

A concept for the design of learning resources for API of Content Management Platforms

Guided research – Kickoff Presentation

Sirma Gjorgjevska, 16.11.2015

Software Engineering for Business Information Systems (sebis)

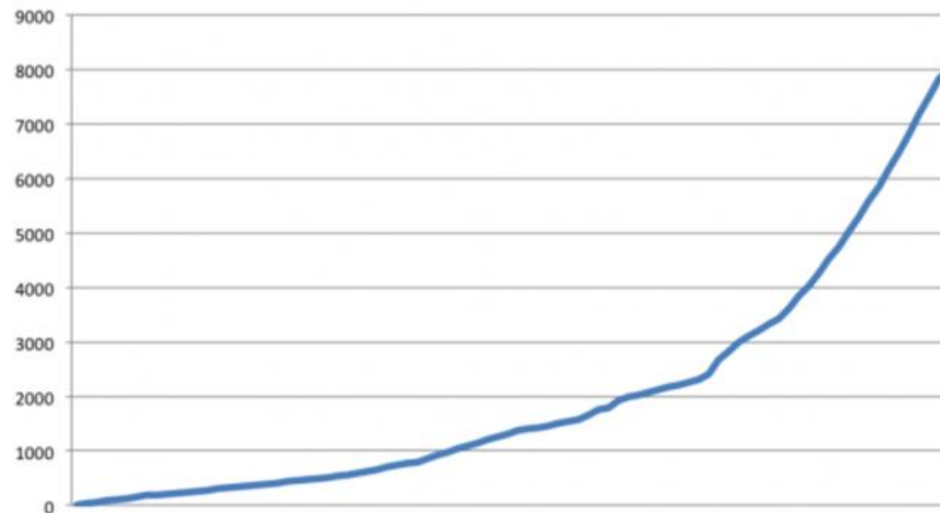
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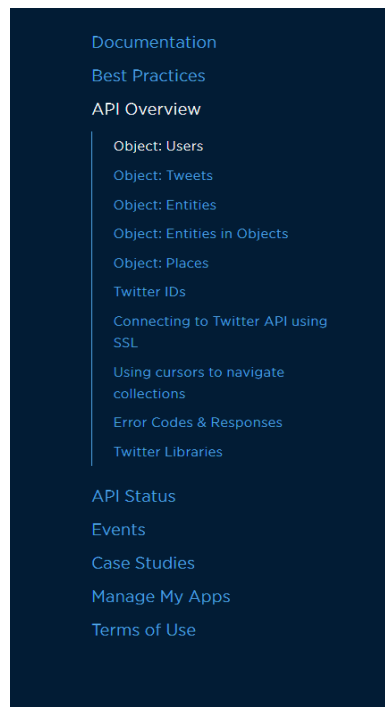
- 1. Motivation**
- 2. Problem statement**
- 3. Solution approach**
- 4. Literature review**
- 5. Road map**

- **Application-programming interfaces (APIs)**
 - Allow one program or web site to access the data and services provided by another program or website
 - Make programming easier
- The number of web applications offering APIs has increased dramatically



Growth of APIs listed in ProgrammableWeb directory from 2005 – 2012

- **API documentation can be critical for software developers**
- Good documentation can help developers work efficiently
- Documentation that doesn't meet the readers' expectations can lead to:
 - Frustration
 - Major loss of time



Users

Users can be anyone or anything. They [tweet](#), [follow](#), [create lists](#), have a [home_timeline](#), can be [mentioned](#), and can be [looked up](#) in bulk.



Field Guide

Consumers of Users should tolerate the addition of new fields and variance in ordering of fields with ease. Not all fields appear in all contexts. It is generally safe to consider a nulled field, an empty set, and the absence of a field as the same thing.

Field	Type	Description
<code>contributors_enabled</code>	Boolean	Indicates that the user has an account with "contributor mode" enabled, allowing for Tweets issued by the user to be co-authored by another account. Rarely <code>true</code> . Example:

```
"contributors_enabled": false
```

“Most documentation is written by technicians-not professional writers. And most technicians would include documentation among their top ten complaints regarding the software they use.”

“Some of the most severe obstacles faced by developers learning new APIs pertained to the documentation and other learning resources.”

“Documentation is often poorly written and finding useful content in documentation can be so challenging that people might not try to do so.”

“Users do not read documentation. Instead, they usually first try other possible methods of finding solutions. This suggests that current approaches to developing and delivering documentation may not be providing the solution paths that users seek”

“The problem is not that people cannot follow simple steps; it is that they do not. People are thrown into action; they can only understand through the effectiveness of their actions in the world. People are always already trying things out, thinking things through, trying to relate what they already know to what is going on, recovering from errors.”

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What are the current approaches for learning an API?
What are their strengths and weaknesses?



What are the principles for designing learning resources?

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Literature research

- Review related work
- Identify good and bad practices for designing learning resources

State-of-art

- Analyze existing learning resources of similar API

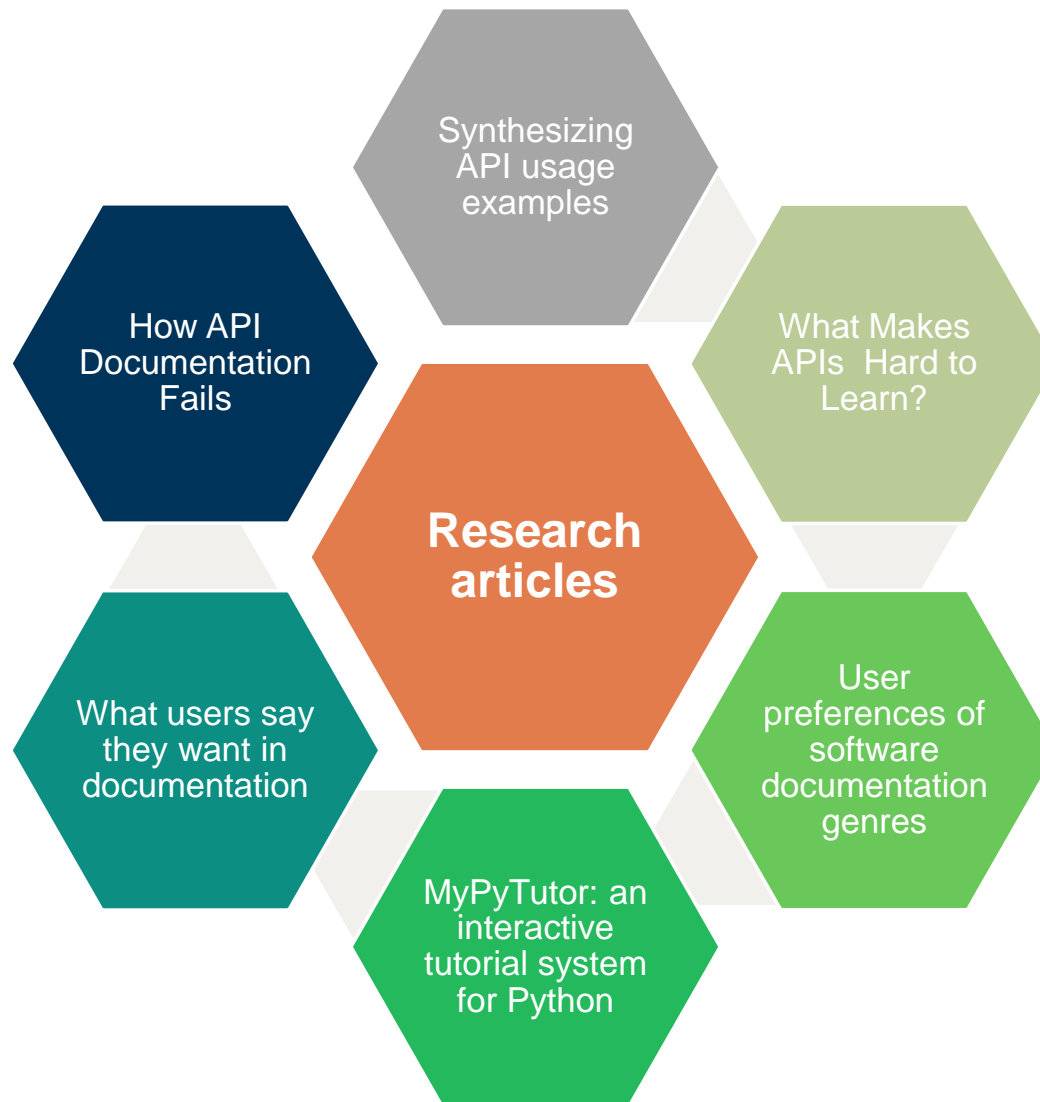
Derive principles for designing a learning resource for API

Design and implement a prototype

- Design mockups for a prototype based on the derived principles
- Implementation of the prototype by adapting it of the SocioCortex API

Evaluation with SocioCortex community

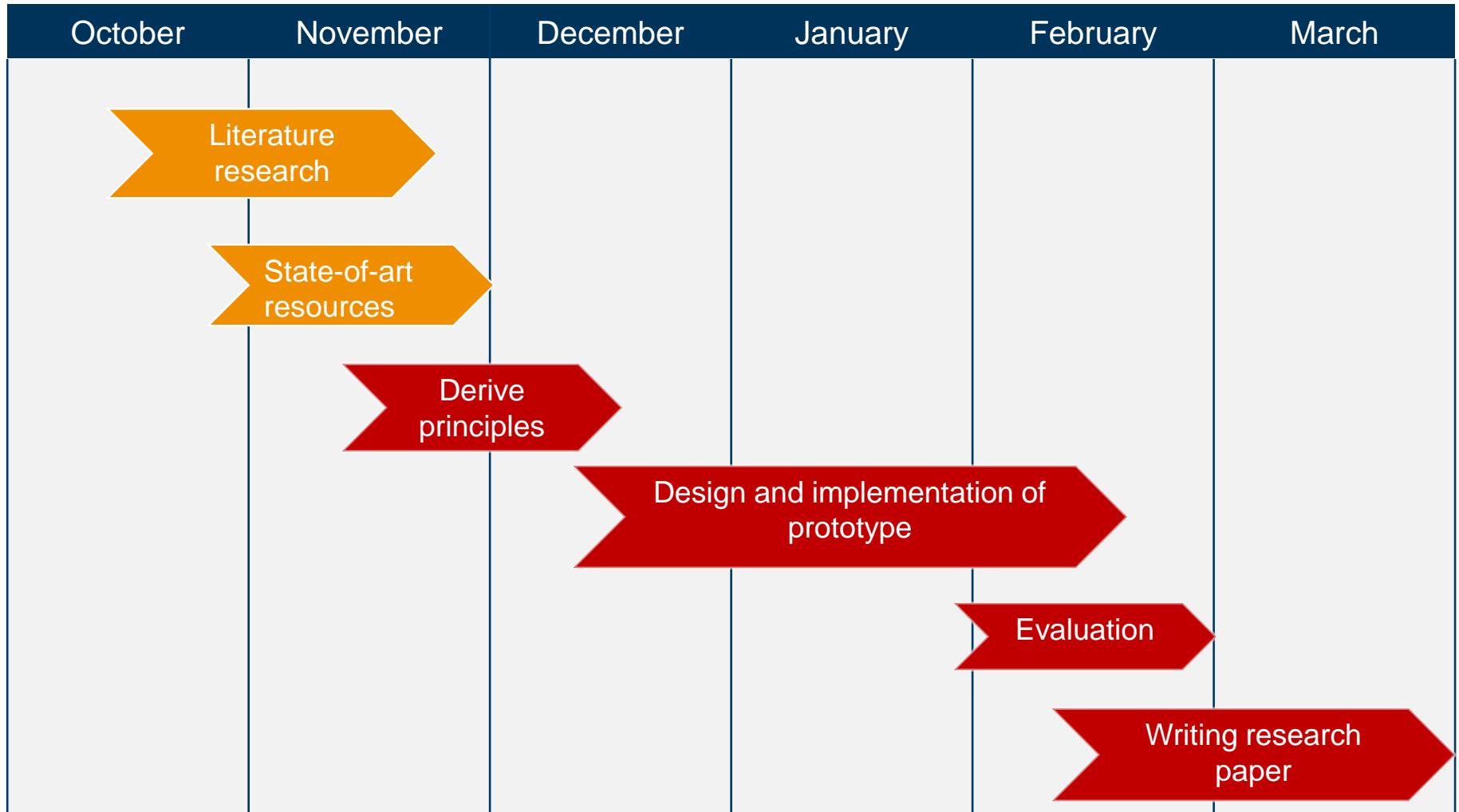
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- Survey that reveals some of the most common documentation problems

Problem	Description
Incompleteness	The description of an API element or topic wasn't where it was expected to be
Ambiguity	The description of an API element was mostly complete but unclear
Unexplained examples	A code example was insufficiently explained
Obsolescence	The documentation on a topic referred to a previous version of the API
Inconsistency	The documentation of elements meant to be combined didn't agree
Incorrectness	Some information was incorrect

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Completed

In progress

Not started

Thank you for your attention!



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- Study of the obstacles that professional Microsoft developers faced when learning to use APIs

Obstacles caused by inadequate or absent resources for learning the API (for example documentation)

Examples	Insufficient or inadequate examples
General	Unspecified issues with the documentation
Content	A specific piece of content is missing or is inadequately presented in the documentation
Task	No reference on how to use the API to accomplish a specific task
Format	Resources aren't available in the desired format
Design	Insufficient or inadequate documentation on the high-level aspects of the API such as design or rationale