Internet services in iPhone Apps

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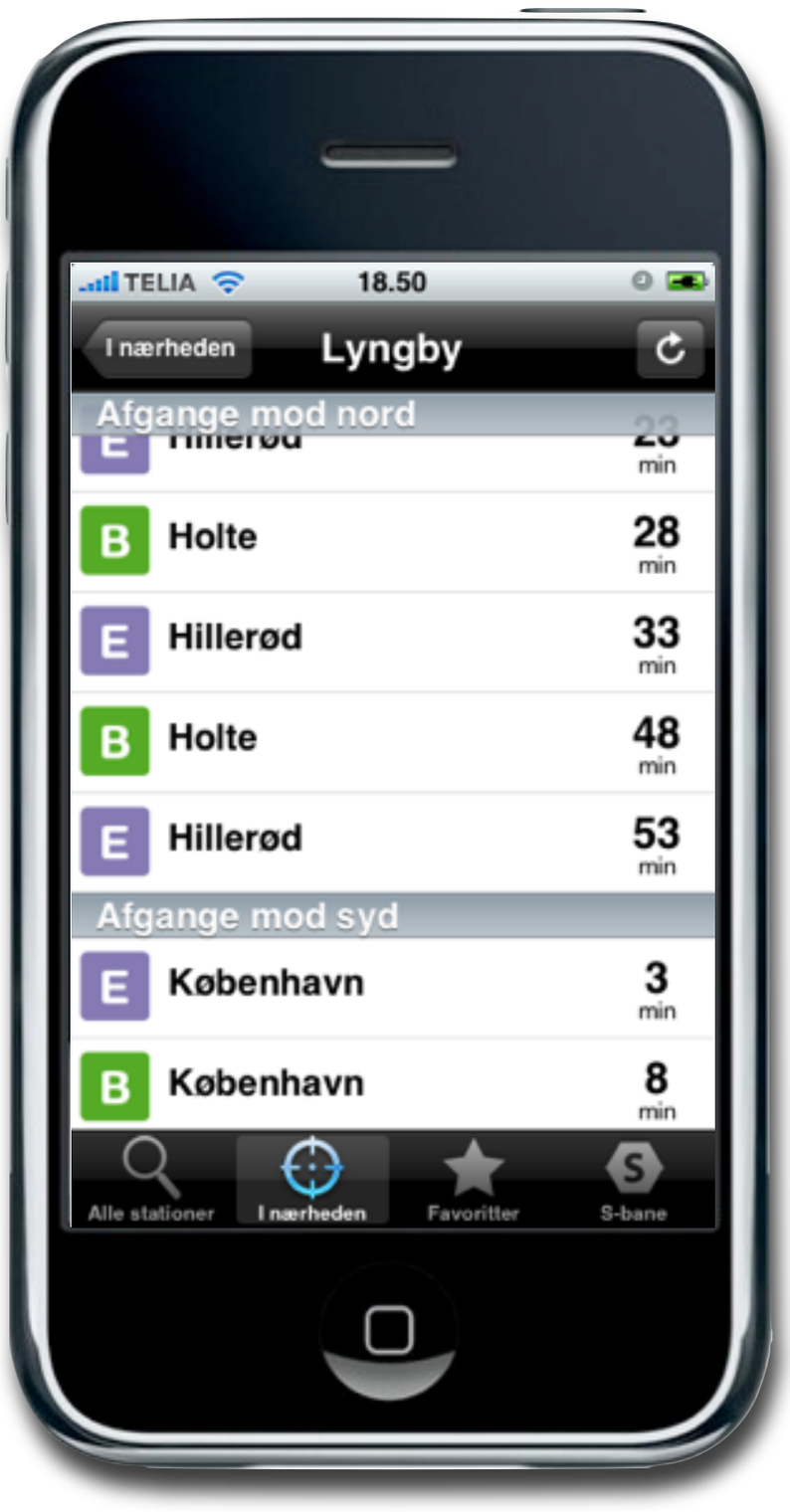
GeekNight Program

- My experiences with the iPhone, the App Store and my apps.
- URL requests and fetching data asynchronously.
- Parsing XML and JSON. Interacting with SOAP web services.
- Using 3rd party API's. Twitter, Youtube.
- No API? Scrape!
- Building a scaleable backend.
- Questions? Show & Tell opportunity.

About Me

- M.Sc. EE from DTU in 2 weeks. Now finishing my thesis on error-correcting codes for 100 Gbit/s optical transport networks.
- Freelance iPhone developer 1+ year.
- Co-Founder of Shape Aps. Developing iPhone/iPad applications.

Toginfo



shape

Expenditure

expenditureapp.com

shape

DK App Store

- Hit lists are everything.
- One year ago the #1 selling app would have ~100 sales per day. Now it will sell 300-450 copies per day.
- My #1 best selling apps:
  - Toginfo Pro
  - Rejseinfo
  - CPH Flights
  - Radioen (My brother's app)

Fetching Data the Right Way

- NEVER block the main thread when loading internet data.
- Use NSURLConnection and its delegate protocol.
- Consider using a wrapper like EGOHTTPRequest (from ‘enormego’ on github)

Processing Data

- Many good libraries for processing various data formats.

- TouchJSON & TouchXML are simple and fast parsers available at http://code.google.com/p/touchcode/

- JSON is generally preferred over XML because of the smaller overhead.

3rd party SDKs

- Some popular services even have iPhone SDKs for their APIs.
- No need to manually handle HTTP requests and process data.
- Youtube, Facebook, GeoAPI.
- Twitter: use e.g. MGTwitterEngine

SOAP webservices

- No built-in support.
- Manually create HTTP POST requests.
- Parse response with e.g. TouchXML.
- Alternatively use wsdl2objc to generate Obj-C classes from a wsdl schema.
  http://code.google.com/p/wsdl2objc/

SOAP Example

```
NSString *serviceName = @"myDemoService", *actionName = @"sayHelloWorld";
NSString *soapReqBody = @"<soap:Envelope><soap:Header>....";
NSURL *url = [NSURL URLWithString:[NSString stringWithFormat: @"https://
www.myserver.com/service/%@", serviceName]];
NSMutableURLRequest* request = [NSMutableURLRequest requestWithURL:url];
 [request addValue:@"text/xml; charset=utf-8" forHTTPHeaderField:@"Content-Type"];
 [request addValue:actionName forHTTPHeaderField:@"SOAPAction"];
 [request setHTTPMethod:@"POST"];
 [request setHTTPBody:[soapReqBody dataUsingEncoding: NSUTF8StringEncoding]];
NSURLConnection *con=[[NSURLConnection alloc] initWithRequest:request
delegate:self];
```

No API? Scrape!

- NSScanner class is very useful for extracting data from semi-structured data.
- From SDK version 3.2 Regular Expressions can be used.
- Don't use HTML comments for finding data! Telia's EDGE gateway will process HTML and remove comments to save bandwidth.

NSScanner Example

Get temperature in Kastrup from dmi.dk/dmi/danmark/regionaludsigten/kbhnsj.htm

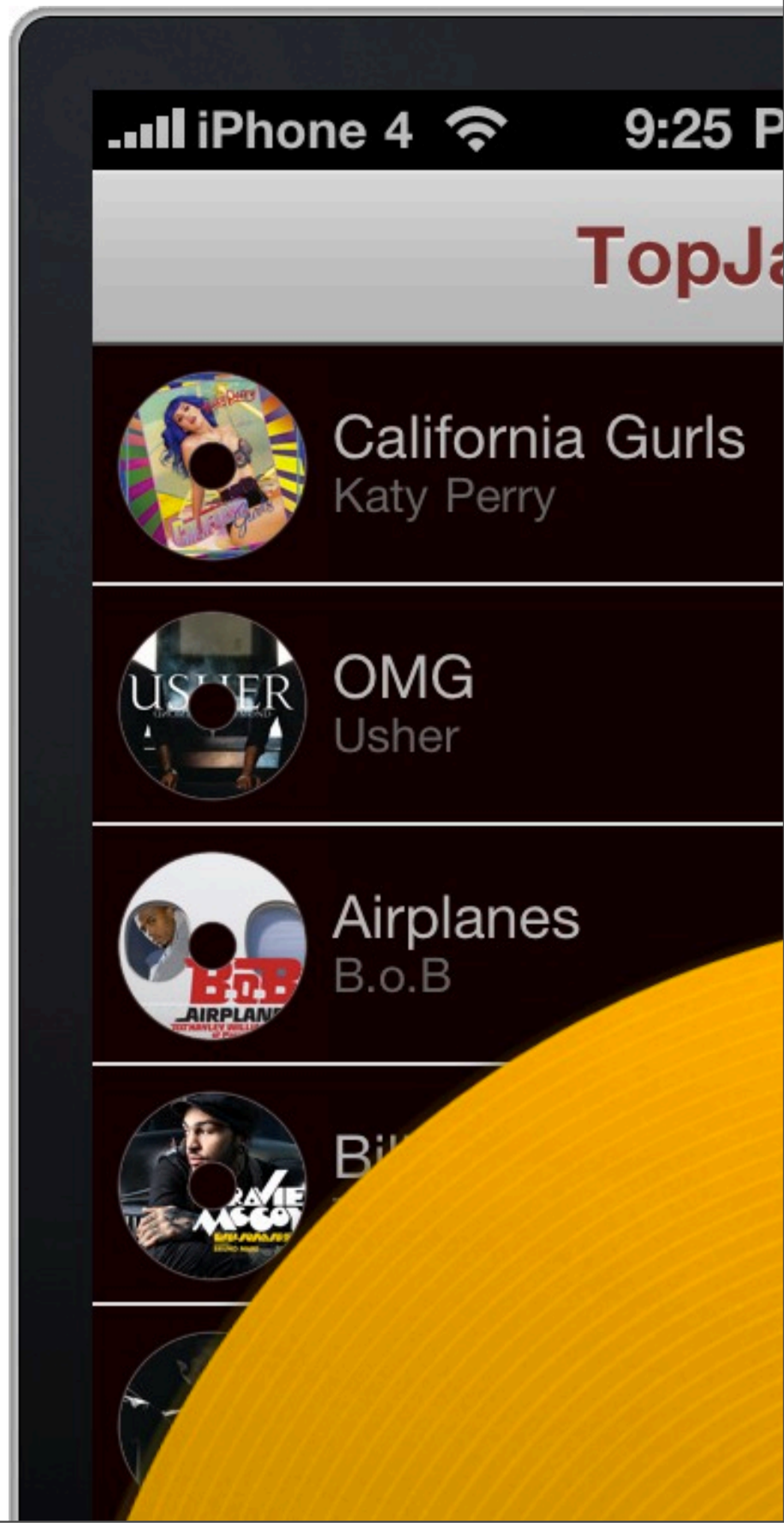
```
    NSScanner *scanner = [[NSScanner alloc] initWithString:str];
@try {
      [scanner scanUpToString:@"<td>Temperatur</
td><td>Luftfugtighed</td>" intoString:nil];
      [scanner scanUpToString:@"<td>Kastrup</td>" intoString:nil];
      NSString *tempCue = @"<td align=\"center\">";
      NSString *kastrupTemp;
      [scanner scanUpToString:tempCue intoString:nil];
      [scanner setScanLocation:[scanner scanLocation]+[tempCue
length]];
      [scanner scanUpToString:@"</td" intoString:&kastrupTemp];

      NSLog(@"Temp. i Kastrup: %@", kastrupTemp);
} @catch (NSException * e) {
      NSLog(@"%@", [e description]);
}
```

Creating a Backend for an iPhone App

- Make sure your backend scales!
- Checkout Google App Engine.
  - Same platform that runs Google services like Reader & Gmail.
  - Program in Python or Java.
  - Free to get started.
  - Can handle thousands of simultaneous requests without significant efforts from the developer.
  - Minimize overhead. Use JSON instead of XML.
  - Java framework for serializing classes to JSON available from json.org.

TopJam

- Music videos from youtube.
- Crowd-source supported algorithm for finding best videos.
- Google App Engine backend.



iPhone Community i Danmark

- CocoaHeads Øresund
  Mødes den anden tirsdag i hver måned i skiftesvis København og Malmø.
  http://groups.google.com/group/cocoaheads-oresund

- Copenhagen Cocoa
  Mødes hver tirsdag på Café Retro undtagen når der er CocoaHeads.
  http://cph.cc

- CocoaHeads Aarhus
  http://groups.google.com/group/cocoaheads-arhus

- Nordjysk iPhone Laug

  http://groups.google.com/group/nil-dk

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Questions?

Slides kommer på twitter. Følg @olegam