

Satellid: Personal Knowledge Manager with Web Technologies



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Introduction

Literature Study

Analysis & Design

Implementation & Testing

Conclusion & Suggestion

INTRODUCTION

There are tons of **daily personal knowledge** that must be managed,
but they can't be handled with regular tools.

Daily personal knowledge are things like details or facts of:



People Profiles
and contacts



Organizations, Schools,
and Companies



Glossary of
Definition



Hardware and Software
Product Listing



Publication of Papers, Books,
News, or Presentations



Known or Visited
Places or Locations



Upcoming and Attended
Events or Schedule



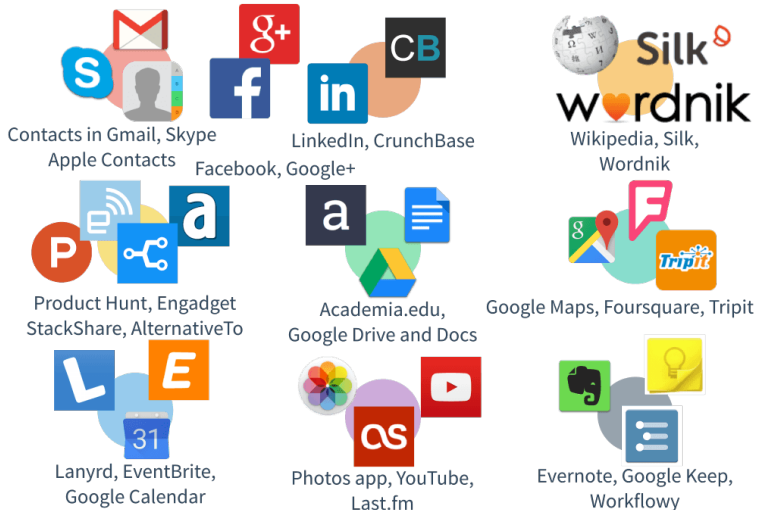
Multimedia Info such as
Photo, Music, or video



Lot of Other
Miscellaneous Things

All of these are also the context of knowledge

There are a lot of tools/systems for each, that contains knowledge



There is a need for a single personalized system

How to manage those daily personal knowledge with single system?

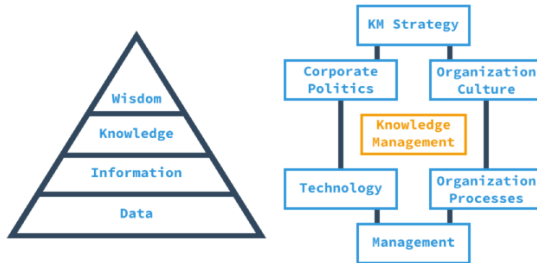
- Solve a problem around **daily knowledge management** with a system that is personal.
- Essential knowledge are mostly separated into too many softwares.
- Need for a simple and single personalized system.
- Managing knowledge should use a knowledge manager.

Define and develop a personal knowledge manager named “Satellid”, that built using Web technologies.

1. How to manage tons of personal knowledge with just a simple and single system of knowledge manager?
2. How can knowledge manager naturally structure the data into knowledge that has context?

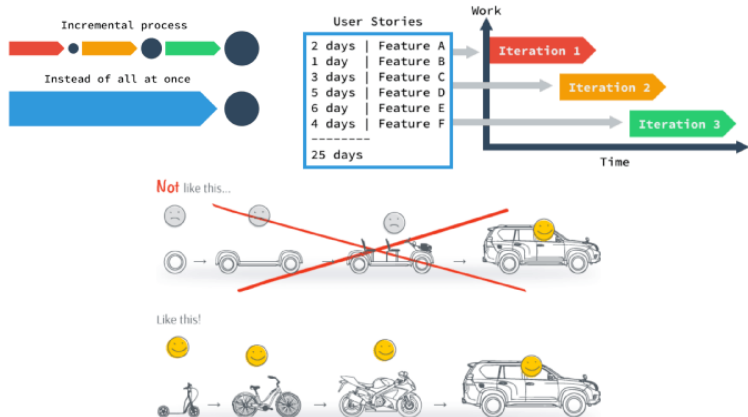
- Create a **simple system** to do **daily knowledge management** for **personal** use
- The main methodologies are **agile**, **MVP**, and **ATDD**.
- The main technologies are **MongoDB**, **JavaScript**, and **Meteor framework**.

LITERATURE STUDY



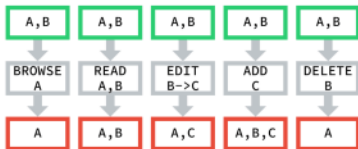
Data-Information-Knowledge-Wisdom (DIKW),
Knowledge Management System (KMS),
Personal Knowledge Manager

SOFTWARE DEVELOPMENT LIFE CYCLE (SDLC)



Agile methodologies,
Minimum Viable Product (MVP)

DESIGN PATTERN



Single Page
App Design



Common/Traditional
App Design



VS



BROWSE, READ, EDIT, ADD, DELETE (BREAD),
simple interaction and interface design with mockup,
Single Page Application (SPA)



Document/Schema-less
Data Model



mongoDB

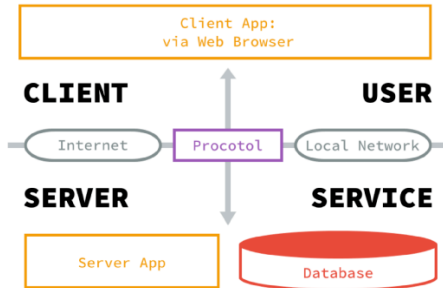
Document-based NoSQL database named MongoDB



With JavaScript and JSON related technologies



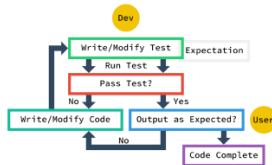
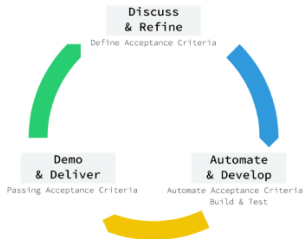
on top of **Node.js**



build a Web application



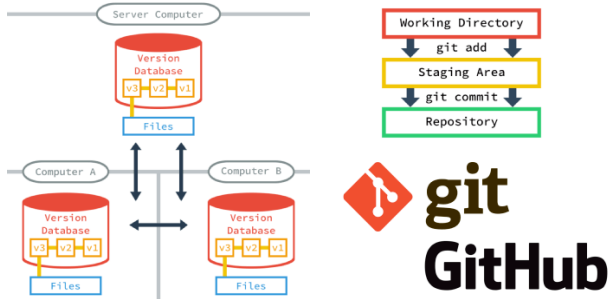
using full stack framework named Meteor



VELOCITY

software tested in Acceptance Test Driven Development (ATDD)

SOURCE CODE MANAGEMENT



source code is version controlled using **Git**
and distributed via **GitHub**

ANALYSIS & DESIGN

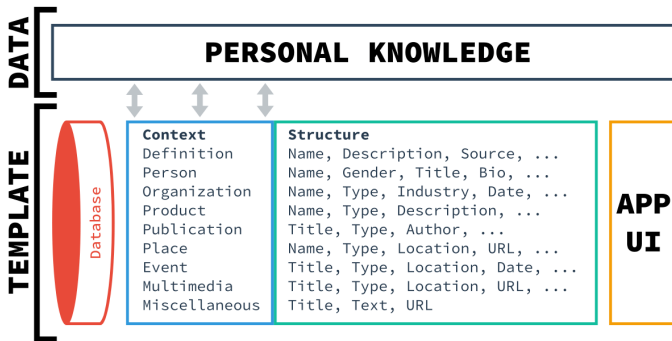
Target User:

Person who frequently gather and really want to manage their tons of knowledge at almost everytime



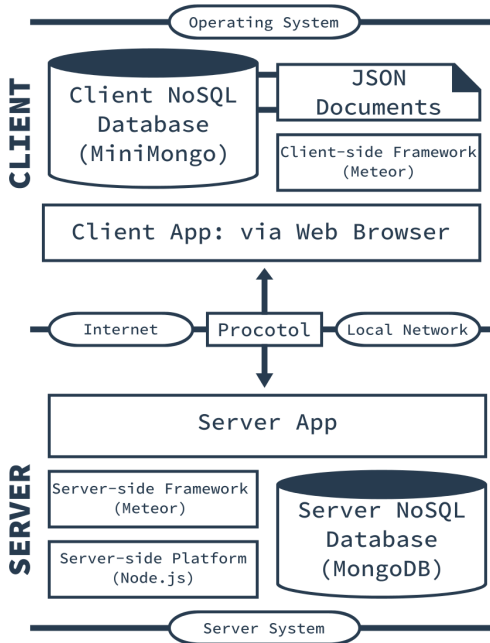
User Types:

Regular person, researcher, engineer, developer, designer, information architect, event speaker, student, teacher, leader, collaborator, colleagues, recruiter, etc

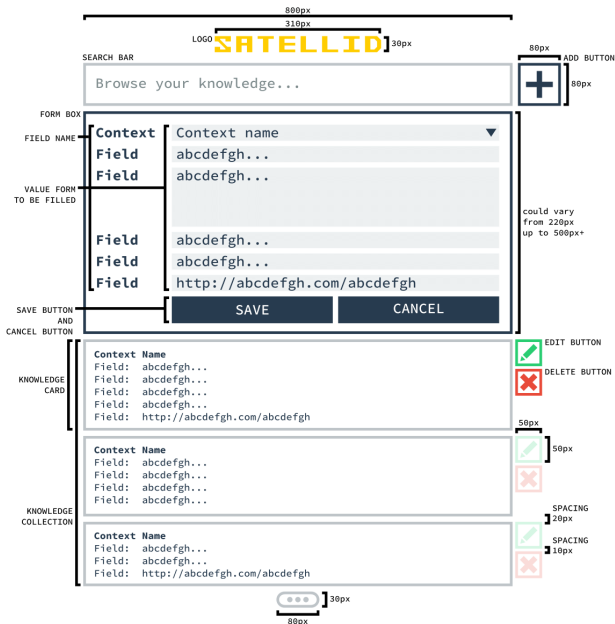


A data and template approach to classify the knowledge with its context and structure.

DESIGN: APPLICATION ARCHITECTURE



DESIGN: USER INTERFACE MOCKUP



DESIGN: USER INTERACTION

TERMINAL / CLI

```
$ meteor
[[[[[ /path/to/satellid/app ]]]]]
=> ...
=> Running at: http://localhost:3000
```

TURN ON/OFF THE SYSTEM VIA TERMINAL/CLI

USER

WEB BROWSER

TYPE AND SEARCH

Could automatically show the search result

Context

Context name

Field A

Value A...

Field B

Value B...

Field C

Value C...

Field D

Value D...

Field E

Value E...

SAVE

CANCEL

Context name

Field A: Value A

Field B: Value B

Field C: Value C

Field D: Value D

Field E: Value E

Modifier buttons will be visible or opaque when a knowledge is hovered or selected

*** Loading indicator will be visible when retrieving other knowledge

+

ADD KNOWLEDGE

Will show the form box

FORM BOX TO TYPE KNOWLEDGE CONTENT WITH CONTEXT

Save will store the knowledge

Cancel will close the form box

EDIT KNOWLEDGE

DELETE KNOWLEDGE

BROWSE & READ EXISTING KNOWLEDGE AND SEARCH RESULT

ACCESS AND USE THE SYSTEM VIA WEB BROWSER

Edit will have the edit mode with form box which the context could not be changed

All knowledge collection will be represented in card-like visual

SYSTEM

IMPLEMENTATION & TESTING

Snippets of Server Code

```
if (Meteor.isServer) {  
  Meteor.startup(function() {  
    // ...  
  });  
}
```

Snippets of Client Code

```
if (Meteor.isClient) {  
  Template.add.events({  
    "click": function() {  
      // ...  
    }  
  });  
}
```

SATELLID

Browse your knowledge...



Definition

Name: Knowledge
Desc: The psychological result of learning that has a context
Source: Open Thesaurus
Author: Open Thesaurus Team
URL: <http://openthesaurus.com/knowledge>

Person

Name: Muhammad Haidar Hanif
Gender: Male
Title: Technology Generalist, JavaScript Developer
Website: <http://mhaidarhanif.org>

Product

Name: Google Search
Type: Software, Service
Desc: Internet search engine
Creator: Google Inc.
URL: <https://google.com>

Miscellaneous

Title: Random example
Text: Random sentence example
URL: <http://example.com>

Product

Name: Meteor
Type: Software

SATELLID

JavaScript

**Definition**Name: **JavaScript**

Desc: Lightweight, interpreted, object-oriented language with first-class functions, most known as the scripting language for Web pages

Source: Mozilla Developer Network (MDN)

URL: <https://developer.mozilla.org/en-US/docs/Web/JavaScript>**Person**

Name: Muhammad Haidar Hanif

Gender: Male

Title: Technology Generalist, **JavaScript** DeveloperWebsite: <http://mhaidarhanif.org>**Product**

Name: Meteor

Type: Software

Desc: Complete open source platform for building web and mobile apps in pure **JavaScript**

Creator: Meteor Development Group (MDG)


URL: <https://meteor.com>**Miscellaneous**

Title: Random example

Text: Random sentence example with **JavaScript** wordURL: <http://exampleofjavascript.com>**Event**

Title: JSConf

SATELLID



Context

Event

▼

Name

HCI International 2015

Type

Conference

▼

Desc.

International Conference on HCI

Location

Los Angeles, California, USA

DateTime

to

URL

SAVE

CANCEL

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DateTime to

URL



SAVE

CANCEL

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Product

Name: Meteor
Type: Software

CLOSING

- Simple and single system of managing tons of personal daily knowledge that implemented with Web technologies
- Satellid can be used for collecting and managing various daily personal knowledge, for the easiness and embetterment of knowledge management.

- More predefined context and field.
- Can have custom form.
- Can easily import and export, including backup.
- BREAD a template.
- Multimedia support.
- Integration with other networks.

THANK YOU

EXTRA NOTES

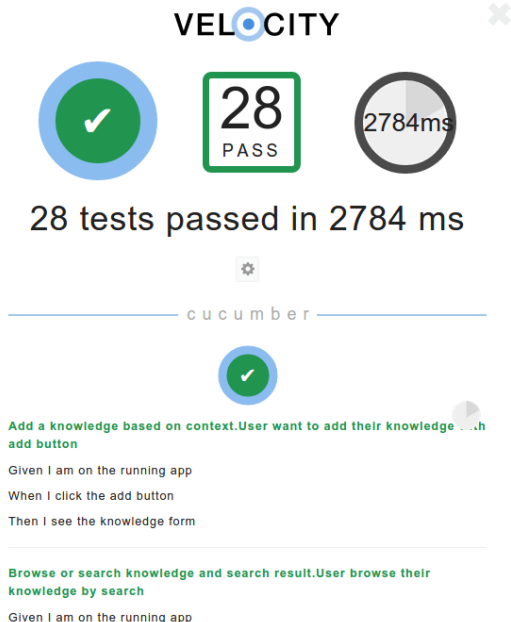


1. As a System, I need to be run on supported platform and via a network
2. As a System, I can have the data imported without the app opened
3. As a User, I want to use the app via web browser
4. As a User, I want to read knowledge that already stored
5. As a User, I want to search a knowledge and view the search result
6. As a User, I want to add a new knowledge based on context
7. As a User, I want to delete a stored knowledge
8. As a User, I want to edit a stored knowledge

Feature: Example feature title

As a user of this feature
I want to have these steps
So that I can have the expected result

Scenario: Specific situation description
Given a condition
And an other condition
When a performed action by someone
Then an output is presented



SQL VS DOCUMENT-BASED (NOSQL)

id	name	loc
0	abc	1,2
1	def	3,4
2	ghi	5,6

Relational/Table
Data Model



Document/Schema-less
Data Model

- ✓ Represent document in real world
- ✓ Flexible schema
- ✓ Data nesting
- ✓ Various or complex data structure

EXTRA NOTES