

*"Improve your
Google Calendar!"*



the full picture

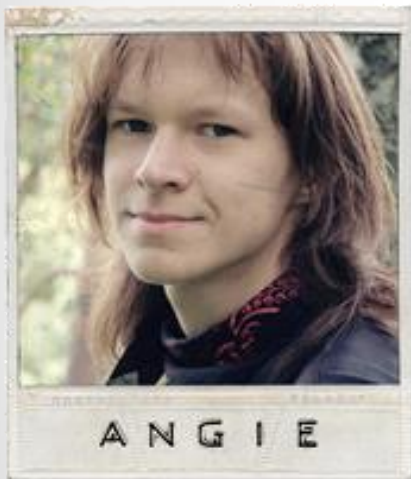
Information Visualization (DH 2321)

2013-03-04

KTH / EIT ICT Labs



meet the Team



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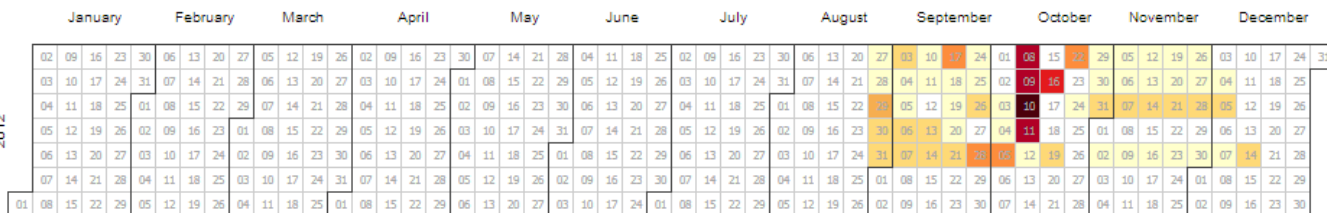


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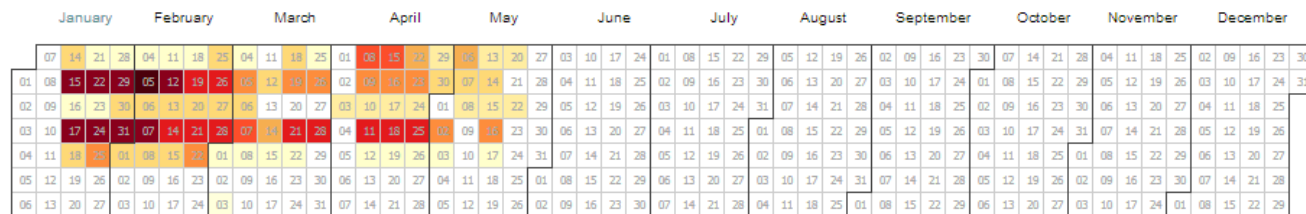
C3 the Full Picture

C3 adds a yearly view to your Google Calendar. Colors range from light to dark, the former represents more free time and latter represents busier days. To see details, hover your mouse over a day. It's that easy to see the full picture.

2012



2013


☐ Contacts' birthdays and events

☐ Week Numbers

☐ Swedish Holidays

☐ Min KTH-kalender

☒ Elective Calendar 1

☒ Elective Calendar 2

☒ HCID Track

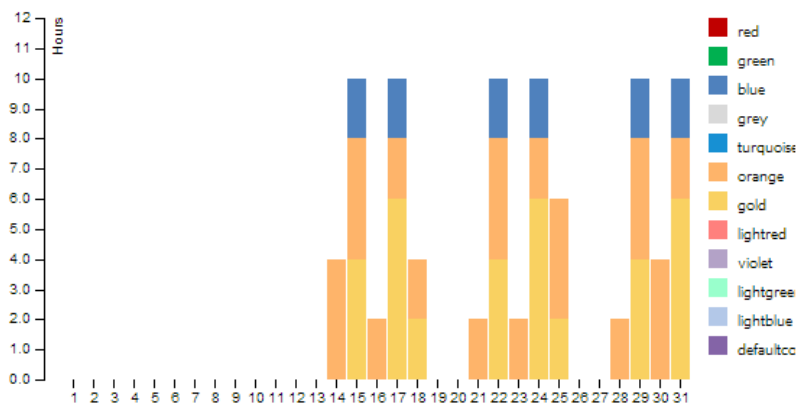
☐

nicholas.tenhue@masterschool.eitdclabs.eu

☐ Timetable-KTH

☒ Elective Calendar 4

☐ Elective Calendar 3


 Color bars: byCalendars


0-1 h

1-2

2-3

3-4

4-5

5-6

6-7

7-8

8-9

9-10

10+

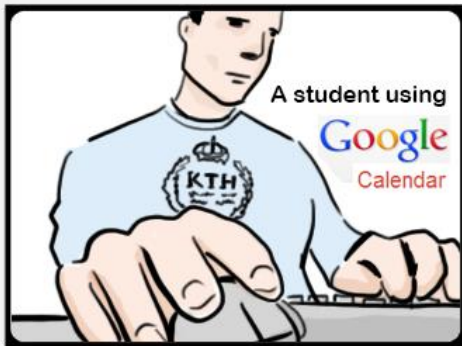


presentation outline

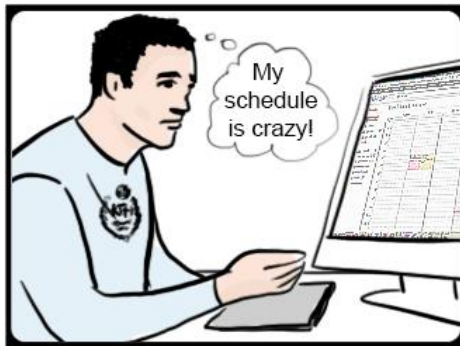
1. Our motivation
2. Goals and Challenges
3. Related Work
4. Methods and Techniques
5. DEMO
6. Lessons Learned
7. Conclusions and Future Work
8. Discussion



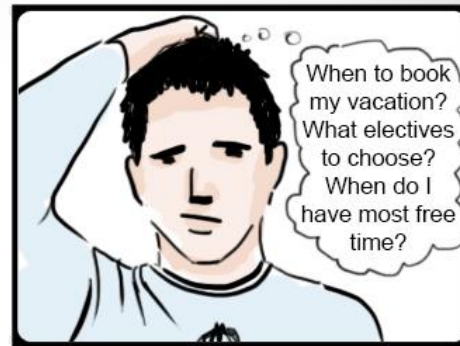
why use c3?



☐ Jim uses Google Calendar to
organise his daily life and keep track of
his appointments.



☐ He has a very busy schedule. He
wants to book his vacation, choose
courses, and see when he has free time.



☐ Unfortunately, current calendar
systems lack the necessary detail for
Jim's task.



☐ Luckily Jim finds c3, a new
way of viewing his calendar in a more
intuitive and visual manner.



☐ He can macro and micromanage
his schedule by focusing on the
information he wants to see.



☐ Jim can see the periods when he
will be the most free or busy. This
allows him to make better plans.



goals & challenges

Goals

- Visualize Google Calendar with a less cluttered view for a better overview
- Provide a yearly view (non-existent)
- Provide an improved monthly overview

Challenges

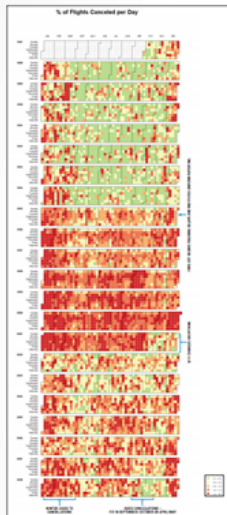
- Access the Google API, find and implement appropriate Javascript Libraries
- Extracting event durations & summing up event durations
- Choosing appropriate visualization types for months and years



similar projects

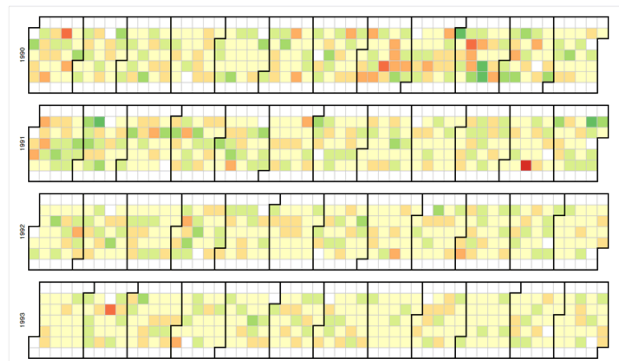


1. "Congestion in the sky: Visualising domestic airline traffic with SAS"



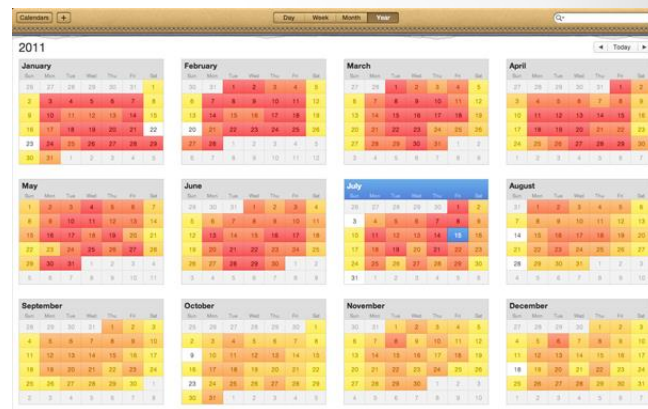
Author: Rick Wicklin & Robert Allison
Year: 2009

Calendar View



2. "Dow Jones History"

Author: Mike Bostock
Year: 2013



3. "iCal 5"

Author: Apple
Year: 2011



"Congestion in the sky: Visualising domestic airline traffic with SAS"

CONGESTION IN THE SKY → Visualizing Domestic Airline Traffic with SAS® Software

Rick Wickham, SAS Institute
Robert Allison, SAS Institute

THE DATA

Twenty years of data (200 million observations) on commercial domestic flights in the United States.

Variations

- Dates: day of week, date, month, year
- Arrival and departure times: actual and scheduled
- Flight times: actual and scheduled
- Origin and destination: airport code, latitude, longitude
- Carrier: American, Delta, etc., United, JetBlue

Data was sent by Research and Innovative Technology Administration (RITA) to the U.S. Department of Transportation for public release.

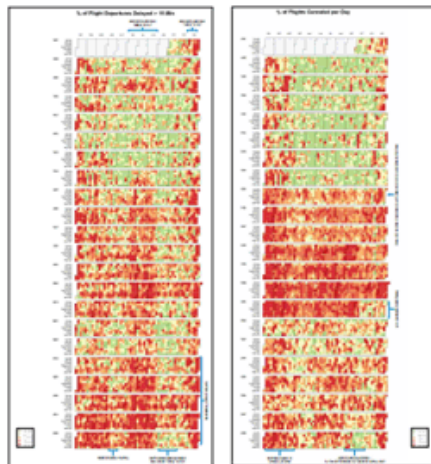
GOALS

- Summarize data by time periods, airport, and carrier
- Temporal effects
 - Are there time periods more prone to delays than others?
 - Relationships between delays and seasonal factors: winter, summer, holidays
 - Weather factors: storms and severe weather
 - Data features: time of day, day of week
- Spatial effects
 - Are some airports more prone to delays than others?
 - Are there differences between flying into an airport and flying out?
- Carrier effects
 - Are some carriers more prone to delays than others?

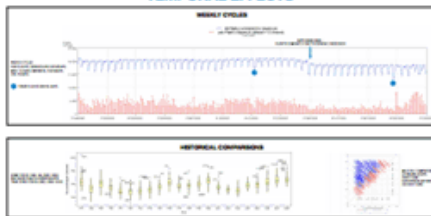
LESSONS LEARNED: TIPS FOR TRAVELERS

- Avoid flying during holidays and summer
- Fly in April, May, and September
- Watch the weather
- Avoid airports (Denver, JFK, Chicago,...) with constant delays
- Use carriers (Delta, Hawaiian, Southwest,...) with superior on-time performance
- Fly early in the day
- Avoid flights that depart between 5 and 7 pm.

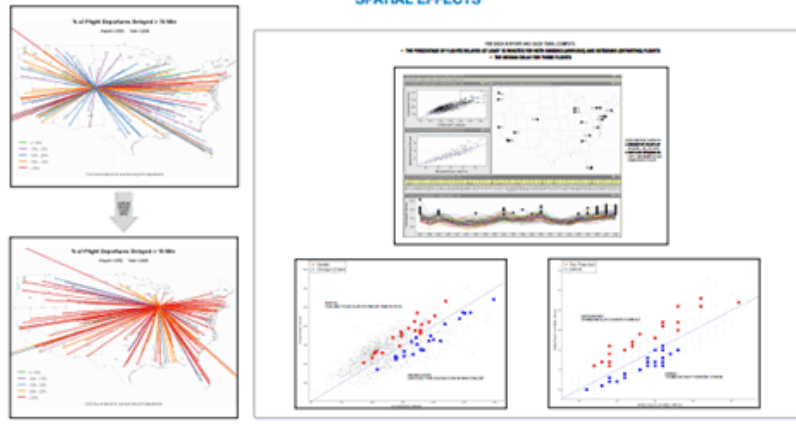
OVERVIEW



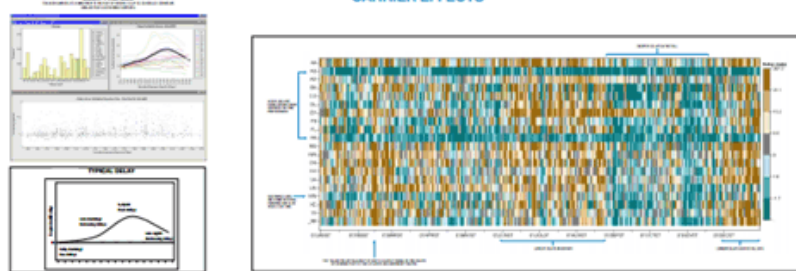
TEMPORAL EFFECTS



SPATIAL EFFECTS



CARRIER EFFECTS

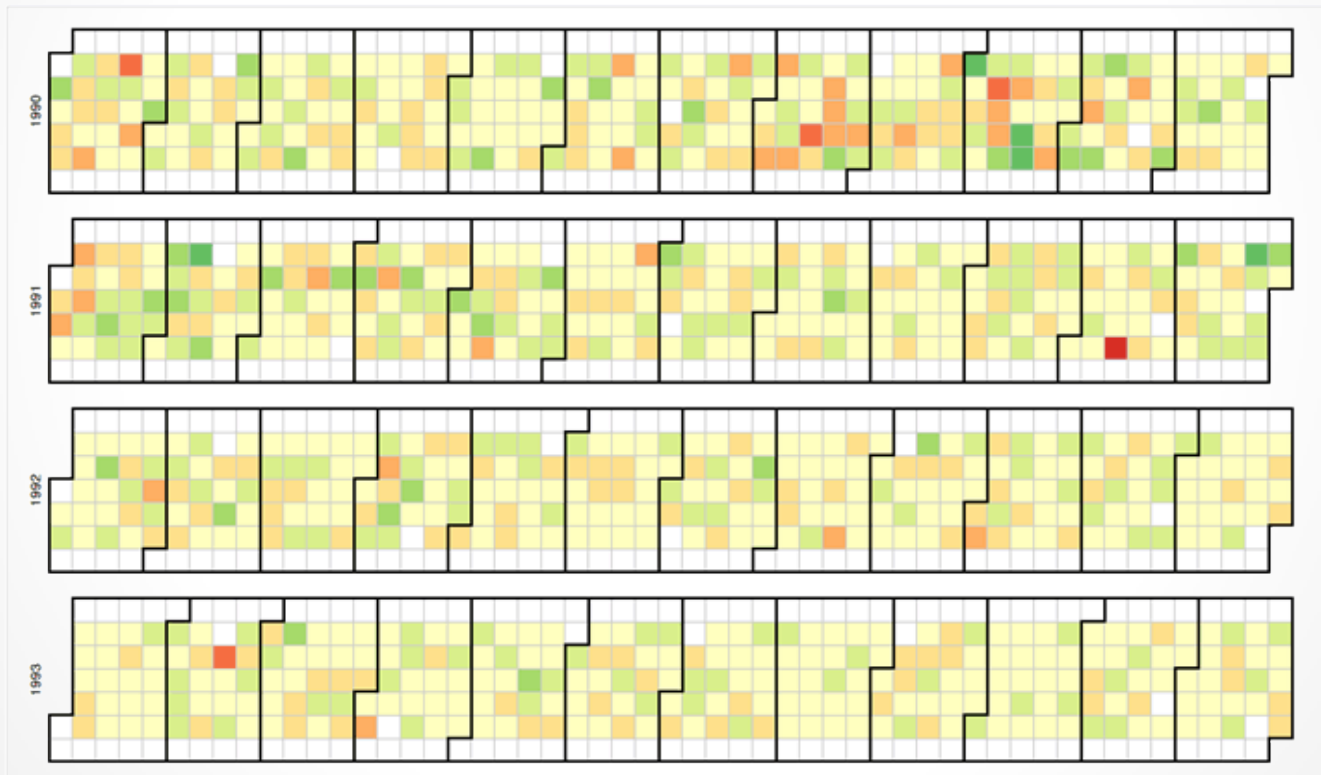




"Dow Jones History"

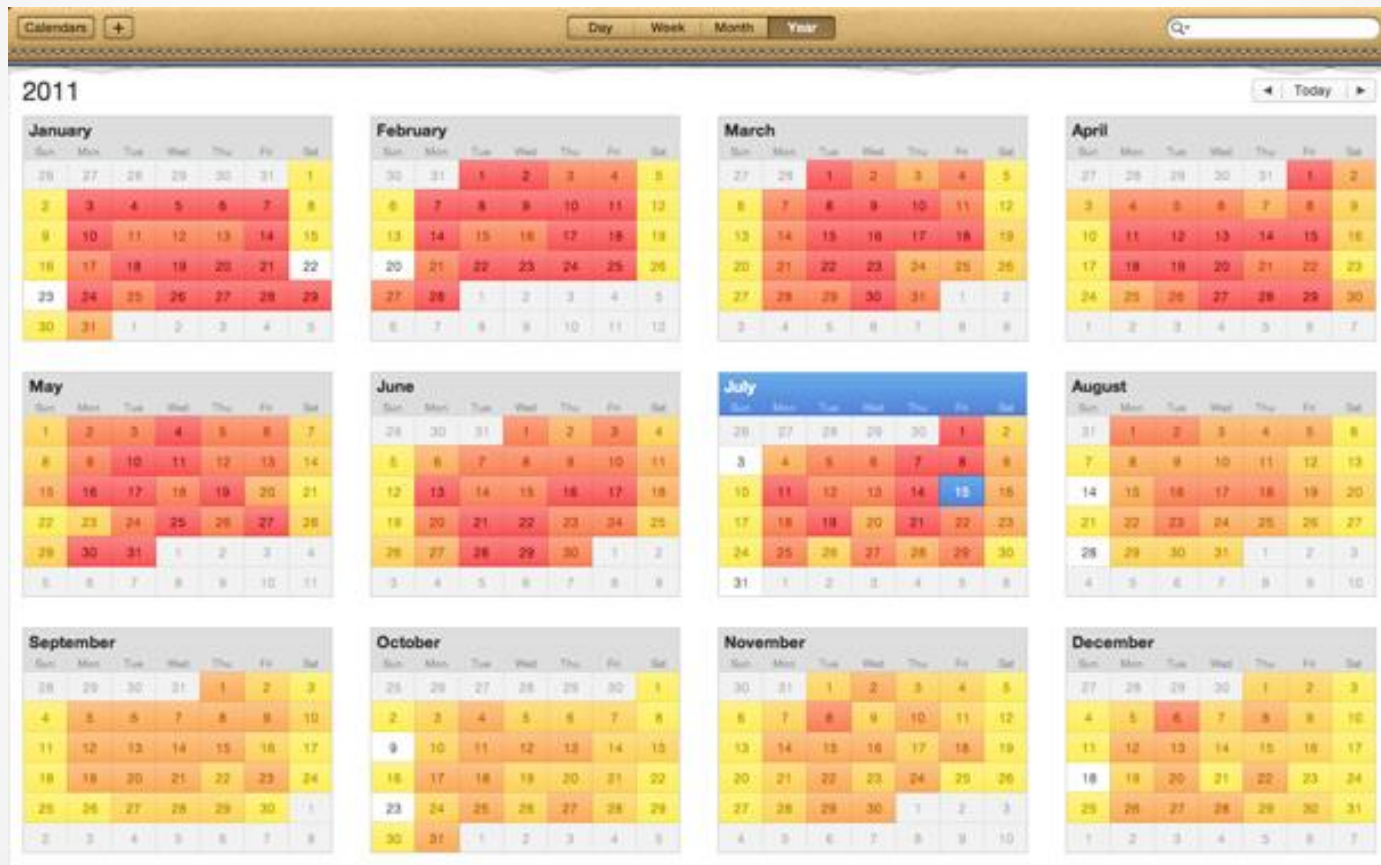
Calendar View

February 23, 2013





"iCal 5"





methods & techniques

Ideation & Conception

- Brainstorming
- Developed two ideas
- Chose one of the two
- Storyboarding
- Proof of concept prototype

Chosen Technology

- Google API
- OAuth 2.0
- D3.js library
- HTML5
- CSS3
- jQuery

Collaboration Practices

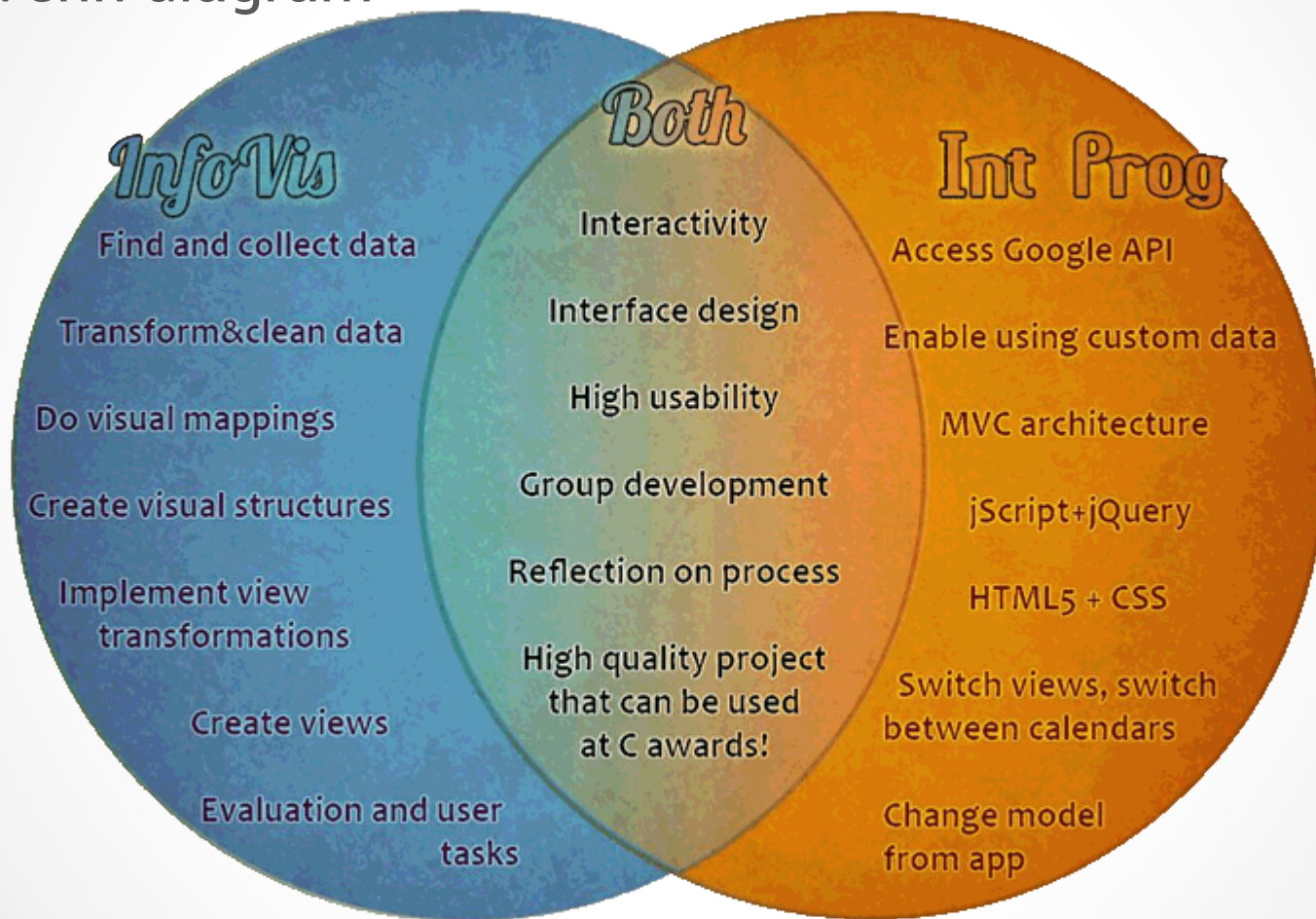
- Github – sharing code and version control
- Eclipse + Aptana studio for development
- Google Drive – sharing documents

Other

- Combining projects – information visualisation & interaction programming to make a higher quality product
- Libraries we use have the license of 'fair use for educational purposes'



Venn diagram



live
DEMO





Bugs

Yearly Overview of Your Google Calendar(s)

q0-11

q1-11

q2-11

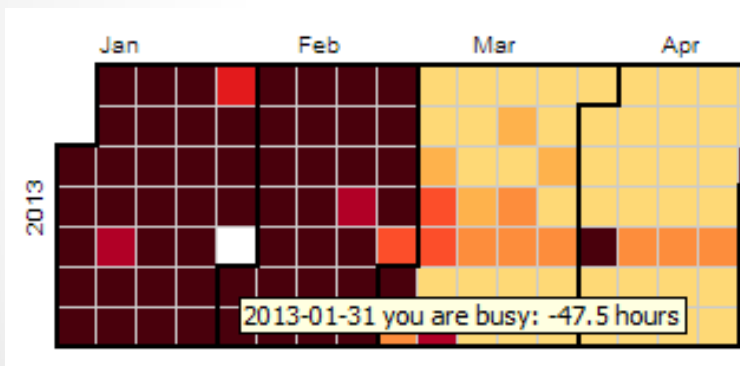
Yearly Overview of Your Google Calendar(s)

q0-11

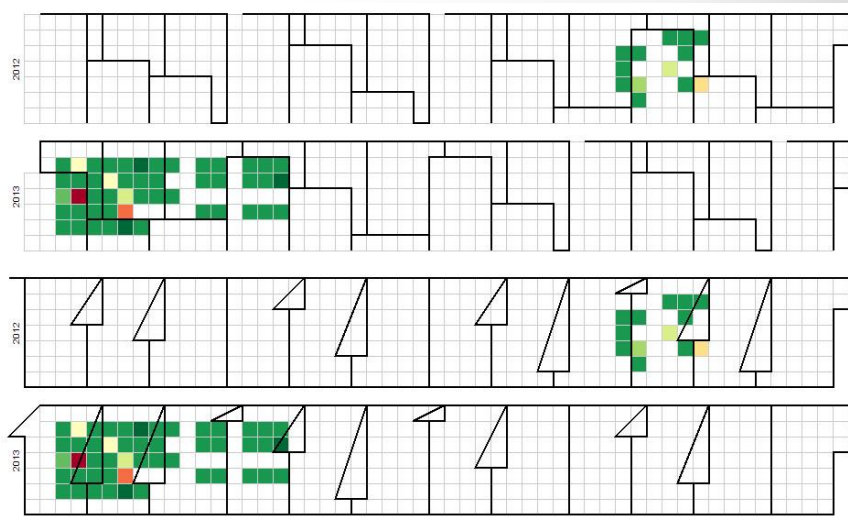
q1-11

q2-11

Alignment in the legend



Miscalculated occupancy and missing colours



Issues with connecting the borders to cells



lessons learned

Problems encountered

- Learning Oauth 2.0 (haaard >__<)*
- Working out Google API
- Understanding the d3 library
- Adapting example & template code to our purpose
- Working out what calendar data to visualise
- The best way to show time, events etc.

How problems were solved

Tasks were assigned to different members:

- Learn the different technologies
- Make presentation
- Storyboard
- Find libraries
- Set up coding environment
- Create visual structures



conclusions

c3 improves your daily life by providing an overview for Google Calendar

Goals

- Visualize Google Calendar with a less cluttered view for a better overview
- Provide a yearly view (non-existent)
- Provide an improved monthly overview

Future work

- More interactivity
- Further improved overview
- Create a polished product for 'C Awards'
- Make it available as a 'Google App'



thank you! questions & feedback ?

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Try it out yourself! Demo available at:

<http://hem.passagen.se/micaux/c3>



more about the team

Studying: Human-Computer Interaction & Design with a minor in Innovation & Entrepreneurship → 2014

Angie Skazka

Searching for internship / part time job as interaction designer Connect: mikhailm@kth.se
Background: industrial automation, control theory, operator interface design (SCADA)
Interests: UI/UX design, infographics, graphic design

Manfred Micaux

Connect: se.linkedin.com/in/manfredmicaux/
Skills: Digital Marketing, Online Video, International companies
Interests: Video & Film Making, Accessibility, User Experience

Nicholas Tenhue

Connect: se.linkedin.com/in/nicholastenhue/
Skills: 3D & 2D design, game design, MOCAP, animation, UX design
Interests: game dev, augmented reality, cross-cultural relations, digital art

Zhenyu Lin

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Skills: UX design, interface design, digital graphics, industrial design, product design
Interests: music applications, photography applications, electronic commerce

Languages in the team: English, Russian, Swedish, French, Italian, Spanish, Finnish, Japanese, Chinese.