# A workflow that most probably isn't yours

Ioannis Kosmidis

Reader in Data Science

The Alan Turing Institute & University of Warwick



ikosmidis.com

IKosmidis

### A workflow that most probably isn't yours

My workflow principles

design, tools, implementation

Modern tools and ecosystems prescribe workflows instead of letting **you** choose tools that fit the way **you** like to work e.g. Outlook calendar invites (email inbox as an agenda), Google calendar (tasks/events)

## Life of an academic

Research (incl software development) Proposals **Reviews and feedback** Teaching Examinations Administration Advising Conferences, workshops & seminars Self-development Outreach and communication **Relaxation & Reflection** 

#### Proposals

#### Outreach and communication

Research

Advising

Self-development



Reviews and feedback

Relaxation & reflection

Conferences, workshops & seminars

Teaching

Examinations

Administration

#### Proposals

#### Outreach and communication

Advising

Research



Relaxation & reflection

Self-development

Conferences, workshops & seminars

Teaching

Examinations

Administration

#### Proposals

#### Outreach and communication



Reviews and feedback

Relaxation & reflection

Conferences, workshops & seminars

Teaching

Examinations

Administration

## What does a workflow do?

Manage daily input

ideas, notes, meetings, errands, correspondence, hands-on work, breaks, relaxation

Handle commitments

collaborations, conference/journal deadlines, editorial work, administration, ...

Keep track of progress and self-development progress with project/software/thesis, waiting others to do stuff, self-learning, ...

Set goals short-, mid-, long-term

## Why have it?

- Make time count
- Prioritize and focus
- Form habits
- Minimize stress

### Achieve goals

### Assumptions

Brain's noise-to-signal ratio is high at least higher than one would hope...

#### Human memory ultimately fails as an agenda

No workflow is good for everybody & forever personal circumstances & work requirements, different priorities & problem solving strategies

#### Parsimonious workflows are the best

workflows taking long time to operate, complicated information retrieval, bottlenecks

## Definitions

#### Todo

something that needs completion, you have a plan for

e.g. waldi CRAN release, improved estimation in LMM, YRM seminar, kitchen renovation, ...

#### Task

a natural and manageable next step in a todo, best described starting with a verb e.g. write vignette, carry out simulation study, write introduction, buy sink

**Context** where todo items arise e.g. home, work

## Workflow processes

Categorize, refile & retrieve

e.g. distinguish between todo types (research, admin) and contexts, etc.

### Prioritize

### Manage time

**t** Consolidate activity







### Collects signal (and noise) from your brain & others

e.g. ideas, tasks, errand, meetings, notes, email, impromptu visits, phone calls, ...

#### Commit entries to it

during the day

Entries from **inbox** are categorized to **workbench** or **someday** end of the day

Needs to be accessible; not necessarily tidy

Tasks	
Meetings	
○ MEETING with Jake Pegden	:meeting:
○ MEETING with Asma	:meeting:
○ MEETING with Nicola	:meeting:
Notes	
○ NOTE Priorities	:note:
O NOTE Impact evidence and work	:note:
O NEXT Respond to PhD Supervision in Statistics	
O NOTE Principles for PhD supervision	:note:
○ NOTE Automatic replies	:note:
O NOTE Warwick-Turing Post advert 2017	:note:
O NOTE House hunting emails	:note:
○ NOTE Beta regression references	:note:
O NOTE brglm2 examples	:note:
◎ Ideas	
Breaks     Areaks     Are	
O BREAK for lunch	:break:
◎ Emails	
○ NEXT Respond to <u>Re: reference</u>	
<ul> <li>NEXT Respond to Provisional list of roles, green=updated</li> </ul>	



### Workbench

Context-specific and dedicated to ongoing projects

Entries from **inbox** are categorized to **workbench** daily until project completion, cancellation or abandonment

Entries from **someday** are moved to **workbench** monthly, as necessary

Entries are frozen/cancelled/prioritized according to goals fortnightly, as necessary

Administration	:@work:admin:
• Advising	- :@work:
Reviews and feedback	
Software	:@work:software:
● Proposals	:@work:
Research	:@work:research:
Teaching     Teaching	:@work:teaching:
Examinations	:@work:
Conferences, workshops and seminars	:@work:seminars_workshops:
:PROPERTIES:	
○ TODO Seminar series: Algorithms & Computationally Intensive	Inference
O TODO Conference: MathSports International 2019	
○ TODO Workshop: WHOA-PSI 4	
○ TODO Conference: useR! 2019	
○ TODO Talk: Ioannis Kosmidis at YRM seminar	
○ TODO Conference: RSS 2019 conference	
○ TODO Workshop: Greek Stochastics lambda	
O TODO Lunchtime RSE Talks presentation	
<ul> <li>TODO Research visit: University of Toronto</li> </ul>	
<ul> <li>Ad-hoc meetings</li> </ul>	:@work:
<ul> <li>Relaxation and routine</li> </ul>	:@work:routine:
<ul> <li>Self development</li> </ul>	. gwork i rout me
<ul> <li>Communications</li> </ul>	:@work:comms:
<ul> <li>Claims</li> </ul>	
• Lists	
	abaratan ananada

Workflow

:hanging\_around:...





Ideas & potential projects that have not started yet and will not start anytime soon

Entries from **inbox** are categorized to **someday** daily, as necessary

Entries from someday are moved to workbench monthly, as necessary

Entries are reviewed according to goals monthly, as necessary



### Goals

Entries are mid- and long-term goals monthly, annual, 3 years

Review fortnightly

freeze/cancel/prioritize entries in workbench

Review monthly move entries from someday to workbench adjust goals, as necessary



Completed and cancelled entries are refiled in **archive** fortnightly

Same structure as workbench

Annual archives

## Entry types

### TODO

project, e.g. a provisional paper/R package title, YRM organization states: INACTIVE, CANCELLED, DONE

### NEXT

next task towards a todo

states: CANCELLED, DONE

#### WAITING

for something to happen/somebody to do something, typically towards a todo

## Entry types



something to retrieve later (thought), a resource (e.g. reference, software tool)

### IDEA

e.g. idea for research, a seminar series, a book club, ... typically it will be labelled as silly, but sometimes it becomes a todo

### MEETING

### BREAK

## Typical workflow hierarchies

TODO	IDEA
NEXT	NOTE
NOTE	IDEA
WAITING	G WAITING
MEETIN	G
IDEA	
CANCEL	LED

*O	TODO ST329 module 2018-2019	
*	MEETING Teaching ST329 - Topics in Statistics (R0.04)	
*	MEETING Teaching ST329 - Topics in Statistics (MSB0.08)	
*	MEETING ST329 revision lecture	:meeting:
*	MEETING ST329 exam	:meeting:
*	MEETING with Paul on peer observation	:meeting:
*	DONE [#A] Fill in Cohort Feedback form for ST329 <b>:@warwick:short</b>	_dash:teaching:
*	DONE [#A] Prepare ST329 lecture	
*	DONE [#A] Record 2018-2019 dates for ST329	
*	DONE [#A] Pop in Student Support to check ST329 exam requirement	: :errands:
*	DONE [#A] Prepare ST329 exam	
*	DONE [#A] Prepare peer-review form for ST329	
*	DONE [#A] Collate ST329 exam paper	
*	DONE [#A] Moderate st329 exam	
	DONE [#A] Submit st329 exam	
	NOTE about new examination arrangements	:note:
	DONE [#A] Prepare ST329 revision class	
	NEXT [#B] Mark and moderate exams	
*	CANCELLED [#A] ST329 solutions	

## Timestamping, keeping time and tagging

All my entries are timestamped

for being able to recover project timelines if needed

### Keep time for all NEXT and MEETING entries in workbench how much time I spend doing X?

Tags

@work, @home, comms, seminar, note, reviewing, software, ...

### Implementation

#### 4 notebooks, 1 agenda, 1 stopwatch

1 notebook for each of inbox, workbench, someday, goals; update agenda daily

#### emacs

#### org-mode, agenda views, mu4e, workgroups2, helm

Switching between interfaces takes me long, so I learned to use emacs for the majority of things

R and (R-)Markdown (any volunteers to work with me on this?) workflow as an R package, possibly with an Rstudio plugin

...

### Advice

Offload your brain in a trusted system and focus on what is important

Your mail inbox is not a task list an email is not a task; responding/reacting to it is

Teach yourself to speak to yourself Find the verbs for your tasks

Think of the workflow that suits you and find the tools do not let the tools decide for you

Manage work according to priority and available capacity



Org mode and task management systems

Getting Things Done: The Art of Stress-free Productivity, David Allen