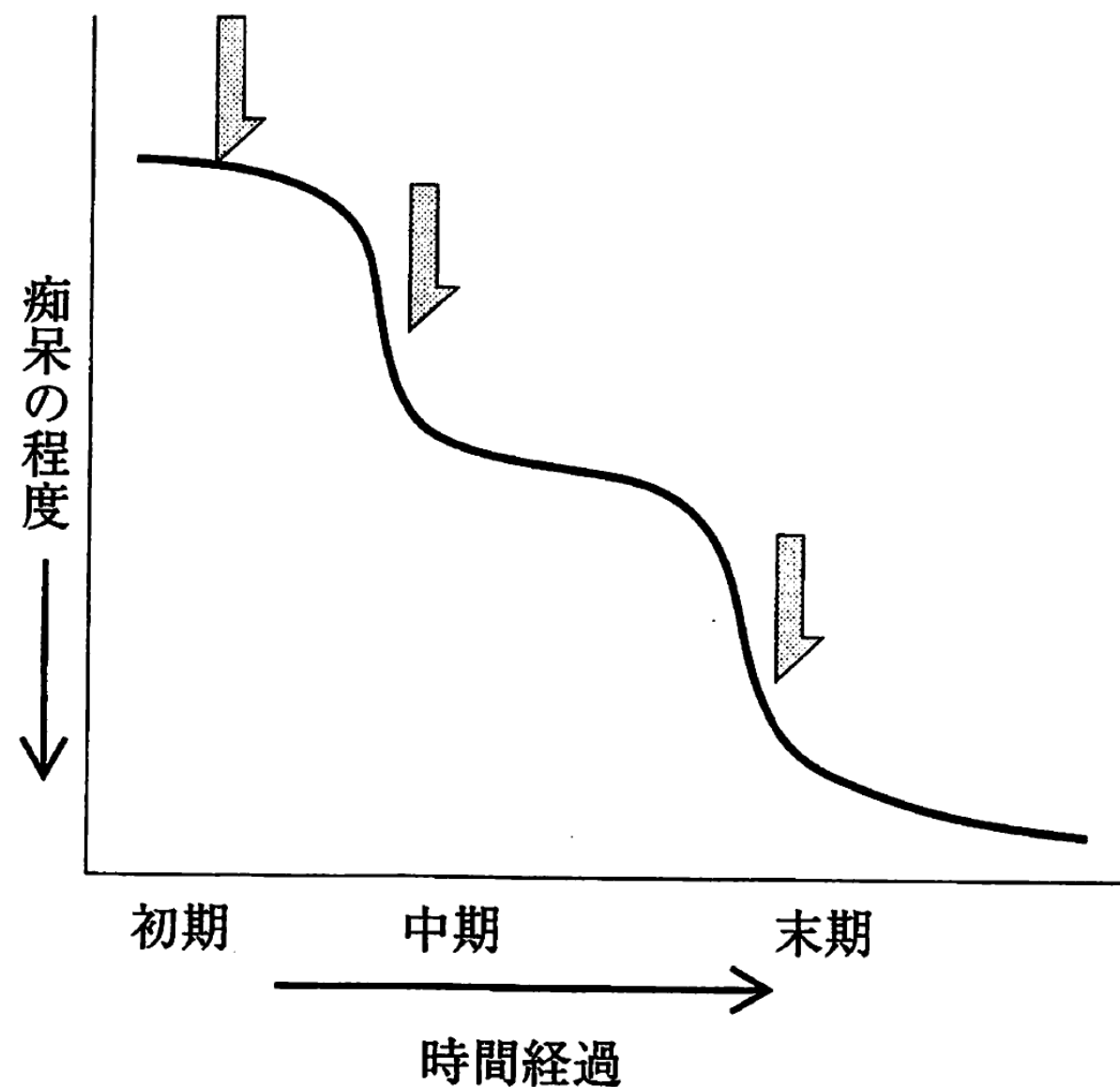

図 3-1　周辺症状の生じやすい
時期(➡で示す)

NPO法人オレンジアクトは、認知症の早期対応・備える努力を啓発するボランティアによる団体です

認知症に備える努力
ORANGE ACT

― 認知症に備える努力 ―

認知症に備える努力
ORANGE ACT
オレンジアクト

あなたにもできる
オレンジアクト
があります

| TOP | オレンジアクトとは | 活動内容 | 認知症について | 認知症に備える努力 | 認知症の実態 〜インタビュー〜 | 受診支援体制 | 会員紹介 | オレンジアクトを応援しよう |

認知症に備える努力

認知症になったとしても明るく暮らしていける

認知症はよく「治らない」「怖い」「なってしまったら最後だ」といったような声を聞きます。しかし、認知症になったとしてもそれが即時、徘徊などの問題行動を引き落こすわけではなくまた、感情を失い、人間としての尊厳までもが失われてしまうという事ではありません。認知症になった後でも多くの方が笑顔で暮らしています。

認知症は100歳に近づくにつれ、誰にでも起こりうる現象であり、過度に恐れず、地震と同じようにいつか来るかもしれないものとして備えることが重要です。

認知症の備え

認知症に備えるには３つの視点での備えが必要です

倫理的備え	社会的備え	医療的備え
意思表示	住環境 地域ネットワーク いきがい	生活習慣予防 医療環境

■倫理的備え（意思表示の備え）

認知症になると判断能力が低下してしまいます。それは、詐欺やトラブルに巻き込まれやすいことにつながります。また、判断が低下していると考えられれば自分の意思決定が尊重されないことにつながります。

認知症になる前に、老後における自身の生活のための意

エンディングノート　　成年後見人　　任意後見人

Tweets by @orangeact

オレンジアクト
@orangeact

啓発活動会員ページを公開しました。orangeact.org/evangelist.html
啓発活動会員は認知症に備えない事で困ることがないように、複雑な認知症の知識を中立性をもって伝える人です。オレンジアクトは啓発活動会員が地域の認知症ネットワークの中心になることを目指しています。

Jun 27, 2016

Embed　　　　View on Twitter

オレンジアクト
579 ALL ACT いいね！の数

f このページに「いいね！」　　➔ シェア

「いいね！」した友達はまだいません

オレンジアクト
約3ヶ月前

昨日1/21（日）、大田区池上会館にて「認知症への備えを考えるシンポジウム」を開催しました。150名を超える多職種の方々にご参加いただき、お陰様

私たちオレンジアクトは
啓発活動会員を
募集しています

啓発活動会員は
認知症に備える伝道者です

リクルートでAI研究所を立ち上げた石山氏が退職して取り組むのは「介護xAI」のスタートアップ

2017年5月09日 by *Ken Nishimura (@knsmr)*

| 2174 | List | 0 |

f シェア　　🐦 ツイート　　B! はてな

リクルートでAI研究機関「RIT（Recruit Institute of Technology）」を立ち上げたことで知られ
山洸氏が2017年3月に退職し、ベンチャー企業の**デジタルセンセーション**にジョインしたことを
TechCrunch Japanの取材の中で明らかにした。新たに取り組むのは認知症ケアの領域でAIを活用
る、という課題だ。

オッサン2人でやるとグッと来るが介護技法「ユマニチュード」はあたたかい

石山氏は東工大の大学院生だった頃から一貫して、「AIを社会課題に適用すること」をテーマ
た。ただ、研究よりも実践をと社会との接点の多いリクルートに入社。「リクルートは結婚、
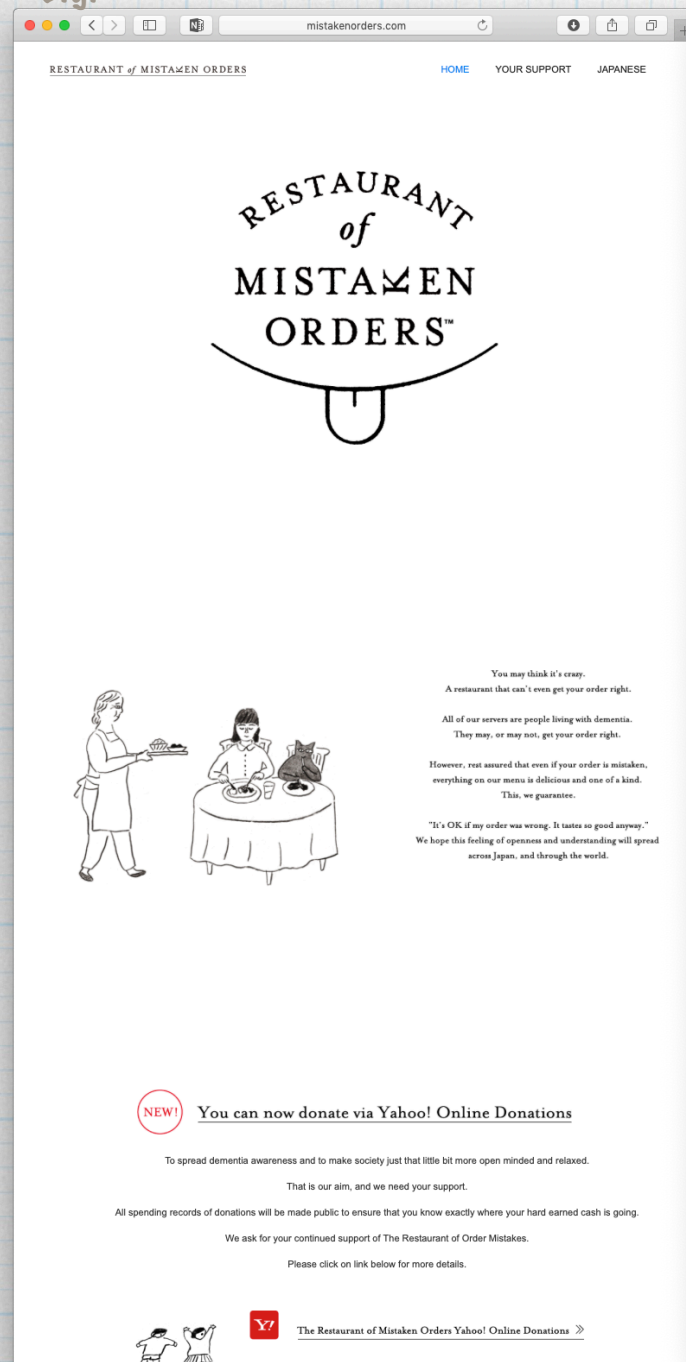職、引っ越しなど人生の節目節目で重要なところに関わっていて、関連する資産を持っていま

ユマニチュードの研修の様子（写真提供：デジタルセンセーション）

誰もが介護の当事者という時代、ユマニチュードを一般家庭に

An event might gain the motivation of living, but...

http://www.mistakenorders.com

But..., how to survive the remaining 364 days.

E.g.

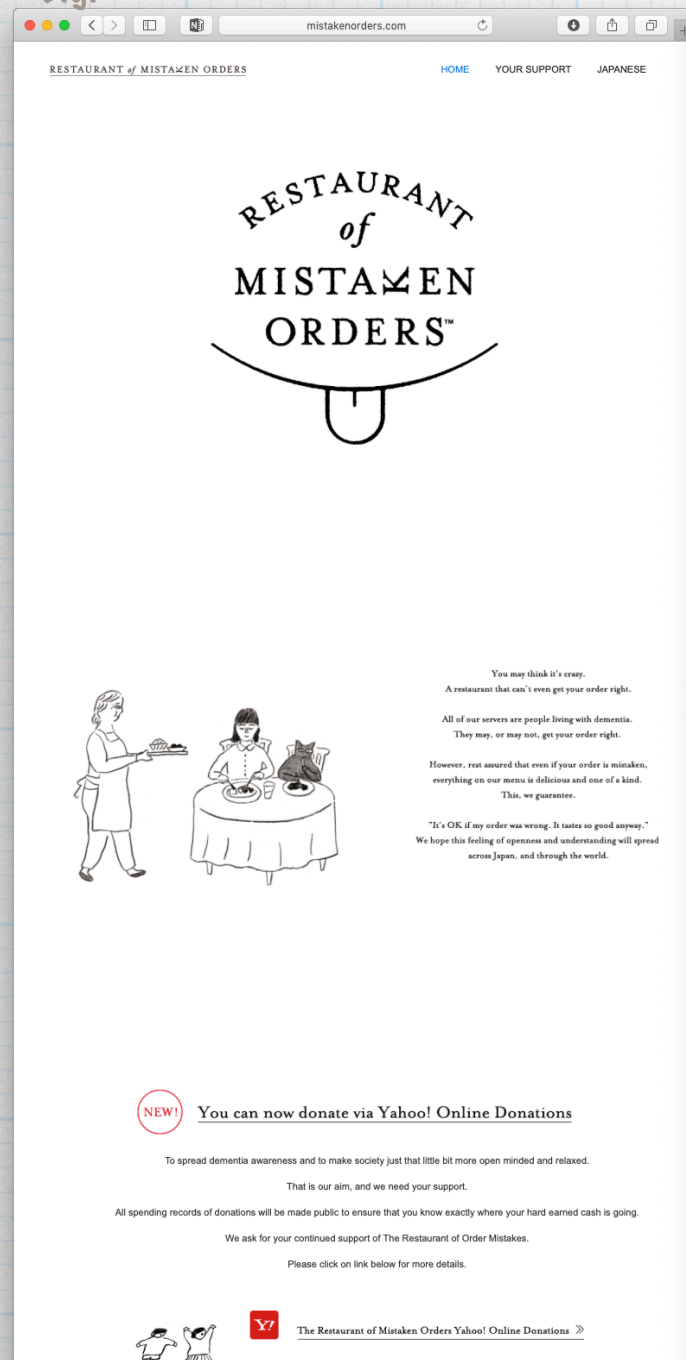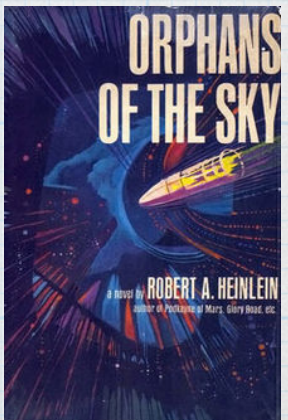How many days until Christmas? Santa says 30 sleeps!

It is also desirable to prepare 'events' to gain my motivation by myself.

How to prepare and notify each 'present' in my future?

Finally I will forget the 'Santa' is me.

As a researcher of biometrics, I would like to inspect the progression of my dementia and/or senile decay. How to make me analyze my data in future?

This will be an amazing adventure!

RESTAURANT of MISTAKEN ORDERS

HOME   YOUR SUPPORT   JAPANESE

RESTAURANT of MISTAKEN ORDERS™

You may think it's crazy.
A restaurant that can't even get your order right.

All of our servers are people living with dementia.
They may, or may not, get your order right.

However, rest assured that even if your order is mistaken,
everything on our menu is delicious and one of a kind.
This, we guarantee.

"It's OK if my order was wrong. It tastes so good anyway."
We hope this feeling of openness and understanding will spread
across Japan, and through the world.

NEW! You can now donate via Yahoo! Online Donations

To spread dementia awareness and to make society just that little bit more open minded and relaxed.

That is our aim, and we need your support.

All spending records of donations will be made public to ensure that you know exactly where your hard earned cash is going.

We ask for your continued support of The Restaurant of Order Mistakes.

Please click on link below for more details.

Y! The Restaurant of Mistaken Orders Yahoo! Online Donations »

Pre-Opening Event
We held a pre-opening event.
It doubled as training for our servers and staff.
A tweet by one of the visitors, made our restaurant go viral online.
June 2017

The Launch Event
Using funds from crowdfunding, the first Restaurant of Mistaken Orders
official launch was held at "RANDY" , a restaurant in the Roppongi area of Tokyo.
Media from Japan and overseas came to cover
this unique and inspiring initiative.
September 2017

Café of Mistaken Orders
We opened a limited period "Cafe of Mistaken Orders"
in collaboration with the Machida city municipal government.
September 2017

NEW! ## Restaurant of Mistaken Orders at "Toraya Confectioners"

A Restaurant of Mistaken Orders event was held at Toraya Confectioners in Shizuoka, Japan.
Local dementia patients worked the restaurant oor for us for this one day event. Many local visitors,
and visitors from afar enjoyed the experience and food on offer. May 2018

http://www.mistakenorders.com

少年少女世界SF文学全集
ロバート.A.ハインライン作
福島正実訳
さまよう都市宇宙船

ORPHANS OF THE SKY
ROBERT A. HEINLEIN

cf. https://en.wikipedia.org/wiki/Orphans_of_the_Sky

PARO

Therapeutic Robot

PARO Therapeutic Robot

PARO is an advanced interactive robot developed by AIST, a leading Japanese industrial automation pioneer. It allows the documented benefits of animal therapy to be administered to patients in environments such as hospitals and extended care facilities where live animals present treatment or logistical difficulties.

- PARO has been found to reduce patient stress and their caregivers
- PARO stimulates interaction between patients and caregivers
- PARO has been shown to have a Psychological effect on patients, improving thier relaxation and motivation
- PARO improves the socialiazation of patients with each other and with caregivers
- World's Most Therapeutic Robot certified by Guinness World Records

PARO is the 8th generation of a design that has been in use in Japan and throughout Europe since 2003.

PARO has five kinds of sensors: tactile, light, audition, temperature, and posture sensors, with which it can perceive people and its environment. With the light sensor, PARO can recognize light and dark. He feels being stroked and beaten by tactile sensor, or being held by the posture sensor. PARO can also recognize the direction of voice and words such as its name, greetings, and praise with its audio sensor.

PARO can learn to behave in a way that the user prefers, and to respond to its new name. For example, if you stroke it every time you touch it, PARO will remember your previous action and try to repeat that action to be stroked. If you hit it, PARO remembers its previous action and tries not to do that action.

By interaction with people, PARO responds as if it is alive, moving its head and legs, making sounds, and showing your preferred behavior. PARO also imitates the voice of a real baby harp seal.

PARO-Certification Classes Available

PARO-Certification Classes by Prof. Sandra Petersen, DNP, APRN, FNP/GNP-BC, PMHNP-BE, FAANP University of Texas at Tyler (spetersen@uttyler.edu)

PARO-Certification Classes by Randy Griffin RN MS HNC

PARO-Certification Classes by Corey Tague, Licensed Robot Therapist

PARO In The Scientific Literature

Changing the Culture for Dementia Care by Randy Griffin RN MS HNC

An innovative new book prescribing the path to a better way of life for people with Alzheimer's disease and other forms of dementia. Written by Randy L. Griffin, a recognized expert in the field of dementia care.

PARO Around The World

Germany: Beziehungen pflegen UG

Multimedia Features

Takanori Shibata shows PARO to Prime Minister Kan and President Obama during APEC 2010

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camh
The Healing Effects Of A White Seal

KALW
Robotic Seals Comfort Dementia Patients But Raise Ethical Concerns

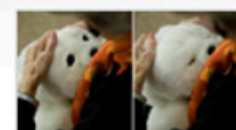The Star
Robot Gets Seal Of Approval

CBS
Obama Test Drives Japanese Technology

New York Times
A Soft Spot for Circuitry

PARO is widely accepted by many care workers. It seems quite useful for both patients and care workers.

I might be willing to play with PARO every day in future, but I am just wondering that the developer of PARO actually want to play with it in their old age?

There are many levels and variations of toys for each age of children. I believe there should be many levels and variations to my 'toys' of my old age.

The viewpoint is how to control the complexity of 'toys.'

http://www.parorobots.com

https://www.jstage.jst.go.jp/article/johokanri/60/4/60_217/_html/-char/ja

2018.5.22

中国「一人っ子政策」が招いた親と子の苛酷な現実

王青：日中福祉プランニング代表 ➕

👍 いいね！ 289　　シェア　　🐦 Tweet　　G+　　B!　　🖨 印刷　　A / A

「中国全国撮影コンテスト」で賞を取り、中国のメディアやＳＮＳで話題になっている河北省の張審軍さんの作品

中国政府は長年「一人っ子」政策を続けていたが、その結果、親の介護などの問題に直面する人が増え、社会問題化している。中国の経済は発展しているが、晩婚化・非婚化、少子高齢化が進展。かつての「一人っ子」政策が原因となって生じている、さまざまな現実を解説する。（日中福祉プランニング代表　王青）

2018.4.4 14:00

文字の大きさ　小 中 大 ━ 印刷

認知症発症を公表、長谷川和夫医師に聞く　患者だからこそ分かる「生」の尊さ

🐦 ツイート　反応　f シェア 2,503　G+　💬 おすすめ記事を受け取る

（1/3ページ）

認知症であることを公表し、「一日一日を大切に生きていく」と話す長谷川和夫医師（飯田英男撮影）

　高齢化の進行に伴い、認知症を発症する人は７年後に７００万人、高齢者の５人に１人に上ると予測されている。そうした中、認知症医療の第一人者で、昭和４９年に認知症を鑑別する「長谷川式簡易知能評価スケール（長谷川式認知症スケール）」を開発した医師の長谷川和夫さん（８９）が昨年、自らの認知症を公表した。発症後に感じたこと、伝えたいことなどを聞いた。（聞き手　加納裕子）

消えていく今

7秒の記憶と生きる
2017春

ナレーション
俳優 鈴木浩介

【放送】2017年3月12日（日）深夜1時35分〜2時30分

7秒後には『今』起きていることを忘れてしまう・・・そんな世界を想像できるでしょうか？
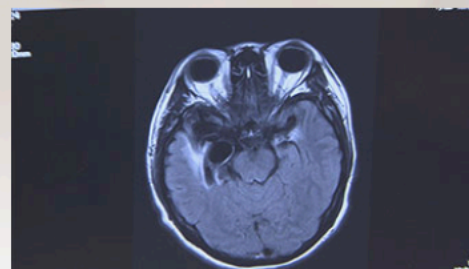
7秒前の記憶が次々に消えていく、そんな病と向き合いながら生きる、三重県の水田順子さん（４８）を４年間追い続けたドキュメンタリー番組です。

去年５月、第一弾として「消えていく今〜7秒の記憶と生きる〜」を放送し、ドキュメンタリー番組のコンクール「地方の時代映像祭」で選奨を受賞しました。その後も１年近く水田さんを追い続け、今回は第二弾となります。

水田さんは１０年前、ヘルペス脳炎を発症し、７秒ほどしか記憶することが出来なくなりました。いつでも、どこでも、出来事や友人との会話、相手

Historical Issues in Sleep Medicine

Did Immanuel Kant have dementia with Lewy bodies and REM behavior disorder?

Marcelo Miranda [a,*], Andrea Slachevsky [b], Diego Garcia-Borreguero [c]

[a] Department of Neurology, Clinica Las Condes, Chile
[b] Faculty of Medicine, University of Chile, Chile
[c] Sleep Research Institute, Madrid, Spain

ARTICLE INFO

ABSTRACT

Immanuel Kant, one of the most brilliant minds of the XVIII century and of western philosophy, suffered from dementia in his late years. Based on the analysis of testimonies of his close friends, in this report we describe his neurological disorder which, after 8 years of evolution, led to his death. His cognitive decline was strongly associated with a parasomnia compatible with a severe rapid eye movement (REM) behavior disorder (RBD) and dementia with Lewy bodies.

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Seeing the First-Person Perspective in Dementia: A Qualitative Personal Evaluation Game to Evaluate Assistive Technology for People Affected by Dementia in the Home Context

Sandra Suijkerbuijk, Rens Brankaert ✉, Yvonne A.W. de Kort, Liselore J.A.E. Snaphaan, Elke den Ouden   Author Notes

■ Split View   PDF   ❝ Cite   🔑 Permissions   ◀ Share ▾

Abstract

The number of people with dementia is increasing rapidly. As a result, care has to be extended towards the home context. This increases the burden on both informal caregivers and persons affected by dementia. To support these people more effectively, technology could play an important role. However, it proves to be challenging to involve them in user-centred research with this purpose. Therefore, there is a need for more research approaches that gather first-hand experiences with technology from people with dementia directly. This research presents a personal evaluation game method, used in the home context to study assistive technology as experienced by its users. In parallel, a questionnaire was applied to explore the difference in data and experiences between both methods. In the study, 12 households participated, each with a person diagnosed with dementia and a partner still living with them as their informal caregiver. During a period of 3 weeks, participants experienced a dynamic lighting armature designed to improve the sleep–wake cycle and

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Outline

Highlights
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Keywords
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Background and scope of this study
Method
Discussion of results
Limitations
Conclusion
Acknowledgements
Appendix A. – List of original and generalized statements
References

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Figures (3)

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- Table 1
- Table 2
- Table A1
- Table A2

Literature Review

Assistive technology for independent living with dementia: Stylized facts and research gaps

Michael Bächle [a] ⊠, Stephan Daurer [a] ⊠, Andreas Judt [b] ⊠, Tobias Mettler [c] ⊠

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Highlights

- Privacy is important but may be overruled by other social values.

- Participatory design is essential during the development stage.

- Assistive Technology significantly support the work of caregivers.

- The social dimension of Assistive Technology requires more exploration.

- Evidence of utility and cost effectiveness of Assistive Technology can be demonstrated in different contexts.

Abstract

Background

Recent advancement in assistive technologies (AT) have fueled the debate on new, IT-reliant ways of providing cure and care of dementia. Still the impact on practice has been little. With this paper, we want to find out to which extent current studies have discussed the impacts of AT for dementia.

Methods

We conduct a scoping review of the literature on impacts of AT usage in the context of dementia. We search disciplinary (ACM, EMBASE, PsycInfo) as well as cross-disciplinary

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Alter, Volume 3, Issue 2, 2009, pp. 123-137
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