



UNIVERSITY OF  
CAMBRIDGE

Systems Research Group

Amir Chaudhry, Anil Madhavapeddy,  
Richard Mortier, Jon Crowcroft  
(and many others)

A cohesive set of tools and **software infrastructure** to **build applications** to provide end-users with **life-long control** of their **networks and personal data**.

[nymote.org](http://nymote.org)

[ocaml.io](http://ocaml.io)

## Infrastructure

Our approach is to create secure, robust and **open-source** infrastructure that allows us to create distributed systems that anyone can build on. This toolstack must deal with the issues of deployment, sync and connectivity.



### Mirage OS

A library OS to create **unikernels** which can use the same code-base to deploy software on both the public cloud and embedded devices, like raspberry pis.



### Irmin

A new kind of **library database**, based on the principles of Git, meaning that all history is tracked and can be moved between devices with ease.



### Signpost

Improve **end-to-end connectivity** between edge devices without requiring complex configuration. We use DNS updates to provide a constant 'pointer' to your growing number of gadgets.



### OCaml

A robust, strongly-typed, **systems programming** language that supports functional, imperative and object-oriented styles.

## Applications

With the new infrastructure, we can build robust applications that will push towards more **decentralised** systems. With the right foundations in place, the focus can shift to improving the functionality and extensibility of everyday tools we have come to rely on.



### Mail

Make it easy for an end-user to run their own email server. Developers can then write software to interact directly with that server to enhance email in ways we cannot right now.



### Contacts

Treat your personal address book as the ultimate social network and make it core to your online interactions. This allows the possibility to incorporate private data to enhance other services without losing ownership.



### Calendar

Party invites via social networks and meetings organised at work all need to find their way to one place. With a system under the user's control we can build new features to learn and predict activity without privacy leaks.