RESUME

David Krmpotić, B. Sc. Comp. Sci. | *Last update: 2026*

EDUCATION

I was born a few years ago in Slovenia (a nice country between Vienna and Venice).

I studied Computer Science at University of Maribor (Slovenia). Upon entering high school I was awarded a full governmental scholarship for gifted students which I continued to receive during college. College was very useful, learned a lot about fundamental principles of Computer Science and how these principles enable but are not the same as programming.

I graduated in 2005 with work *Extending open-source compilers with domain specific languages*. I was investigating the possibilities of expanding a higher level programming language compiler with an arbitrary domain specific language. I successfully completed the task by expanding open source Mono C# Compiler with Feature Description Language (FDL). The article resulting from this was accepted and presented at ITI 2005 international conference in Dubrovnik, Croatia. I didn't want to continue with PhD since I needed a break from education. I tried PhD in Bioinformatics later but didn't conclude. I also studied one year of Physics to make sure I like computing a bit more and to brush up on classical physics. My primary school physics teacher was the best in known Universe and he actually introduced me to programming as well.

A list of completed courses from my CS undergraduate studies is attached.

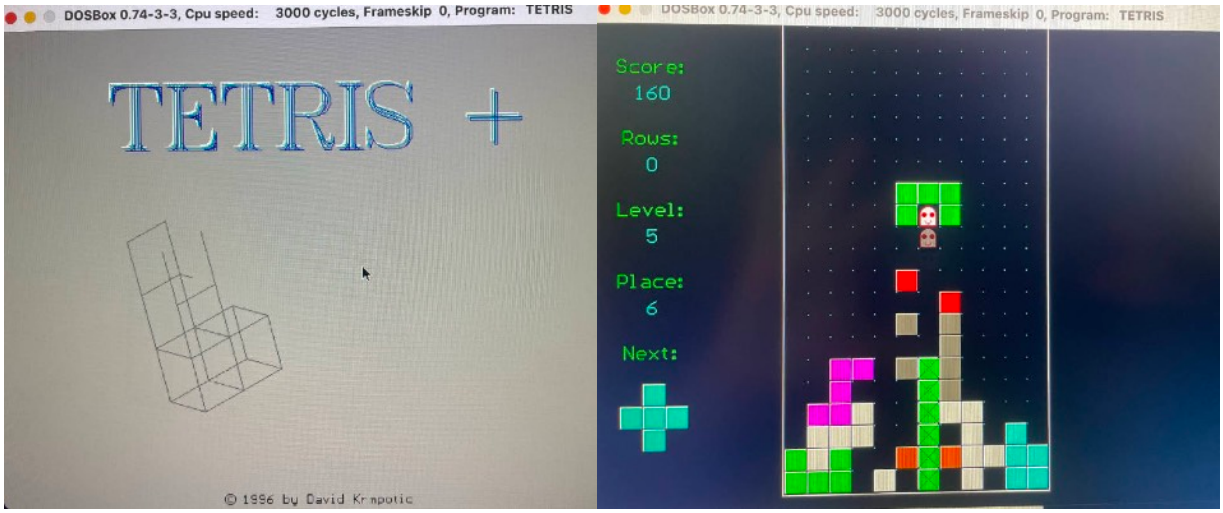
In 2003 I spent one semester (five months) at Barcelona School of Informatics at Technical University of Catalonia (UPC) as a foreign exchange student. In summer 2003 I completed three months internship at Campinas University (UNICAMP) in Sao Paulo, Brazil. I naturally took the opportunity to learn Spanish and Portuguese while being an exchange student.

In recent couple of years I established a family [Andreja, Elaa, David jr.] and have also been able to follow my deep interests in technology and its surrounding context. I mostly explore distributed systems in various forms as well as limits of human knowledge and understanding and how everything may fit together. The main conclusion is that **everything is connected !** :)

I am always on the look for new friendships — online or offline, to be based on exchange of useful information and mutual improvement. I am currently going through some personal shifts in thinking and behaviour which I noticed happen for me around every decade as I progress in life and build my understanding of things I am interested in or gain new interests.

SOME ‘FORMAL RECOGNITIONS’

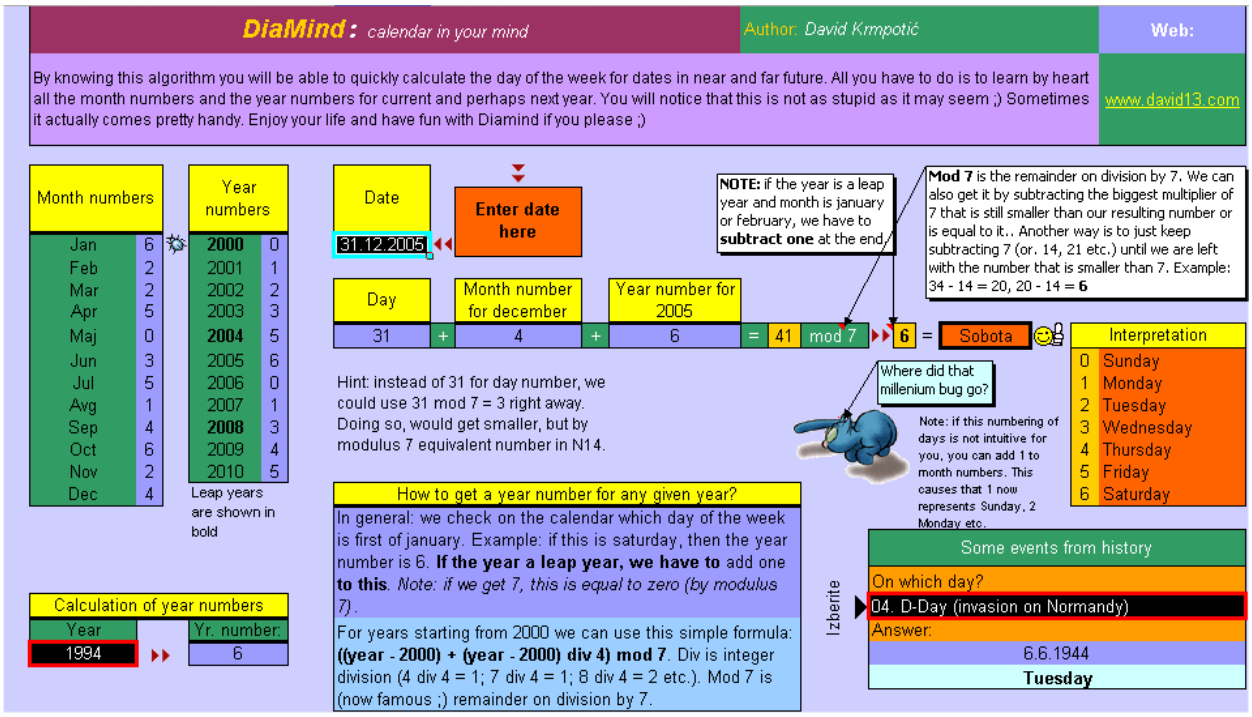
1996 - Won the national competition for best computer program with my advanced version of Tetris written in Pascal running on MS-DOS (that was in primary school).



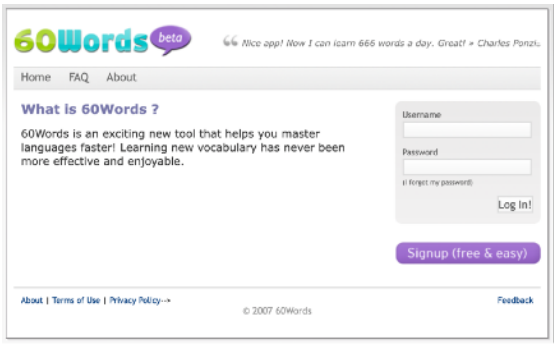
2000 - In high school I received a 2nd award on national physics competition and 3rd in computer programming competition.

2004 - In college I was awarded a prize of Chancellor of University of Maribor as the best student in generation in all technical faculties (*rektorjeva nagrada*).

2005 - Received a 3rd award for the best idea at Microsoft's national competition (Diamind template - which help with learning mental Day-of-week calculations).



2006 - First prize in Ljubljana at annual competition for best business plan - that included some funding and was provided by LUI *(Ljubljanski Univerzitetni Inkubator)*.



2006 - Received funding for project 60Words from TiPovej (organization that helps young people realize their ideas)

2010 - Received 1st prize as a company / project Odpiralni Časi at Simobil (second largest mobile operator in SLO) Android competition among 50 competing applications.

2010+ Noticed that formal awards are not that interesting, it is about actual practical great work that one believes in which may or may not be recognised or can be recognised a bit later. I went on the **unique path** and I'm pushing forward step by step with the help of some friends.

🎓 EXAMPLES OF PRACTICAL PROJECTS COMPLETED FOR UNDERGRADUATE **COMPUTER SCIENCE DEGREE**

- Implementation of huffman and adaptable huffman compression algorithm (C++)
- Compressing medical images with simple lossless image compression algorithm (C++)
- Implementation of DCT compression (C++)

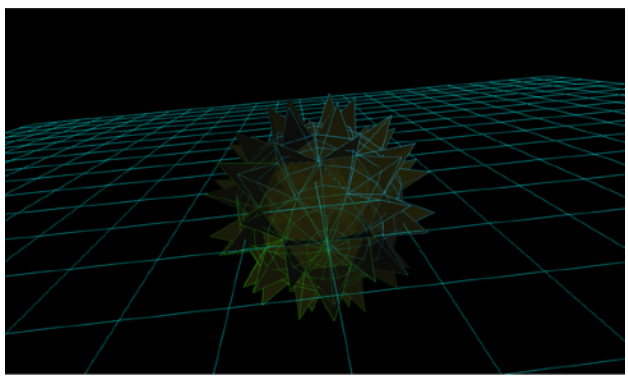
- Model and procedures for calculating inverse transformations of 6 degrees-of-freedom industrial robot (for special Robot modeling environment developed at University of Maribor)

- Implementation of A* algorithm which finds the shortest route between cities including the route visualisation on the map.

- Algorithm (Min/Max with Alpha-Beta prunning) for playing the game "Connect 4" against other students' implementations and computer.
- Implementations of various simple algorithms in Prolog (quicksort, A*, the water pitcher problem)

- "Windows explorer clone" with additional features (like splitting and combining large files, automatic refresh when file structure is changed) created in Visual Studio 6.0 (MFC, C++).

- A modeler (MFC, OpenGL) for modeling B-Splines and NURBS surfaces. Implementation of Phong and Gouraud shading, bitmap texture mapping and procedural textures (noise) generation.



- Exact solution for Traveling Salesman Problems using dynamic programming (C++)
- Approx. solution for large TSPs using evolutional algorithms. Added visual comparison between obtained solution and exact solution from internet database. (C++)

- Stack-based calculator
- Application in Matlab for analyzing sound and image signals. Including:
  - displaying the spectrum of a signal
  - implementation of Short-Time Fourier Transform and Fast Fourier Transform
  - applying different filters to a picture using convolution
  - recognizing objects in a picture

- Simulation of a Producer/Consumer algorithm
- Java applet for simulating defragmentation of memory as processes are coming in and out

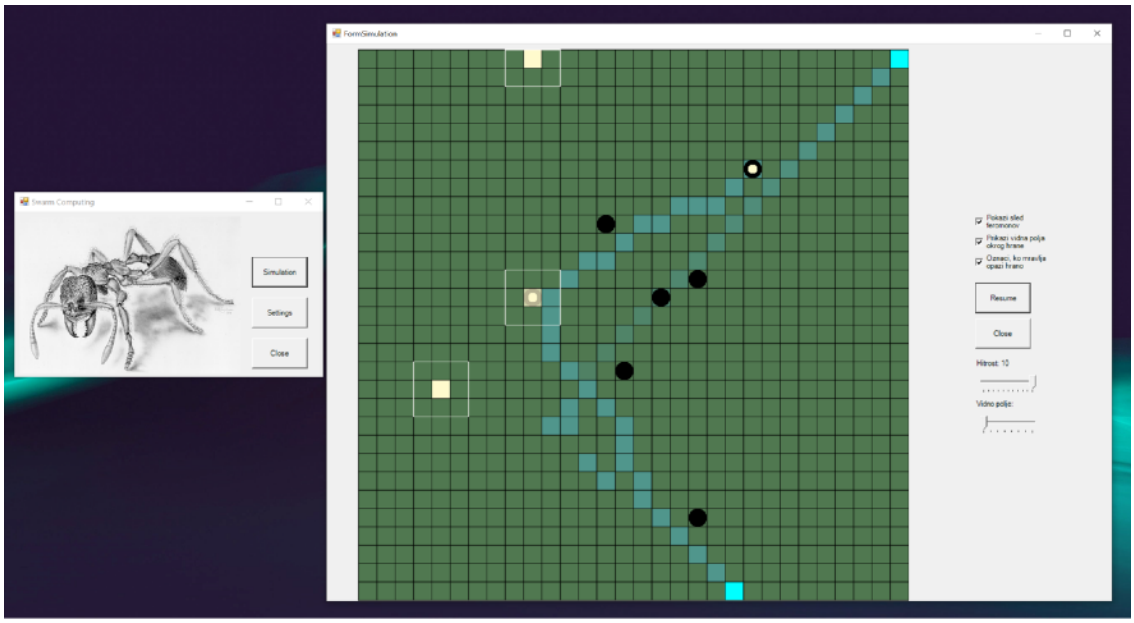
- Some LISP problems, top one being **"LISP interpreter in LISP"**

```
( defun inter ( program okolje )
   (cond
      ((and (atom program) (numberp program)) program)
      ((atom program) (getassoc program okolje ))
      ((eq (car program) 'quote) (cadr program))
      ((eq (car program) 'cond ) (ovrednoti-cond (cdr program) okolje))
          ((eq (car program) '+ ) (ovrednoti-plus (ovrednoti-arg (cdr program) okolje)))
          ((eq (car program) '* ) (ovrednoti-krat (ovrednoti-arg (cdr program) okolje)))
      (t (uporabi (car program)
                  (ovrednoti-arg (cdr program) okolje) okolje))
   )
)

( defun ovrednoti-cond ( seznam okolje )
   ( cond
          (( inter (caar seznam) okolje)
             (inter (cadar seznam) okolje ))
          ( t (ovrednoti-cond (cdr seznam) okolje ))
   )
)

( defun ovrednoti-arg ( seznam okolje )
   ( mapcar (bu (rev 'inter) okolje ) seznam )
)

( defun uporabi ( fun arg okolje )
   ( cond
          (( eq fun 'car ) (car (car arg)) )
          (( eq fun 'cdr ) (cdr (car arg)) )
                   (( eq fun 'caar ) (caar (car arg)) )
                   (( eq fun 'test ) arg )
                   (( eq fun 'cadar ) (cadar (car arg)) )
                   (( eq fun 'length ) (length (car arg)) )
                   (( eq fun 'progn ) (car (reverse arg)) )
                   (( eq fun 'prog4 ) (car (nthcdr 3 arg)) )
                   (( eq fun 'prog6 ) (car (nthcdr 5 arg)) )
          (( eq fun 'cons )(cons (car arg) (cadr arg)) )
          (( eq fun 'atom ) (atom (car arg)) )
          (( eq fun 'null ) (null (car arg)) )
          (( eq fun 'eq ) (eq (car arg) (cadr arg)) )
          ( t ( let (( L (inter fun okolje) ))
                  ( let (( LE (mapcar 'list (cadr L) arg)))
                        ( inter (caddr L) (append LE okolje))
                  )
                ))
   )
)

( defun bu ( f x )
   #'(lambda ( y ) ( funcall f x y))
)

( defun rev ( f )
   #'(lambda ( x y ) ( funcall f y x ))
)
```

- Solving the problem of towers of hanoi by a *simulation* of recursion (pretending that it doesn't exist in C++ and implementing it using stacks)
- Scanner, (recursive descent) parser and syntactical analyzer for a simple domain specific language for robot movement specification (C++)

- Simple XML parser (C++)
- 3D model of a complicated object (Big Ben tower in London) in Mathematica
- Linker for custom object modules (demonstrating of the process of linking) (C#)
- Some basic electronic circuits using programmable microprocessors

- Simulation written in .NET which shows ant movements. Ants searching for food by **following pheromone trails** other ants left, demonstrating *Swarm Computing* approach.



[Collective Intelligence - Ants searching for food by following pheromone trails of other ants]

COMPUTER SCIENCE AND KNOWLEDGE NETWORKS

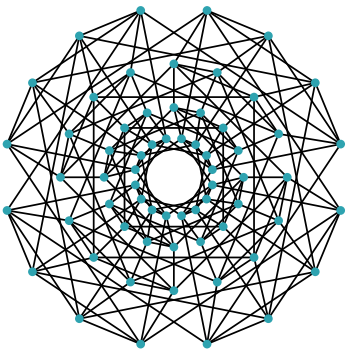
— **uniqpath** **https://uniqpath.com**
— **DMT SYSTEM** **https://dmt-system.com**

DMT SYSTEM is best understood as a set of always-running processes, one per device. The user has total control but also full responsibility for correct setup and specification of his or her needs. You probably have to be *younger generation* to have the available time and mental flexibility to get involved. It starts a bit slow but then you're probably "hooked" for life because this tech is great, at least this is what others say. I can more or less confirm.

DMT ENGINE is like a canvas to paint desirable software-enabled functionalities on top. The more a user invests into the exploration of DMT SYSTEM, the more they stand to gain.

uniqpath is a knowledge network which is slowly emerging through online and offline aspects with curious people collaborating and sharing actionable timely information and insights.

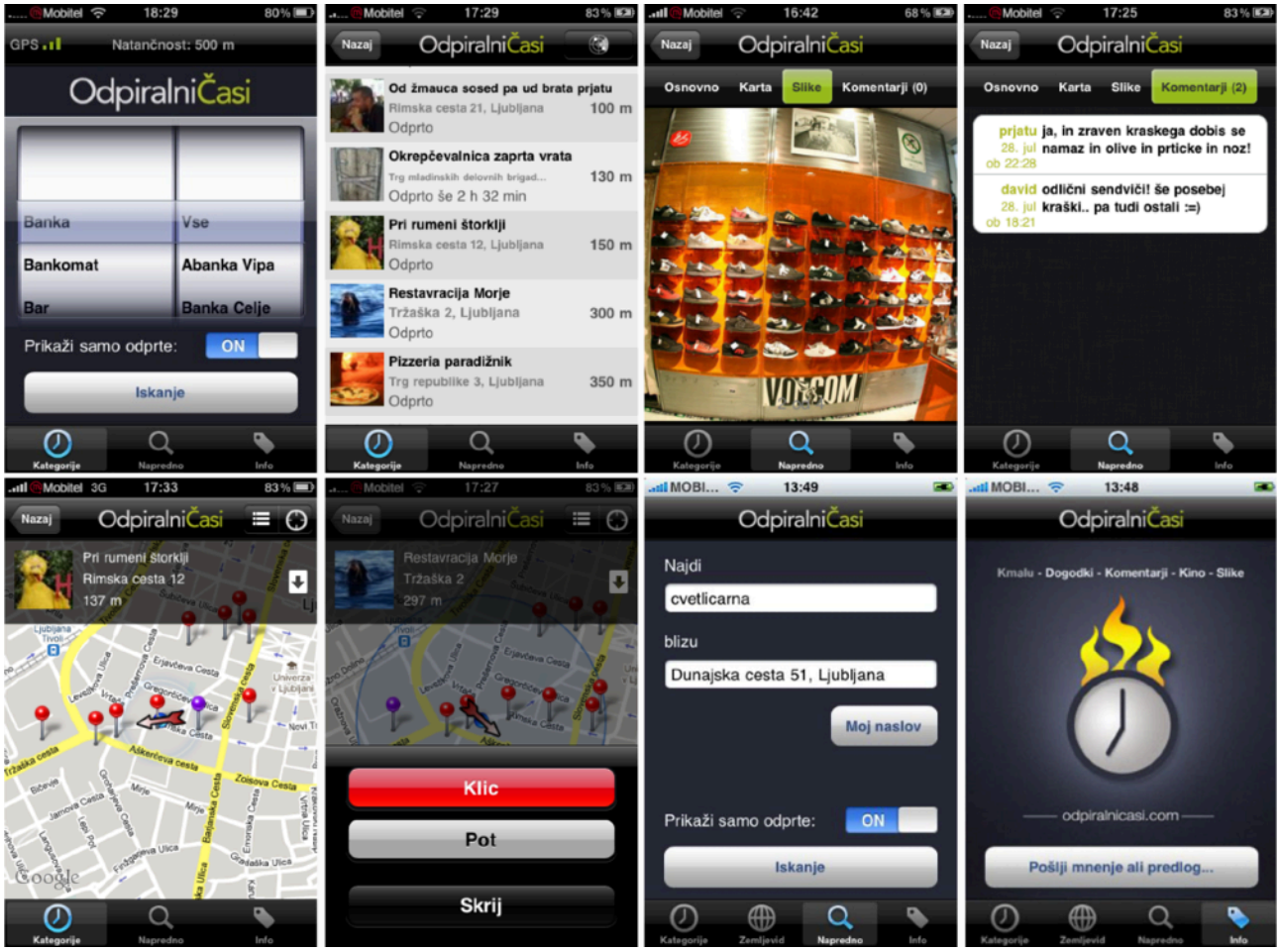
We are a small team and community because this works best for us at the moment. We grow every year and we plan to keep thriving in any environment for many interesting years. Everyone passionate and curious can always find a way to collaborate and share knowledge and insights through this philosophy.



uniqpath

BUILDING KNOWLEDGE NETWORKS

From 2008 until 2012 I have been mostly coding and managing the project **Odpiralni Časi** for which I have been the founder. Odpiralni Časi is a local search engine with focus on accurate opening hours. It was quite innovative for that time and it showed early users of smart phones the capabilities of GPS module. We were the #1 iPhone app in the region for a long time.



At first we obtained a lot of online data, then lead people to update their information themselves but the plan was for this to become the central point where **everyone** would regularly update their opening times, from bar owners to shops and everyone else. *Yeah right! :P*

GRECO (*Aug 2006 - Jun 2008)*

While at Greco (a Slovenian software development company), I lead the development of a intuitive VoIP Call Center for a demanding customer. The application was called LiveProfiler and enabled our customer to run direct marketing campaigns for large customers like Microsoft, Honda and Diners Club. We also developed ThoughtBag for which **mr. Tadej** gave the much needed inspiration and guidance. ThoughtBag is still used at some important places.

BETA
THOUGHTBAG

IPAK INSTITUTE *(2014-)*

Eppur si muove! **—** *IPAK se kreće!* **— [The OG Knowledge Network :]**

IP@K

INSTITUTE FOR SYMBOLIC ANALYSIS AND
DEVELOPMENT OF INFORMATION TECHNOLOGIES
Koroška 18, Velenje, Slovenia, EU

Prof. Dr. STANKO BLATNIK, director

Cosylab www.cosylab.com *(May 2005 to Sept 2005)*

Cosylab is a very respected Slovenian / global company with main focus in control systems for particle accelerators, futuristic medical devices and maybe even fusion systems, possibly!

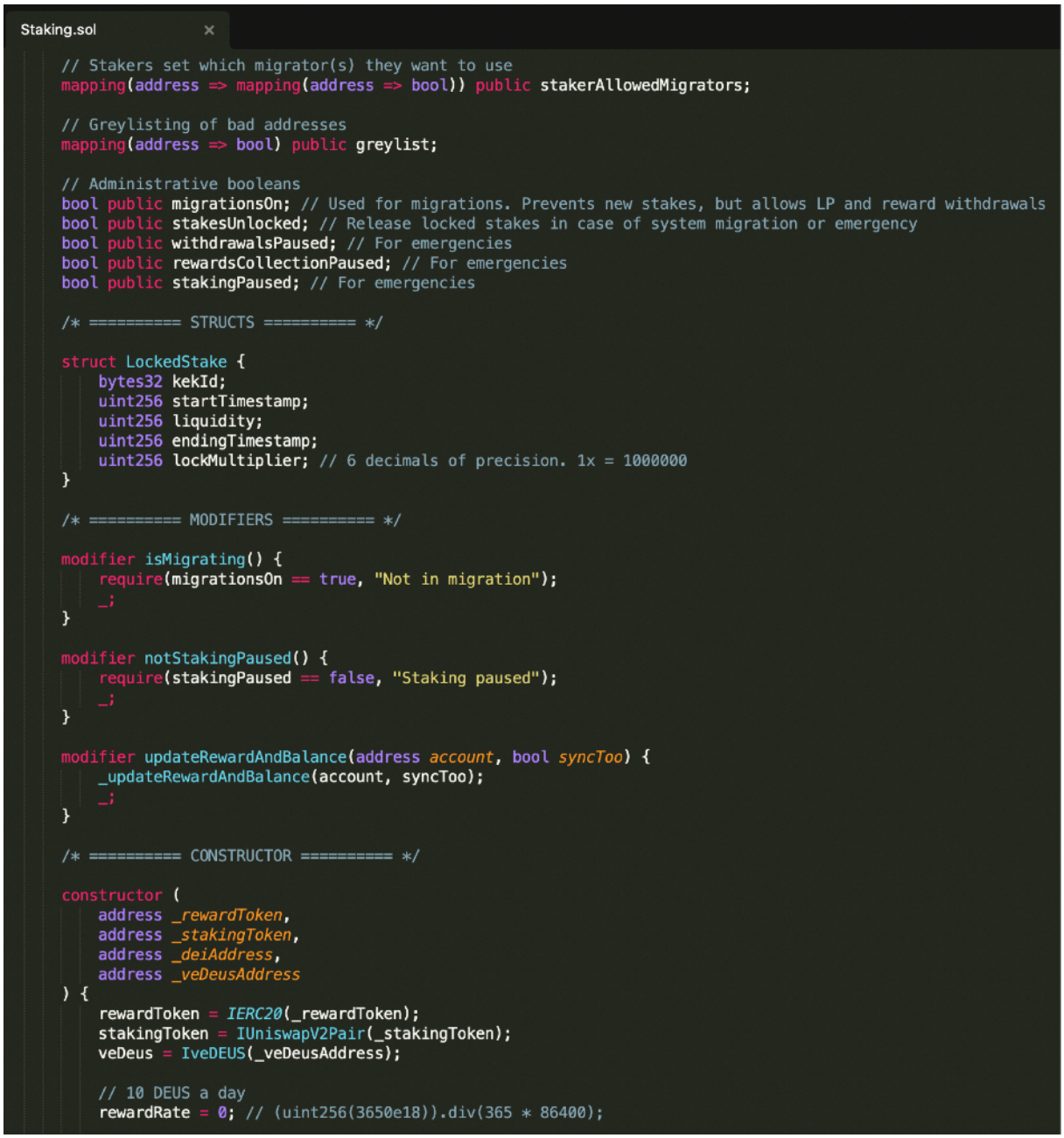
While at Cosylab I developed a prototype application for showing terrain maps on handheld devices (smartphones didn't yet exist). Technology used: Microsoft Compact .NET framework. So basically a pilot project not related to physics that much… but at least I was close to real physicists who were trying to learn Computer Science (hah! )

I joined Cosylab after finishing my studies and later decided to leave to pursue my own project. My project went nowhere but I learned an important lesson. Cosylab went everywhere and I'm happy for them, especially for the strange business / science genius who started it.

OPEN SOURCE 1

Ethereum *(2014-)*

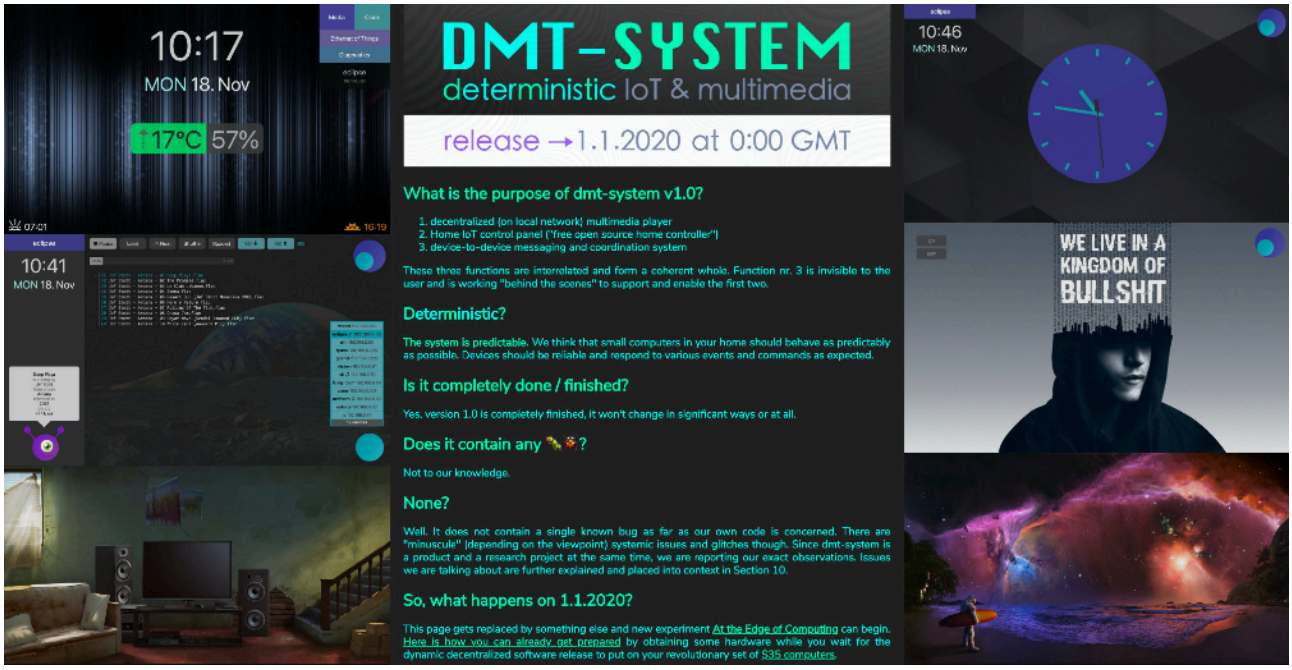
All Solidity blockchain smart contracts in existence use my syntax highlighter which works flawlessly without any errors. I was quite stubborn on making it 100% perfect (this is indeed possible in some areas and I chose such an area or it chose me). Millions of people have benefited from this work since **Solidity** is the main programming language for the future of programmable money and other immutable / fair programs. It feels good to having provided something that impacts every smart contract developer and works reliably and silently in the background on every platform (GitHub, various editors). It is obviously a distinct and much easier contribution from designing a language itself. I just faithfully replicated the language design so that it is represented in the editor and elsewhere correctly (developers see the best possible colors for different building blocks of programmable money code snippets).



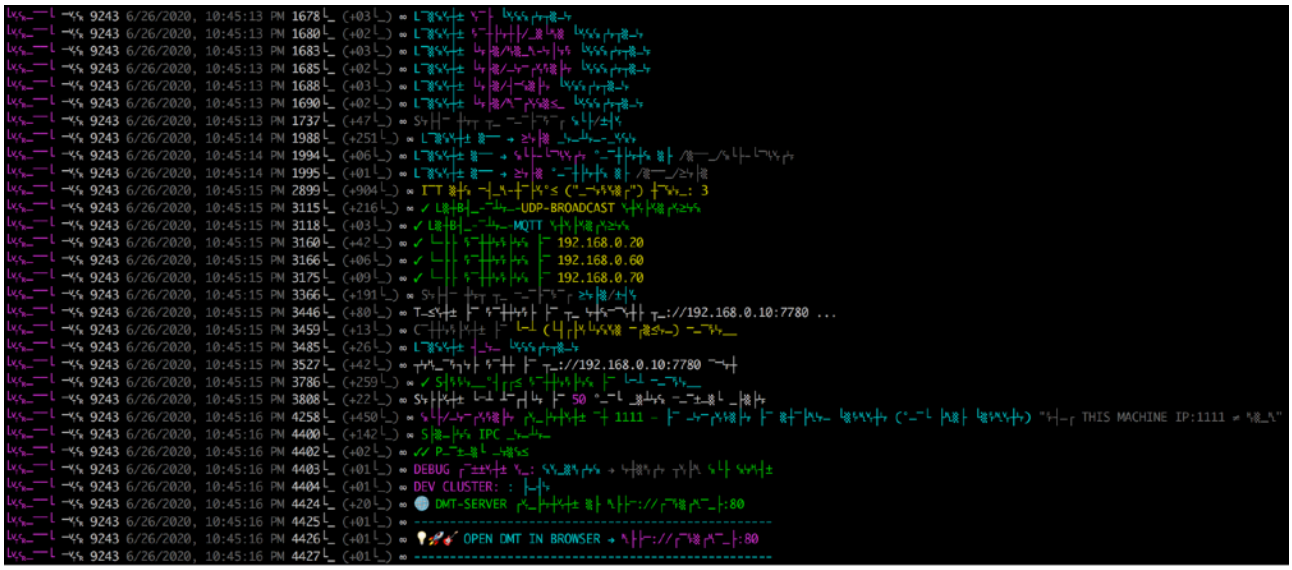
OPEN SOURCE 2

DMT SYSTEM *(2017-)*

DMT is also open source but with limited open access to documentation, for this we have to get to know people a little bit better (they usually join our yearly meetups and we go from there). All open-source projects bump into sustainability issues which are complex and money is only a small part of the equation. Usually developers get overwhelmed with support requests while getting absolutely nothing in return, except possibly "some satisfaction". This can work but some projects *are just different*.



[v1.0 of DMT SYSTEM in 2020]



[A Glitch in The Matrix]

STUDENT AND HIGH SCHOOL WORK

Before graduating I worked on a few projects for electrical engineering companies:

- Application for storing information on projects. Its main features are automatic Word documentation generation and option of updating hours spent on projects across the network by employees. Used technologies: C#, ADO.NET, SQL. Time spent: two years.
- Application for calculation of illumination and light sources arrangement for rooms. Used technologies: C#. Time spent: two months.
- Application for calculation of various electrical components' parameters for buildings (wire type and diameter, fuses etc.). Used technologies: C#. Time spent: one month.

OTHER WORK EXPERIENCE

In summer of 2004 I was working in Food & Beverage in Yellowstone National Park, USA. A letter of recommendation from my manager is attached.

REFERENCES

Tadej Gregorčič (entrepreneur, friend and ex. co-worker);

Stanko Blatnik, phD (professor, entrepreneur);

Marjan Mernik, phD (professor and my diploma mentor);

LETTERS OF RECOMMENDATION

- **Marjan Mernik**
  (professor at University of Maribor, Slovenia and University of Alabama at Birmingham, USA)
  written in 2004, before graduation

  To Whom It May Concern

  I hereby confirm that David Krmpotic is currently a student at University of Maribor, Faculty of Electrical Engineering and Computer Science, Slovenia. He enrolled into our 5 year undergraduate programme on computer science in the year 2000/01. At this moment he finished all exams towards undergraduate degree. Moreover, he finished with practical work on diploma thesis under my supervision. He was exploring the possibilities of developing domain-specific languages in a multi-language execution environment CLR (Common Language Runtime). Therefore, the only step that he needs to successfully finish undergraduate study is diploma thesis presentation. This will be done when he returns back to Slovenia.

  David Krmpotic is one of our best students we had in our programme. His grade average is 9.67 (we are using the following grading scale: 6 - sufficient knowledge, 7 - satisfactory knowledge, 8 - good knowledge, 9 - very good knowledge and 10 - excellent knowledge). His abilities to learn are excellent while on the other hand is a hard worker, too. He finished all exams for second and third scholar year in one year (2001/02). David's personal characteristics are excellent, too. His attitude and commitment to serve in society are admirable.

  Marjan Mernik, Ph.D., Associate Professor
  University of Maribor
  Faculty of Electrical Engineering and Computer Science

- **Akebo Yamakami (professor at State University of Campinas - UNICAMP, São Paulo, Brazil)**

  To Whom It May Concern

  I hereby confirm that David Krmpotic has taken part in the exchange of students arranged by the International Association for the Exhange of Students for Technical Experience (IAESTE) under my supervision, from july/01/2003 to september/20/2003, at "Faculdade de Engenharia Elétrica e de Computação" of State University of Campinas (UNICAMP), São Paulo, Brasil. Moreover I confirm that David has finished successfully all the job we scheduled, and showed a very good application to work and great ability to learn new material.

  Akebo Yamakami, Ph.D.
  DT-FEEC-UNICAMP

- **Jesse Augustine (food & beverage manager - Yellowstone National Park)**

  To Whom It May Concern

  I have had the pleasure of working as David Krmpotic's manager at a park resort this summer of 2004. As our company does not permit me to write a formal letter of reference it is my pleasure to write a personal recommendation. David has always been willing to pick up extra shifts which has made my job much easier. In addition to that he has always worked hard and has brought solutions to the problems in the workplace. As a testimony to his hard work I would mention that he has been promoted from a cafeteria line serving position to a dinning room bussing position. His attendance and punctuality record has been exemplary, and I would recommend him for any position. For more information please contact me personally at (307) 242-9975.

  Respectfully,
  Jesse Augustine

ENDURANCE (SPORTS)

I'm perhaps not that natural at sports and most sports are really boring to me, especially social ones (I know!). I figured I like endurance sports alone or in very small groups and did some in the past. Now trying to return back to doing more again. Motivation goes up and down. Need to do more for keeping the motivation more stable. I heard one can hack Dopamine …

Previously I did:

- Quite a bit of distance cycling
- Ran a marathon or two
- Summit Kilimanjaro, Elbrus, Aconcagua and Triglav (in that order)

You can do a lot in a lifetime

If you don't burn out too fast

You can make the most of the distance

First you need endurance

First you've got to last

Marathon — Song by Rush

UNDERGRADUATE COURSES WITH GPA

Scale: 10 - excellent knowledge | 9 - very good knowledge | 8 - good knowledge |

7 - satisfactory knowledge | 6 - sufficient knowledge

I studied to get good grades. Isn't this the point of study? :P

UNIVERSITY OF MARIBOR
FAKULTETA ZA ELEKTROTEHNIKO, RAČUNALNIŠTVO IN INFORMATIKO

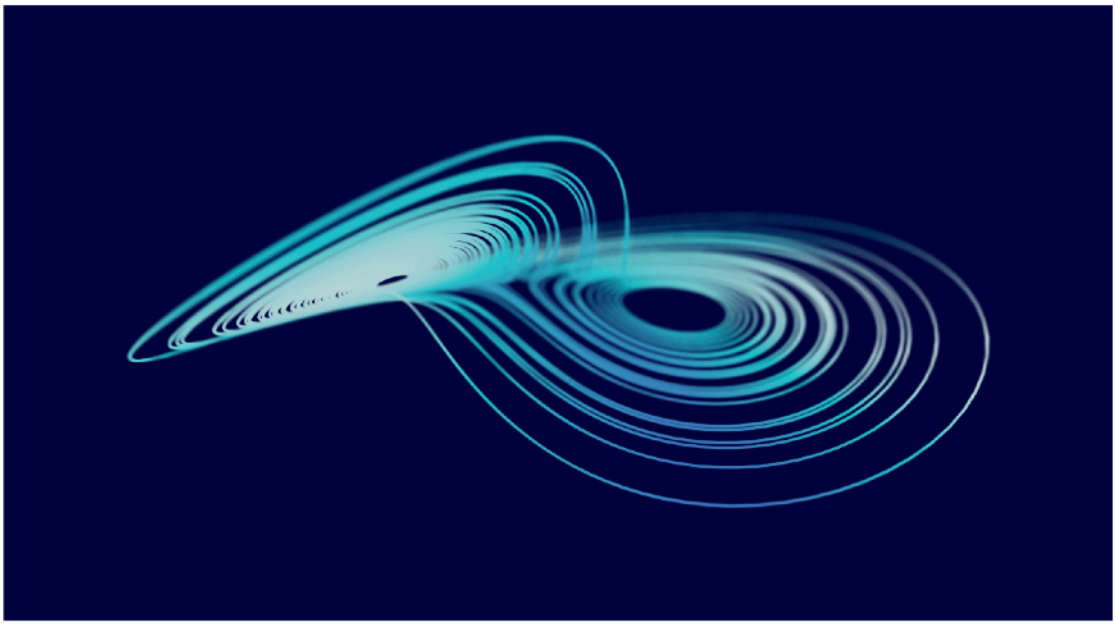
CONFORMATION OF PASSED TESTS

Date: 14.05.2004
Inscription no.: 93483668 Gen.: 2000 Family Name and Name: KRMPOTIĆ DAVID
Way of Studies: Regular Place of Birth: MURSKA SOBOTA
Sort of Studies: University SS education: GIMNAZIJSKI MATURANT
Programme - direction: RAČUNALNIŠTVO IN INFORMATIKA
Last inscription year: fifth year

No.	Subject	Year	Grade	Date
1.	Physics	1	09/09	09.01.2001
2.	Analysis I	1	09/10	31.01.2001
3.	Linear algebra	1	10/09	13.02.2001
4.	Programming I	1	10/10	20.02.2001
5.	Discrete structures	1	10/10	06.06.2001
6.	Programming II	1	10/10	11.06.2001
7.	Analysis II	1	09/10	14.06.2001
8.	Electrical engineering	1	10/10	26.06.2001
9.	Analysis III	2	10/10	25.01.2002
10.	Electronics	2	10/10	29.01.2002
11.	Economics	2	10	05.02.2002
12.	Data structures	2	10/10	06.02.2002
13.	Peripheral devices	3	09/10	05.04.2002
14.	Switching structures and systems	2	10/09	18.04.2002
15.	Probability calculus and statistics	3	10	22.04.2002
16.	Algorithms	2	10/10	27.05.2002
17.	English for specific purposes	3	10	04.06.2002
18.	Computer architecture	2	10/10	18.06.2002
19.	Principles of programming languages	3	10/09	18.06.2002
20.	Microcomputers	3	10/10	19.06.2002
21.	Computer graphics	3	10/10	26.06.2002
22.	Operating systems	3	10/10	27.06.2002
23.	Introduction to information systems	2	09/10	28.06.2002
24.	Numerical mathematics	2	09/10	02.07.2002
25.	Systems theory	3	10/10	27.01.2003
26.	Applications development	4	10/09	27.01.2003
27.	Object and functional programming	4	10/10	30.01.2003
28.	Computer communications and networks	4	07/10	31.01.2003
29.	Evaluation of computer systems	4	08	15.07.2003
30.	CAD/CAM systems	4	10	15.07.2003
31.	Distributed computer systems	4	08	15.07.2003
32.	Databases I	3	09/10	21.07.2003
33.	System software	4	10/10	01.09.2003
34.	Evolutionary programming	5	10/09	22.12.2003
35.	Modelling and simulation	4	10/10	23.01.2004
36.	Artificial intelligence	5	10/10	23.01.2004
37.	RAZVOJ APLIKACIJ ZA INTERNET	5	10/10	29.01.2004
38.	Multimedia	5	10/10	02.02.2004
39.	Robotics	5	09/09	13.02.2004
40.	Computer animation	4	10/10	18.02.2004
41.	Signal and image processing	5	08/09	09.03.2004

Average grade: 9,67

[CONTACT]



uniqpath

BUILDING KNOWLEDGE NETWORKS

David Krmpotić, BSc. Computer Science

david at uniqpath.com

[MY BUSINESS … CARD]

~ IT INCLUDES EMAIL WITH ADVANCED SPAM PROTECTION ™ ~