

hip



HEALTH INNOVATION PLATFORM



HealthHackDay 2014

www.healthinnovationplatform.se
christian.hilmersson@callistaenterprise.se

GET /me HTTP/1.1

- ❖ Christian Hilmersson
- ❖ Consultant at Callista Enterprise
- ❖ Work for Stockholms Läns Landsting as an architect and sub team lead mainly in the projects Journal på Nätet and Mina vårdflöden
- ❖ Recent involvements: Health innovation platform, API Gateway, Form engine, Subscription service for HälsaFörMig, Aggregating Services in the National Service Platform NTjP

HIP Collaboration



❖ My Healthcare Flows

❖ Stockholms Läns Landsting



❖ VINNOVA



❖ Karolinska Institutet



❖ And more...

A platform for innovation

- ❖ A set of tools and re-usable services
- ❖ Easily accessible documentation
- ❖ Opens up for new actors and markets
- ❖ Aim to drive innovation

HIP is a work in progress

- ❖ APIs not yet available in production
- ❖ Development environment
 - ❖ BETA/Early access for Health hack day
 - ❖ Both static and dynamic mock services
- ❖ Comments and remarks from the community are welcome and encouraged!

Three categories of APIs

- ❖ Open data APIs (HIP)
- ❖ Patient bound data APIs for third parties (HIP)
- ❖ Healthcare internal APIs (NTjP)
- ❖ HIP makes two categories available for third party developers

Open data APIs

- ❖ Serves public data
- ❖ Available without authentication/authorization
- ❖ E.g. Information from the HSA catalog

APIs for public data

HSA information

Electronic directory containing contact information for clinical units and functions within Swedish municipalities, county councils and private healthcare providers.

[Read more](#)

National Patient Survey

Healthcare providers within primary care are monitored annually via questionnaires sent out to a selection of their patients.

[Read more](#)

My Healthcare Contacts

Patients' contacts with local family doctors and GP receptions. Including for example, visit dates, type of contact, patient age and gender.

[Read more](#)

Patient bound data APIs for third parties

- ❖ Services bound to a certain citizen, e.g. appointment scheduling etc
- ❖ Permission needs to be granted by the citizen
- ❖ Solved using OAuth 2.0 in the API Gateway

An **open protocol** to allow **secure authorization** in a **simple** and **standard** method from web, mobile and desktop applications.

[Read the OAuth 2 specification »](#)

The OAuth 2.0 authorization framework enables a third-party application to obtain limited access to an HTTP service.



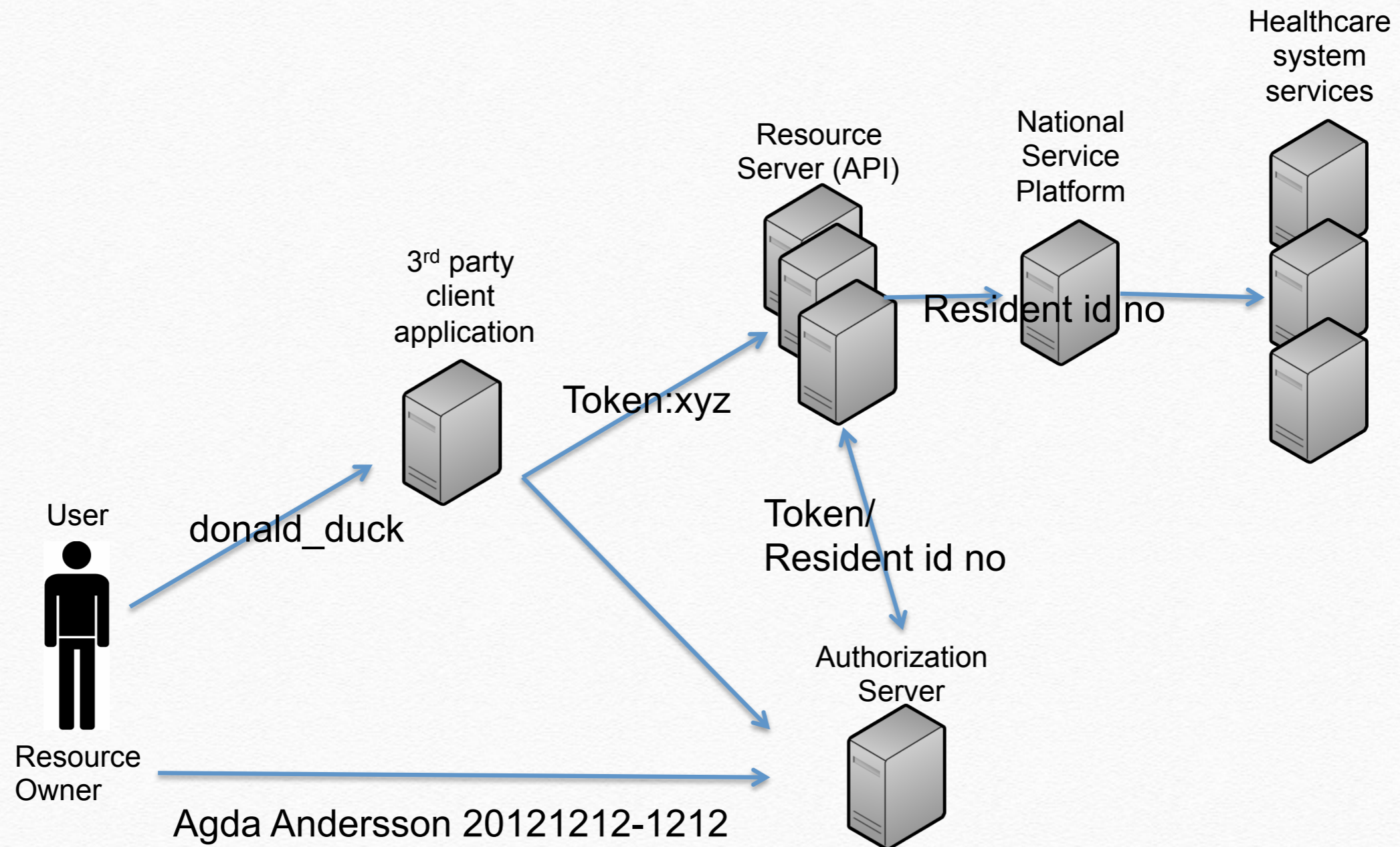
- ❖ Strong authentication of citizens and API clients

OAuth 2.0



- ❖ Possible to delegate authorization using tokens
 - ❖ I.e. without giving out a password
 - ❖ Twitter, Facebook, Google et.c.
- ❖ Possible for the citizen to be anonymous in some cases
 - ❖ E.g. using an alias in the third party app
 - ❖ But still authenticated as him/herself against the APIs
 - ❖ Generates a non-identifiable token representing the citizen's authorization

Roles & Infrastructure



Site demo

❖ <http://www.healthinnovationplatform.se>

Form engine

- ❖ Back-end for form management
- ❖ Citizen services available through APIs
(<http://healthinnovationplatform.se/utvecklare/rest-api/>)
- ❖ GUI for care givers to create form templates (<http://formengine.healthinnovationplatform.se>)

Communication between patients and care givers

- ❖ Care givers create forms and send them electronically to patients
- ❖ Patients complete forms in their computers, tablets or smartphones
- ❖ The care giver can import the patients' answers directly to their health care systems

The form templates are created by the care givers

FORMULÄRTJÄNST

1 SKAPA 2 STARTSIDA 3 BYGG 4 TACKSIDA 5 SLUTFÖR ?

SIDA

Hälsodeklaration

AVSNITT - KLUCKA HÄR FÖR ATT LÄGGA TILL ETT OBJEKT

Levnadsvanor

OBJEKT: RADIOKNAPPAR

Röker du

Ja

Nej

OBJEKT: RADIOKNAPPAR

Hur mycket? - Följdfråga till Röker du

1-5 cigaretter/dag

6-10 cigaretter/dag

mer än 10 cigaretter/dag

Objekt

Inställningar

Frågerubrik ⓘ

Hur mycket?

Frågetext ⓘ

Fyll i en text.

Frågan är obligatorisk ⓘ

Svarsalternativ ⓘ

1-5 cigaretter/dag
6-10 cigaretter/dag
mer än 10 cigaretter/dag

Följdfråga till ⓘ

Röker du

Ja

Nej

In development on API gateway

- ❖ The form service is available in a development environment on API gateway
- ❖ It is possible to create and use own form templates
- ❖ Forms can be created and completed via API's from own applications

Demo

FORMULÄRTJÄNST

Skapa nytt formulär



Välkommen till Formulärtjänsten

Här kan du skapa formulär. Formulären skapas och skickas ut elektroniskt och besvaras anonymt i mobil, läsplatta eller via dator. Du kan välja att utgå från ett befintlig formulär eller skapa ett nytt från början

Namn ▲	Typ av formulär	Status
Valformulär	Test	Utkast
Hälsodeklaration	Test	Klar för utskick

Links

HIP

<http://healthinnovationplatform.se>

Form service

<http://formengine.healthinnovationplatform.se>

Tutorial on patient bound APIs

<https://github.com/chilmers/cadec-healthcare-api-tutorial>

OAuth 2.0

<http://oauth.net/2>

