

SIMpill – Plone Saves Lives!



Developing Plone into a real time compliance management system – it's *SIMpill*

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SIMpill

UPFRONT  SYSTEMS

Why improve compliance?

- Too many people do not take their medication as prescribed.
- Useful metric drawn from one study in the USA: 10% of hospital admissions are due to non-compliance. These admissions cost \$15.2 billion and affect 3.5 million patients.
- It is lifesaving. Non-compliance can lead to drug resistance.

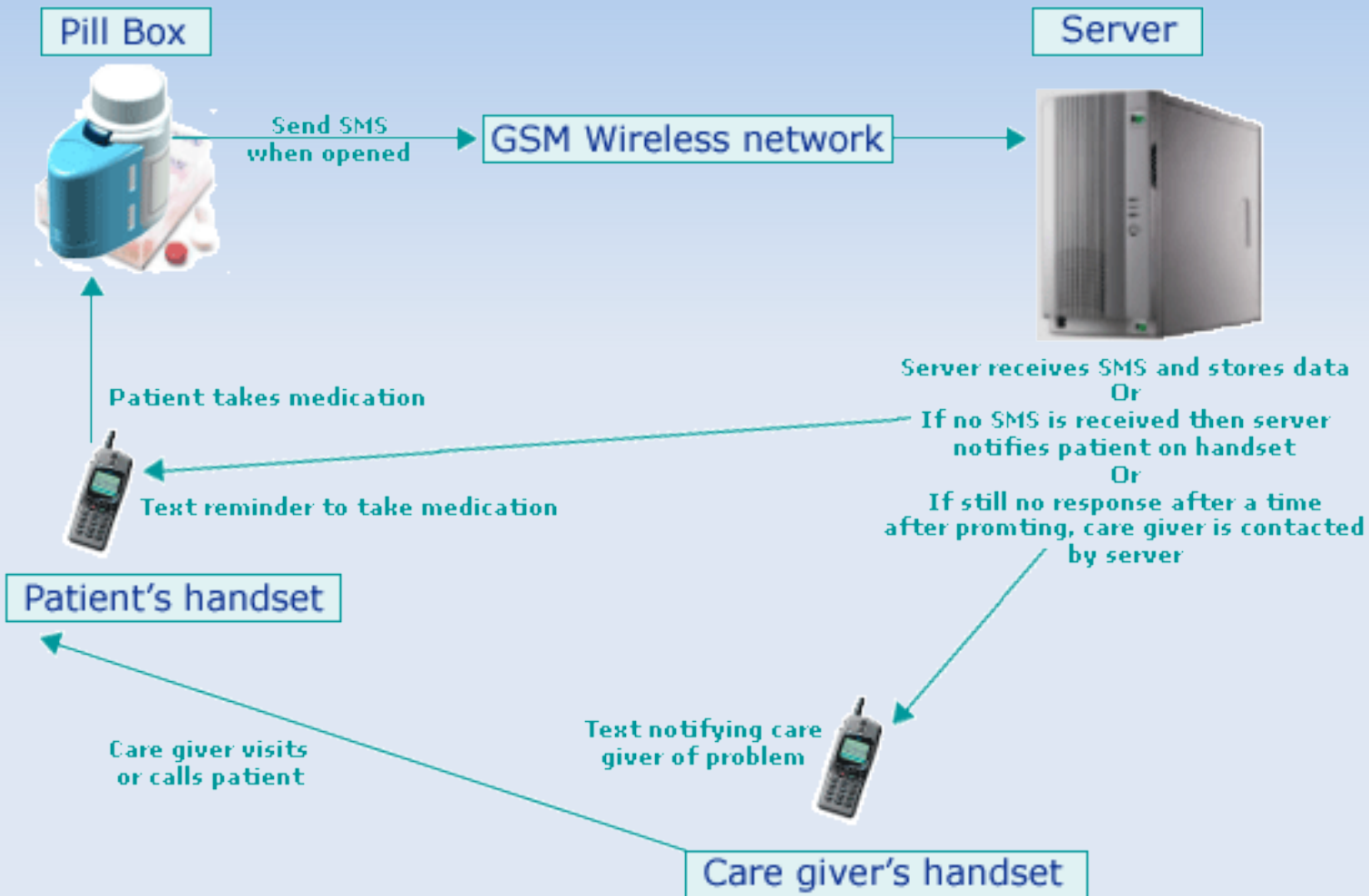
Why use Plone?

- Has all the necessary infrastructure for a portal e.g workflow, per-object security, auto-generated forms. We built a complete system in less than 3 months
- Zope's role-based security model was ideal for the interactions we planned: Client, Dispenser, Patient, Administrator
- Professional user interface saves lots of design time
- Did I say rapid prototyping in less than 3 months?

SIMpill codebase

- Very simple data model. Classes include Patient, Prescription, Funder, Dispensary, SIMpillDevice, MedicationEvent
- Very complicated event classification and reminder system remains maintainable and understandable in Python
- Reportlab and Dirk Datzert's RenderableCharts for charts
- Hybrid database: ZODB for patient organisation, SQL for medication events.

How does SIMpill work?



SIMpill stats

- More than 20 pilots running in various regions including the US, Europe and Africa
- More than 1000 patients have participated in pilots launched in the last 2 years
- At 60000 medication events recorded it is the largest record of compliance data in the world
- Projected to have 10000 patients by the end of next year and more than a 100000 patients by 2012

SIMpill in Plone: Patient list



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edit contacts patients drugs security compliance chart

The Geneva Project

▲ Up one level

add new patient

	fullname ▲	mobile phone	simpilldevice	status	non-compliance factor	last intake
	Jim Brown		7	active	100	
	p sg14		28000014	active	75	Oct 10, 2006 7:22 pm
	p sg20		28000020	active	68	Oct 14, 2006 3:29 pm
	p sg7	+31	28000007	active	64	Oct 11, 2006 3:12 pm
	p sg4		28000004	active	59	Oct 14, 2006 4:27 pm
	p sg11		28000011	active	59	Oct 14, 2006 3:02 am
	p sg10		28000010	active	58	Oct 15, 2006 11:36 am
	p sg24	+31	28001674	active	57	Oct 11, 2006 7:20 pm
	p sg9	+31	28000009	active	55	Oct 14, 2006 3:07 am
	p sg1		28000001	active	54	Oct 14, 2006 3:07 am
	p sg21		28000021	active	50	Oct 14, 2006 1:26 pm
	p sg2		28000002	active	45	Oct 13, 2006 6:20 pm
	p sg5		28000005	active	45	Oct 14, 2006 1:49 pm
	p sg12		28000012	active	45	Oct 14, 2006 8:39 am
	p sg15		28000015	active	43	Oct 15, 2006 10:35 am
	p sg18		28000018	active	40	Oct 15, 2006 10:39 am
	p sg8		28000008	active	38	Oct 14, 2006 4:12 pm
	p sg19		28000019	active	38	Oct 14, 2006 11:20 pm
	p sg13		28000013	active	36	Oct 15, 2006 9:12 am
	p sg16	+31	28000016	active	36	Oct 15, 2006 9:15 am
	p sg3		28000003	active	31	Oct 15, 2006 11:27 am

Done

www.simpill.com

Patient compliance

edit

contacts

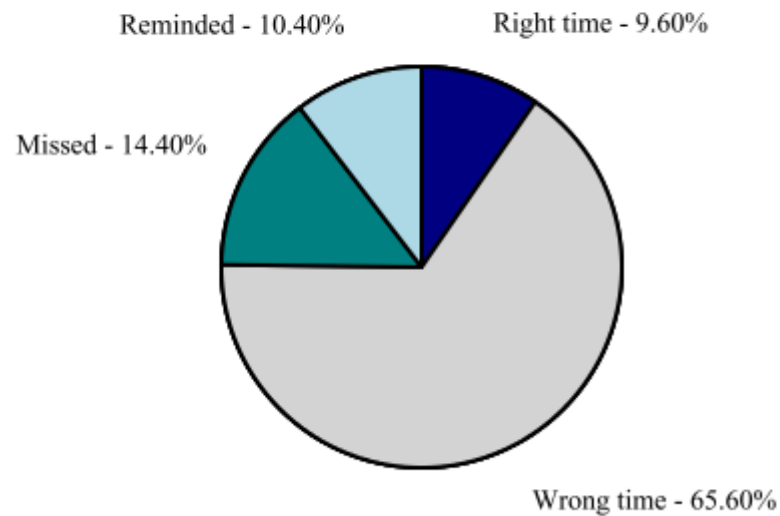
patients

drugs

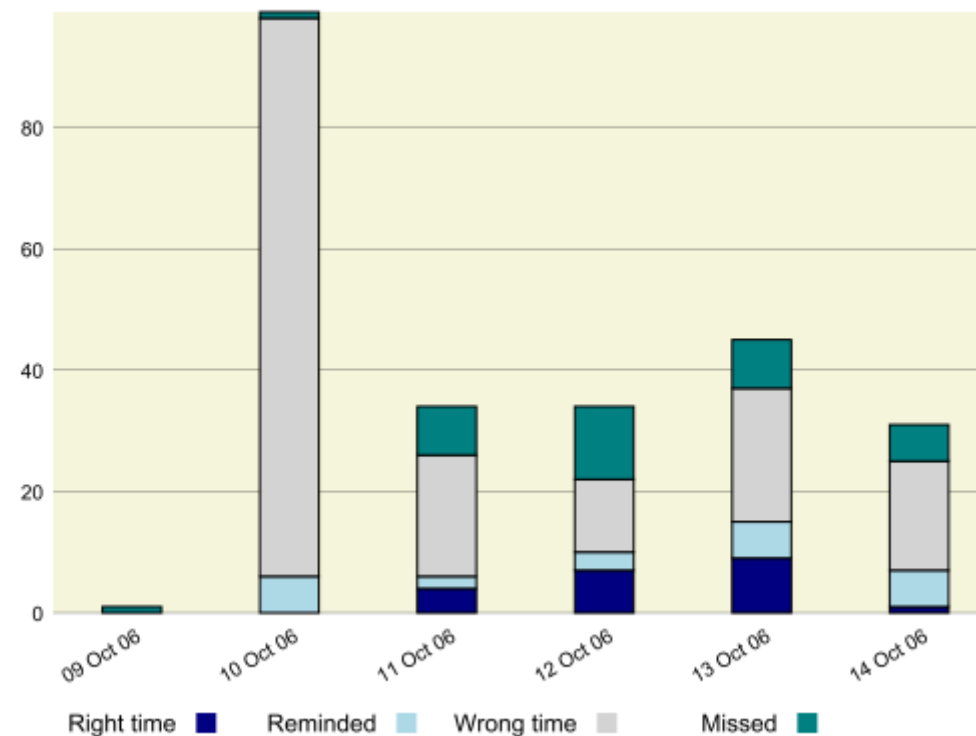
security

compliance chart

Overall compliance

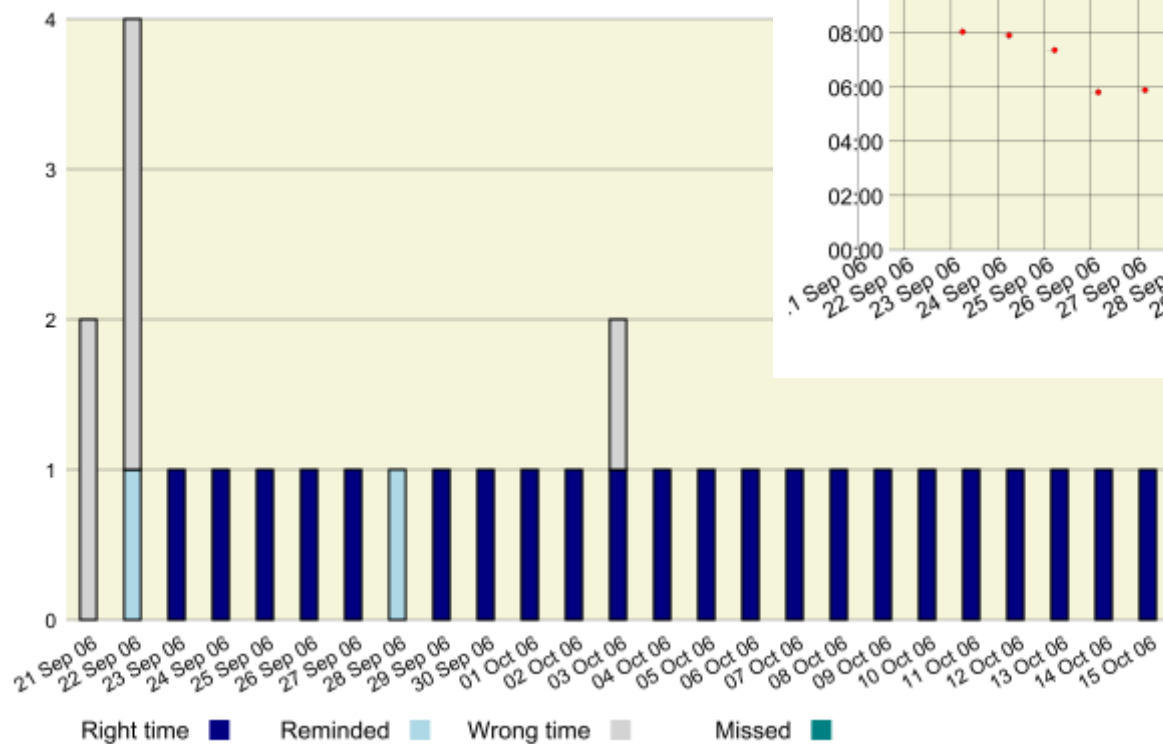
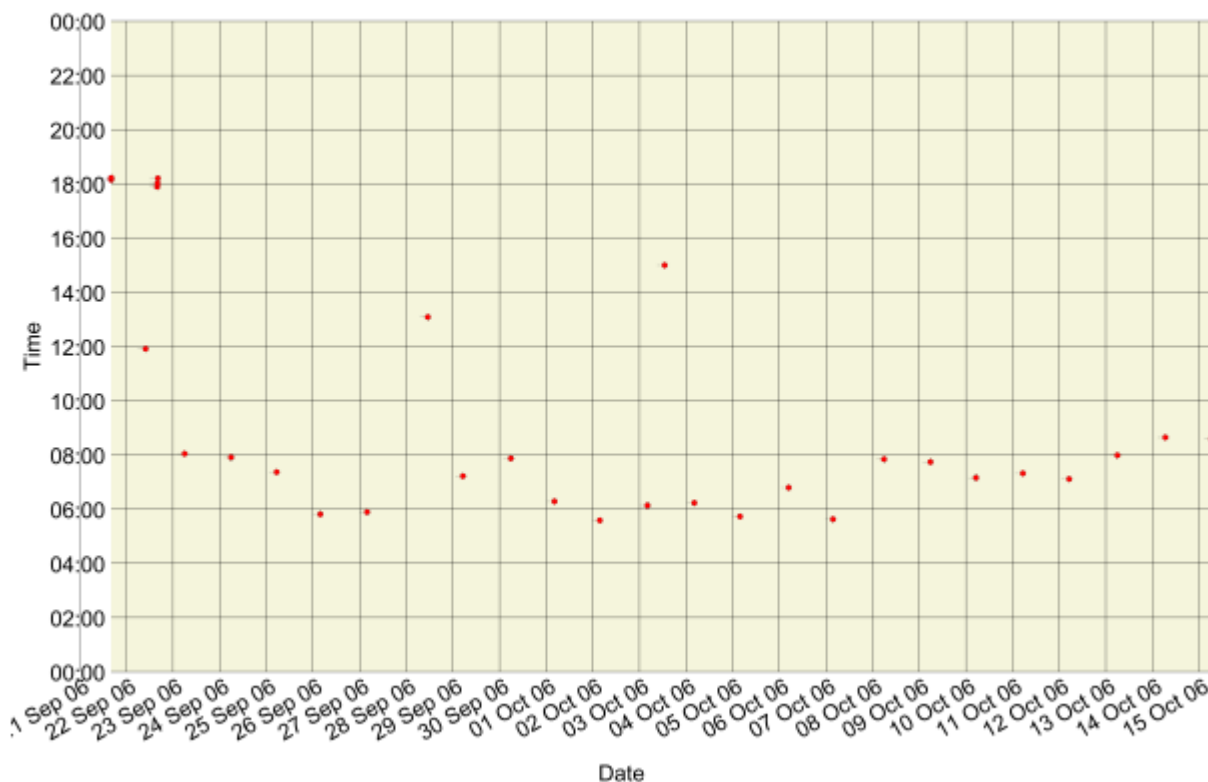


Compliance history



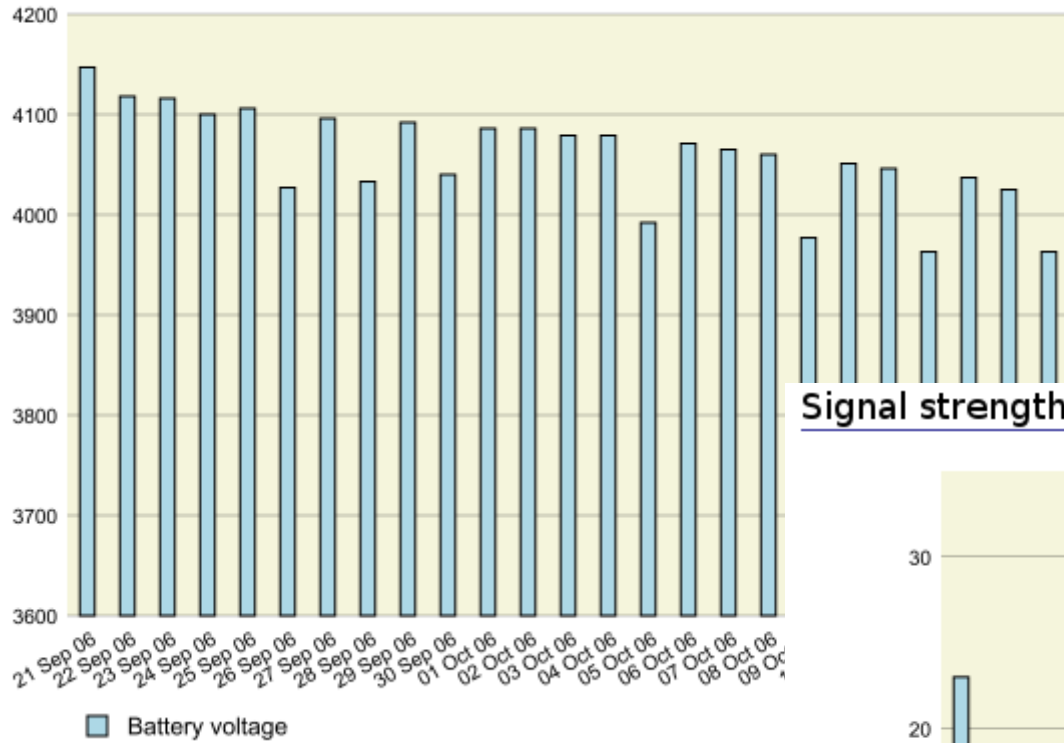
Patient medication events in real time

Compliance history



SIMpill device status

Battery voltage



Signal strength

