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VISIONEN

avengers



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Editorial

Labvakar!

We have entered 2026, and a lot has happened since the previous issue of *VISIONEN* was published. Most importantly, you have probably noticed that the editorial is now written by... who dis? After years of being chief moderator of r/ethz, I, **Juno Kreisler**, am now in charge, bringing no relevant skills to the table. Some may even be scratching their heads at the sight of my face or name on here! As an introductory move, I decided it would be a *good idea* to write an article too, as well as design the cover and do the layout for this edition.



Obviously, we have also once again changed our roster of poor unfortunate souls on the VIS board, whose time and energy is sacrificed daily and hourly to ensure the perpetuity of many large and small things that influence the lives of ETH students. These heroes are the reason your schedule is (hopefully) filled with more than just studying.

What other stuff should I add to this editorial? Uhh...

Anyway, to the point: I sincerely apologize for the delay in this year's first edition. Between suddenly becoming a committee president the same day I pressed the "Submit Degree Request" button on *mystudies*, starting a PhD in my mentor's lab, and the months-long chastising of the Maid Cafe organizers, the need to change things up in *VISIONEN* has been akin to a siren at the back of my mind.

So now I request YOU, the reader, to tell us what YOU want to hear, so that we know what we can do to make *VISIONEN* more appealing to YOU. A basic anonymous *VISIONEN* reader's feedback form with only one question - "What do you (not) want to see in *VISIONEN*?" - can be found here:

<https://ej.uz/7p58>. Your feedback here is truly indispensable.

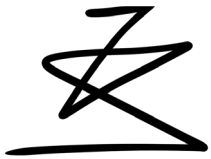
VIS members should expect a more comprehensive *VISIONEN*-related survey to pop up in their inbox sometime around the end of the semester. I'd also greatly appreciate specifically CBB students leaving some kind of sign that they read this thing too...

This edition, which Benji and last semester's *VISIONEN* team already named *Avengers*, will be

decorated by my various attempts at making Blockbench models of our most beloved superhero, Björn, in some possible colors, shapes and sizes. Blockbench certainly has NOT been one of my new outlets of procrastination. Maybe by the next edition of VISIONEN, I will have learned to make the models pose nicely. And maybe I won't be writing, laying out and cover-designing at the same time..?

As always, please send your articles to visionen@vis.ethz.ch.
We shall lock eyes again... in The Room.

VISu labu un uz redzēšanas,



Juno Kreisler



Präsikolumne

JOSHUA DURRANT -TOO BUSY TO CARE ABOUT BYLINES

Hello everyone!

The exam phase is a distant memory, and the new semester is already in full swing. I hope all of you had some downtime where you could somewhat recover and get ready for this semester. While most were resting, the old board remained hard at work, such as the treasurer finishing up the Jahresrechnung and prepping for MV, HoPo tackling weird exam issues, the Partypeople hosting the Prüfungsdetrunk and the Snowdayz and Ex-Präsi (now DepKo-Präsi) finalising everything for the General Assembly (MV).



Speaking of MV, our most recent MV was on the 3rd of March (which was one of the shortest ones in recent times?) and with that, a new board has been elected with me as President. I have already had the pleasure of meeting the director of studies, Adrian Perrig, where we briefly discussed various plans of the D-INFK from PAKETH to course evaluations. I also attended an SK meeting where D-INFK strategised about various topics.



Looking at our events, we already had some great ones! Kontaktparty, the largest IT recruiting fair in Switzerland, happened on the 14th of March and Mojito Night, which we hosted together with ICU on the 18th of March. Both were great successes! We are only getting started, as we have some grand events planned for you! Starting with Björn's Birthday on the 27th of April, VISTA on the 8th of May and the yearly Summerbrunch on the 29th of May. Definitely mark the date for VISTA in your calendars as it is the highlight of the year! For the uninitiated, VISTA is a huge BBQ / party in the Circle Park at Zurich Airport where once gets unlimited food and drinks included as long as you are a VIS member. If you are not a VIS member yet, sign up on MyStudies. Externals can get the same benefits when signing up for a helper shift, which, in my opinion, is one of the best deals there is.

At the time of writing, the board has bonded with the boards of AMIV, VMP and VSETH over a few games of Laser Tag. Next, we are going to our offsite in Piedmont, Italy, where we will (hopefully) be very productive tackling the internal affairs within VIS, while enjoying ourselves in Italy. We also got pranked by DepKo during our absence (if you want to find out more, read the Deppenkolumne) and had to return the oVIS from a bar back into an office..

Overall, I am looking forward to the rest of this eventful semester! If you want to join any committee to awaken your creative spirit, collect exams for Community Solutions (ComSol), work on our IT-infrastructure (be it software or hardware) or organize events, you can do it by ticking the relevant boxes in members.vis.ethz.ch/join-committee. If you are unsure, feel free to reach out to us via email or visit us in oVIS. Well, this Präsi-kolumne is getting quite long, so I will end here. Till next time!

Best,
Joshua



Hopokolumne

ELMAR - GOES TO MEETINGS SO THAT YOU DON'T HAVE TO

Hii everyone!

What can I say, it is spring, it gets warmer and brighter everyday, and the end of the semester is already vaguely nearing. I will thus give my best to keep this Hopokolumne as warm and bright as possible, because I do not want to destroy those good spring vibes.

And there is actually quite a lot of small little Hopo wins I am happy to share with you! Due to complaints we recieved from students, we managed to reclassify some subjects in the Cyber Security Master (which is a joint degree program with EPFL) from Core Elective to Core Courses. Even though this is arguably a niche topic, we are always happy to try and make actual improvements happen in our teaching commission.

A bit earlier, during the grey days of January, we were able to shine a light on the Masters category "Free Electives". Taking a closer look at it, we found out that "Free Electives" are actually "Free", and you can choose a lot more subjects than we initially assumed. We hope that you can enjoy that new freedom in your degree.

However, I do not want to bullshit you with my pretty little Hopo paradise. The political world outside of our cozy D-INFK has not only been fun and games in the last weeks. The great efforts of the Swiss-wide student representatives at VSS were brought to an abrupt halt when the Green



party announced that they no longer support our referendum against the budget cuts in the educational sector. We had to cancel all of our amazing plans to collect signatures and need to think of alternative ways to maintain the affordability of studying in Switzerland.

Sorry for that downer. In other news, PakETH (the restructuring of the academic calendar and curricular at ETH) has been delayed by one year and will be implemented in HS28. We are optimistic that we can use the gained time buffer to further include your interests in the revisions. You will have to wait for your actual summer break for one more year though :/

With that, I wish you a very sunny rest of the semester!

Elmar

Deppenkolumne

MICHELLE HONEGGER - NÜMME PRÄSI, QUEEN OF FILZ

Hoi Zämä,

Anschiinend bechömed ihr ab jetzt ih jedere Visione usgab eh Deppe Kolumne. Da ich selber nonig richtig weiss was genau meh det driisch-riibe sett isch es wahrschiinlich eifach chli gelaber. Ich fühl mich aber sehr geehrt, dass ich die ersti Deppe Kolumne schriibe derf! Für zumindest es bitzeli Kontext da eh churzi erklär-ig: Wieso Deppe Kolumne? - Vor ungefähr einem Jahr hend mir im VIS dDepKo ggründet. Das isch eh Kommission vo luuter lüt wo mal sehr aktiv im VIS gsi sind. Mir tüend jedes Semester es paar Events organisiere zum de Kontakt zu de Alumnus nid verläure. Eh anderi sehr wichtigi Ufgab vo üs isch es, de Vorstand zpranke, während sie ih ihrem Vorstandswucheend sind. Also falls irgendöppert eh cooli Idee het für en Prank, melded eu sehr gern bi mir oder anderne DepKo Members. Leider chan ich ih dere usgab nonig so viel über de nechsti Prank rede, weil es ja suscht kei Überraschig meh für de Vorstand isch aber immerhin hemmer scho en Plan. Eh zweiti Frag wo mer sich vielleicht stellt, wenn meh das jetzt grad liest, isch: Wieso Schwiizerdütsch? - Das het au en ganz eifache Grund:

De Jonas het das mal ahgfangen bi de Semester Reports. Drum mached mir jetzt eifach alles uf schwiizerdütsch. Natürlich sind mir aber sehr inklusiv und gänd immer no eh Übersetzig is Englische, wie obe schomal erwähnt.

Ich weiss, dass ihr scho vo de Präsi Kolumne über die grösste Events ih dem Semester informiert werded. Dennoch möcht ich da au no es paar Sache füre hebe, weil sie halt scho mega wichtig sind. Einersiits würd ich eu sehr gern ufs VISTA ufmerksam mache, das findet am 8. Mai statt und es

DISCLAIMER: The following text is written in Swiss German for reasons described in the text. The english version can be found under the following Link: <https://ej.uz/9rnd>



wird sicher en Hammer Obig! Mir vo de DepKo werded eh Barschicht überneh und sind scho flüssig am plane, wie mir da debii eh lustigi Ziit ha chönd. Usserdem isch es ja grad au es FS, und wie die langjähriigi Tradition beseit, gibt es jede Friitig im FS de VIS-Pub. Für meh Infos da dezue chönd ihr gern de entsprechendi Slack Channel joine. Det wird amigs au announced wo genau es VIS-Pub stattfinde wird. Leider isch die Tradition ja ih de lettschte paar Jahr chli verlore ggange aber dank em Jacques hemmer das zum Glück nid ganz vergesse. Mir freued üs mega fescht, zum die Eventreihe wiederzbelebe. Es Semester het au scho sehr guet ahgfangen und die erste paar VIS-Pubs sind erfolgrüchli duregeführt worde. Mir würded üs sehr freue zum bi de nechste paar VIS-Pubs au



paar neuu gsicther ahztrefte.

So und da ich jetzt meh gschriibe han für die Deppe Kolumne als für jedi vo miine Präsi Kolumne glaub ich langet das au mal für die ersti Usgab vo dem Format. Ich hoff ihr sind nid ganz ihgshlofe bim lese vo dem Artikel. Falls ihr no kei Schwiizerdütsch chönd isch das übrigens au en mega guete weg zums lerne, also leg ich eu wärmstens ahs Herz zum de Teil vo de Visione nid zskippe au für die nächste Usgabe.

Grüessli,
Michelle

The Heroic VIS Board of FS26

Editor's note: the free space is for you to draw what you believe is the supreme heroic fit for each board member. I can't model clothes that well yet.
Send your best designs to visionen@vis.ethz.ch

Name: Joshua
Board Position: President
Semester: 2nd Master (8th Semester)

Favorite hero: Spiderbjörn
My iconic catchphrase: *It is what it is*

Am I a hero or do I need a hero, why?
I am a hero, as I try to inspire and help others when- and wherever I can.

Who is my sidekick and why? My calendar app, so that I don't forget anything important, be it meetings, events or general deadlines.

What in VIS do I want to save? The momentum, as VIS has so many cool projects. I want to make sure things actually happen instead of just being talked about.

What villain am I fighting against as President? The lack of sleep



Name: Elmar
Board Position: HoPo
Semester: 4

Favorite hero: Gregor Gysi
My iconic catchphrase: *Der VIS ist parteipolitisch und konfessionell neutral*

Am I a hero or do I need a hero, why?
I need a herooo! I'm holding out for a hero till the end of the night!

Who am I the sidekick of, why? I am the sidekick of vseth hopo tbh

What in VIS do I want be saved? Lilith and Oberon must be protected at all costs

What villain am I fighting against as HoPo? I will have to pass on this question for diplomatic reasons

Name: Joël
Board Position: Treasurer
Semester: 4th Bachelor

Favorite hero: Deadpool
My iconic catchphrase: *Fuck it, we ballin*

Who is my sidekick, why? Abacus is my ****ing sidekick

What in VIS do I want to save? I want to save our money

What villain am I fighting against as Treasurer? Eidgenössische Steuerverwaltung



Name: Severin
Board Position: (Fest)Aktuar
Semester: 6th BSc

Favorite hero: Loki
My iconic catchphrase: *I'm not here to save the day. I'm here to record that someone else did.*

Am I a hero or do I need a hero, why?
"I need a hero", or something like that - Bonnie Tyler, 1984

Who am I the sidekick of, why? I am sidekick to El Tony, I don't know what I would do without Mate Zero.

What in VIS do I want to be saved? The Red Bull fridge :(

What villain am I fighting against as Aktuar? Board Members not filling out their Mitteilungen and spam messages on VIS Mailing Lists.

Editor's note: Guys, I think we found the villain...

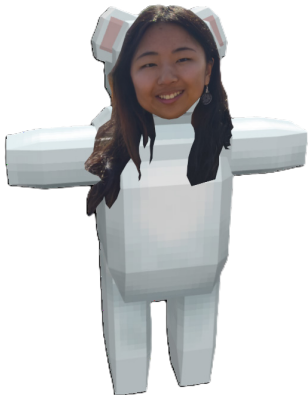
Name: Daria
Board Position: Infrastructure
Semester: [redacted]

Favorite hero: [redacted]
My iconic catchphrase: [redacted]
Am I a hero or do I need a hero, why? [redacted]

Who is my sidekick, why?
[redacted] Coffee [redacted] oVIS Snacks [redacted]

What in VIS do I want to be saved?
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]

What villain am I fighting against as Infrasctructure? [redacted]



Name: Ruilai
Board Position: Partyperson
Semester: 6th Bachelor

Favorite hero:
哪吒 (Ne Zha), though I always thought he's a she
My iconic catchphrase: Huh?

Am I a hero or do I need a hero, why?
I need a hero because I'm a heroine:)

Who am I the sidekick of, why? Transgourmet pearjuice (90% apple and 10% pear) ever since
Snowdayz (I'm getting an unhealthy addiction)

What in VIS do I want to save (if I'm a hero) / be saved (if I need a hero)? The unused lager space of
VMP office (when do we finally take over?)

What villain am I fighting against as Partyperson? Sushi rice (if you know you know :O) and gravity
(coz I keep falling)

Name: Mark
Board Position: Party Person
Semester: 2nd Bachelor

Favorite hero: My Friends
My iconic catchphrase: Chunnt scho guet.

Am I a hero or do I need a hero, why?
I need one, because there are just some things that I do plainly wrong. It would be so much easier if
someone could decisively say what I should do. (I probably still wouldn't do that)

Who is my sidekick, why? My sidekick is currently doing military service :(

What in VIS do I want be saved (if I need a hero)? I want to save the oVIS Snacks, because they are
(usually) so delicious and they are an easy target for some evil hungry creatures. But how can you save
something from yourself??

What villain am I fighting against as a Party Person? As a Party Person I am fighting against
boredom. I am also fighting against the stressful everyday life at ETH. I am not saying that drinking
away your problems solves them, but we have a lot of popular events involving alcohol.



Name: Frederik
Board Position: CAT Präsi
Semester: 4th

Favorite hero: Batman
My iconic catchphrase: Hopefully Soon

Am I a hero or do I need a hero, why?
You need a hero only until you realize it's you.

Who is my sidekick / am I the sidekick of, why? The almighty Jacques

What in Vis do I want to save? ComSol, without it, no one would pass the exams ETH throws at us.

What villain am I fighting against as CAT Präsi? Edgar the Bug, as he doesn't like it when bugs are
killed, especially bugs in code

Name: Junus Hirner
Board Position: Sysadmin
Semester: 6

Favorite hero: Don't have one
My iconic catchphrase: *No curries(queries), no worries :)*

Am I a hero or do I need a hero, why?
Idk, next question

Who am I the sidekick of, why? I'm probably the sidekick of the other sysadmins. Some senior to me who tell me what to do. And some junior to me who I support in their progress. Also, my Laptop. Obviously.

What in VIS do I want be saved? CIT, just CIT.

What villain am I fighting against as Sysadmin? Idk, nothing really. Except for the random IT-support requests. And sometimes randomly broken Infrastructure, which actually rarely happens.



Name: Jonas
Board Position: ERK
Semester: 1st Master (8th)

Favorite hero: Lucio
My iconic catchphrase: *Free food?*

Am I a hero or do I need a hero, why? Need a hero because I cannot be bothered

Who am I the sidekick of, why? *I am the sidekick of Opus 4.6*

What in VIS do I want to be saved? Working on VIS Website

What villain am I fighting against as ERK? Poverty

Name: Demir Aydınoğlu
Board Position: Kommu
Semester: 6th Semester BSc

Favorite hero: Flash
My iconic catchphrase: *Abi, ...*

Am I a hero or do I need a hero, why? The main character vibes here, I don't need a hero.

Who is my sidekick, why? What a hero needs is team members / partners, not sidekicks.

What in VIS do I want to save? Kommu position, if we automate the Kommu duties.

What villain am I fighting against as Kommu? Who is LUK?



Name: Metehan
Board Position: LUK
Semester: 6

Favorite hero: VIS events' helpers, you are the real heroes
My iconic catchphrase: *This is LUK*

Am I a hero or do I need a hero, why?
I don't know, to be or not to be, right?

Who is my sidekick, why? I can not live without people keeping ComSol alive

What in VIS do I want to save? I wanna save VIS from the blacklists of professors who blacklisted us after spamming asking them nicely for exams.

What villain am I fighting against as LUK? AI takeover of exam support

Super Mario Galaxy Movie Review

AS REPORTED BY A SONIC FAN. OBVOUSLY CONTAINS SPOILERS!!!

So I went to see the new Mario movie with a few other VIS peeps.

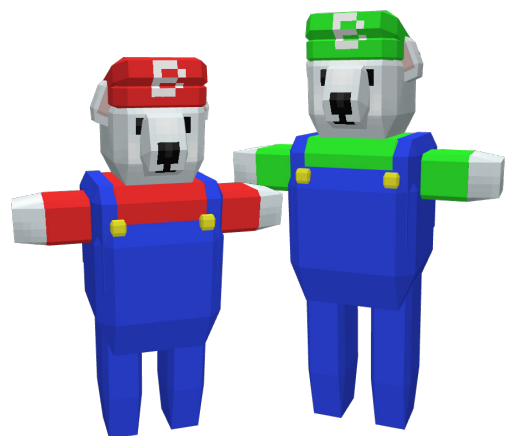
As a decades-long fan of Sonic the Hedgehog, I obviously could not watch the movie in good faith. I came prepared to take notes and criticize. I also did not watch the first movie, but I'm not evaluating the plot continuity of this movie. Also, for the sake of staying on track, I'll ignore the whole 4dX aspect of our movie-watching experience.

Commenting on the visuals before I proceed with spoilers: Illumination was involved in the making of this movie, and their visuals are generally top notch: this move is no exception. The environments were very immersive, especially in the locations shown in the middle of the movie. I was also pleased to see a disclaimer prohibiting the use of this movie in AI training (not the first case of that

[1]), although I remain skeptical about the idea that such disclaimers matter. Ironically, sometimes my immersion, especially in slow scenes with Peach and/or Rosalina, was broken by the nagging feeling of watching AI-generated clips, which probably reflects the fact that animations by Illumination, Disney and other animation studios have been extensively used in training AI that lets us produce... questionable slop.

Let's start with the title of the movie and how it relates to the plot and the game it gets its name from. It's referencing one of the best-received video games ever [2] [3] [4] in terms of production quality and experience: Super Mario Galaxy. Are any of the awesome elements of the game portrayed in the movie? Nope. However, to be fair, I'm pretty sure this movie serves to attract little kids to the Mario games, not to bring the already loyal Mario fanbase to the cinema. But the kids will be disappointed when they grow up, play Super Mario Galaxy and realize that there are no barrel roll- waaaaaaaaaaaaaitaminute, let's not rush there yet.

What frustrated me most in the movie was the overwhelming convenience of the powers of the Mario brothers. I'm not sure how convenient everything was for the guys in the first movie, but in this one, I complain about the following five points:



What do princesses actually do?

Throughout the movie, I was confused about what kind of skills Peach and Rosalina are supposed to have. For Rosalina, it was somewhat clear that she first needed to generate her wand before doing anything. But Peach can just do stuff without secondary tools. So, apparently they can rejuvenate life and(/or?) create it out of nothing (covering a junkyard with lush greenery is no small feat)? Why couldn't Peach then just generate herself, for example, a fire flower to deal with the brawl more easily in Wart's Casino? Next, what was the purpose of this touching-hands-to-exchange-stardust thing? And how did it pull Rosalina out of the cannon chamber? Maybe I should stop thinking about it, or it's going to break my mind... ugh, children's movie magic. Sonic may be pulling items out of his ass, but at least rings and Chaos Emeralds have had consistent powers across the Sonic multiverse.

Ugh the PLOT ARMOR

In the Mario brothers' opening scene: the fire flower, which is conveniently not consumed until its appearance from under their cloaks (that get burned away upon contact, uhh), then the seemingly infinite uses of the fire powers (if you have played Deep Rock Galactic, this will trigger you). And once their powers run out, there is no transition between the white-sweater forms and their base forms (I actually asked other people around me if I just missed a transition because of taking notes; apparently there just WASN'T any transition), which makes it feel like a glaring animation error. Other animation "errors" include the fact that Rosalina's castle doors were magically mended after her disappearance, when a Banzai Bill (the missile) blew through those doors.

Destroying the lore... for what?

Rosalina's whole persona is just weird. With how powerful she is, and with the Lumas being able to traverse the galaxy to spread her word (not to mention the Gateway Galaxy being available for her to use, like, anytime), it's a bit... egoistic and uncaring of Rosalina to never visit her long lost sister (or request her attendance, or send some galaxy snail mail), whose location and life story she knows so well, she wrote an entire book about it. Was there anything holding her back? Because nothing throughout the whole movie, except for that one event that split them up, seemed to indicate that. Was it really worth the effort to break Rosalina's game canon just to try to explain the existence of Peach? I'm glad they at least didn't try to explain Bowser Jr.

The best part, yet somehow also the worst part, of the movie is that...

...they REALLY had to bring in a whole different franchise, just to bring Peach to Space Junk Galaxy? Even though the movie became much more exciting to me the moment Fox McCloud showed up (Sonic fans looove our fellow fox pilot!), it is obvious to anyone above the age of 10 that it was merely a shameless plug for a different franchise (who most people only know because of Super Smash Bros. and the retro meme phrase "Do a barrel roll!") that Nintendo may be trying to revive after nearly 10 years of silence [5]. The 30-second 2.5D animatic depicting the adventures, aspirations and friends of Starfox (which was wonderful but had nothing to do with the plot) was a massive 4th wall breaker that low-

key reminded me of those ads Youtubers put into their videos. However, I must admit: after seeing how charismatic Fox is in this movie, I seriously want to see him star in his own; to me, he shines much brighter than those stars that he rizzed up.

I did NOT expect a Sonic reference

Being blasted upwards to escape falling into the abyss, holding a princess in your arms... Sonic did that 20 years ago in my favorite game of the entire Sonic franchise, *Sonic the Hedgehog* (2006). Except Sonic didn't voluntarily jump down, expecting to be blasted perfectly upwards like the plot-armored oracle Mario.



The plot wasn't 100% bad, though

The Bowser-Bowser Jr. relationship subplot was lovely. For a children's movie, a parent's guilt of not being there for their child and the growing disconnect from evil-doing that Bowser had after spending a long time in "rehab" is portrayed about as well as it can be, considering their screentime. Since there will definitely be a sequel to this movie (whether I want it or not), I just hope that they will get to develop a stronger bond, even though Bowser is now just a talkative pile of ashy bones. Surely his talented, crafty son will find a way to put those bones back together.

So, my overall rating for the movie would be a composite of 9.5/10 for visuals (amazing but not really unique), 8/10 for Fox McCloud (in the last 30 minutes) and 2/10 for the plot (Bowser being the uplifting factor): there was a clear plotline, but the stakes were extremely low, not because of the stakes themselves, but because of the massive plot armor and vaguely defined super-powers. Some arbitrary calculations based on this score yields roughly 6/10. It was a pleasant watch to experience in the moment, but not very satisfactory if you actually know Mario and try to relate what you saw in this movie to your prior knowledge..

For a better plot experience, I highly recommend the three Sonic movies released so far (yes, all three of them, they're all great!!! You don't even need to watch them in order, but it helps). And for people of the future, also Sonic movies 4, 5 and 6. In an ideal world, maybe we could even have a Starfox and Sonic crossover movie.

[1] <https://nintendowire.com/news/2026/04/08/the-super-mario-galaxy-movies-credits-include-a-disclaimer-about-not-being-used-to-train-ai/>
[2] <https://www.metacritic.com/game/super-mario-galaxy/>
[3] <https://multiplayer.it/articoli/i-100-migliori-videogiochi-della-storia.html>
[4] Mott T. (2013). 1001 Video Games You Must Play Before You Die. Universe Publishing. ISBN 978-1844037667.
[5] <https://www.polygon.com/new-star-fox-game-2026-nintendo-switch-2-rumor-leak/>

Kino Program

2026
by soseph

25 February
The Girl Who Leapt Through Time



04 March
Kill Bill: Vol. 2



11 March
Past Lives



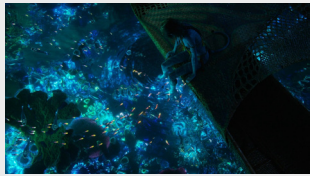
18 March
Tre uomini e una gamba with: ASTAZ



25 March
Top Gun: Maverick with: AAZ



01 April
Avatar: The Way of Water



15 April
The Dictator



22 April
The Fall



29 April
Steve Jobs



06 May
The Machinist



13 May
Her



27 May
Zootopia 2



free entry every wednesday in ETH HG F1 at 18:30

VVZAPI

MARK CSURGAY - JARVIS, COOK UP MY NEXT SEMESTER

Every semester is the same story. You want to search for some courses to plan out your semester, you open the Course Catalog (VVZ), and then sluggishly jump through page after page until you finally find a few potential candidates for your next semester. Every single click makes you tediously wait. And personally, it also pains me to see a website being so slow in this day and age. Though, it's still somewhat impressive for VVZ to still be running with minimal (frontend) changes since 25 years.

Students are not satisfied with VVZ. Want proof? In the past years, almost every VIScon hackathon has had a task related to creating an improved VVZ or course planning tool. Seemingly, I keep coming back to VVZ, even having worked on a course planning tool in two separate VIScon hackathons. Creating such a tool presents two major hurdles. On one hand, it is a large undertaking to create a tool that can correctly keep track of every requirement for all the different study programmes. But even if you choose to forgo that aspect, there is still the looming question of how to even get the data for all the courses. You might only be interested in the course name, number, and credits, but maybe you also want access to the course description and exam information.

But how can you get the actual course data? VVZ has an internal API, but it requires authentication, so it is a no-go if you just want to quickly play around with data to see if your

tool even makes sense. There is only one other option: You will have to resort to scraping the raw HTML pages of VVZ and then tediously extracting all the relevant data. While not the most difficult task imaginable, it does impose a challenge, especially in the likely case that you don't know the full structure of VVZ and what all the values can be or how everything gets displayed. So even with an AI agent speeding up the work of writing all the scraping logic, you will inevitably stumble upon something new that you didn't expect or correctly handle. Luckily, you can assume that the actual structure of the HTML will probably not change anymore, allowing for any scraping tool to be quite heavily hard-coded.

And don't even try to make any assumptions about the structure of VVZ. Anything that you believe suuuurely doesn't exist, actually *does* exist. Did you know there can be two courses with the same number (000-0000-00L type number) in the same semester, or that credits don't have to be integers? Credits can theoretically have up to four decimal places. Luckily, the most I've stumbled upon only uses one decimal place. For example, 151-0055-10L *Ingenieur-Tool: Planung menschlicher Arbeit* in the 2024 Winter semester gives you 0.4 credits. You can take some 2.6 credit course to even it out.

There's no reason why it should be so hard to build tools on top of VVZ. I fall in with the open-source and unix ethos of creating modular tools that can easily work together. For most

applications, it becomes exponentially hard to account for all features anybody would ever want. It therefore often makes sense to instead allow for easy interoperability. If people want some specific niche features, they can build their own third-party tools. People who don't want those features don't have to wade through and explicitly disable everything. In the simplest form, that usually means creating a REST API that can allow for third-parties to, on one hand, access the data, but on the other, also perform operations if required.

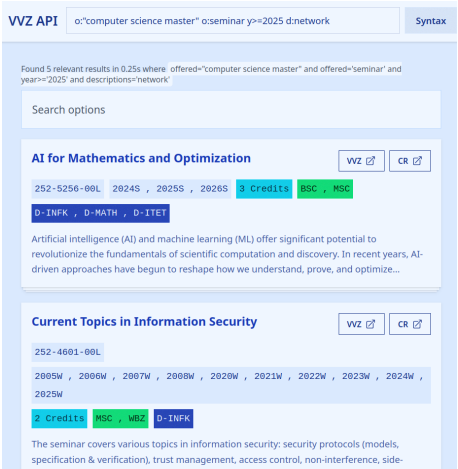
Before, when you wanted to use course catalog data, you might have been able to find some random script on GitHub somebody cooked up to quickly scrape a few things from VVZ. The problem is that basically all of these tools all only require a subset of the catalog data, and hence if you need something they don't scrape, you had to figure out and rewrite a large part of the code. You were usually better off just writing your own scraper to fit your needs and tech-stack instead.

To aid in that, in the past months, I worked on creating an API that makes the full VVZ data available over a simple REST API. My two main goals were to first replicate **all** the data available, including the past semesters and all the information I doubt a lot even notice (have you ever looked at the "Competencies" section?). Most of the data will probably never be used, but it's all there if ever needed. And second, to make the API easy-to-use while allowing for the same filtering capabilities (and more) as VVZ.

The API

The website can be found at <https://vvzapi.ch>. It initially started out as a bare-bones API-only

website, but I've recently added a frontend that allows you to unleash the power-user in you and search using all sorts of operators (heavily inspired by scryfall). You can add AND/OR clauses or filter by certain keywords, credits, and even by the course review rating if the course has one. Interestingly, the search itself is used by a magnitude more than the actual API endpoints.



Do you have an idea for a course tool, but were hesitant because the data-gathering step deemed itself too big of a hurdle? No need to fret, use the API endpoints on vvzapi or even just download the sqlite database dump (around 250MB), so you have all data at your fingertips without even having to send out a single request.

And of course, the fine print, VVZAPI isn't an official ETH tool, and I also don't guarantee that the data is always correct and up to date. Don't blame me for misplanning your semester :)

Additionally, in as soon as 2 years, VVZ will get a completely new overhaul when PAKETH takes effect. At that point VVZAPI will probably be taken offline and some new solutions have to be sought after.

Asynchronität: Threads vs. Eventloop

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Alle Welt spricht von Threads. Aber gibt es nicht auch modernere und einfachere Möglichkeiten, um Nebenläufigkeit zu erreichen?

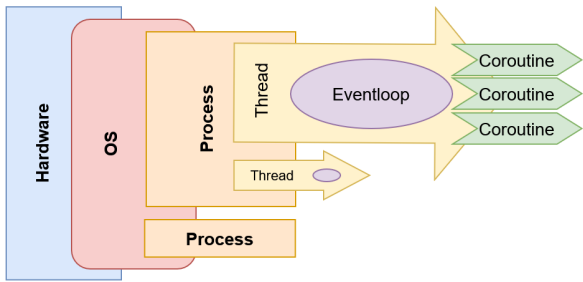
Threading ist das Grundkonzept in Betriebssystemen, um Neben-läufigkeit (Concurrency) oder Parallelität innerhalb des gleichen Prozesses zu ermöglichen. Dabei werden dem Scheduler zusätzliche Jobs in Auftrag gegeben, welche dieser unabhängig voneinander zur Ausführung bringen soll. Wie diese Ausführung genau aussieht, hängt von der Hardware aber auch vom Scheduling-Algorithmus ab. Verfügbar ist dieses Konzept in Windows seit NT im Jahr 1993 und in UNIX mittels pthreads seit 1995. Die Benutzung nahm ab den frühen 2000er stark zu, als neue CPUs immer häufiger mehrere Kerne bereitstellten und somit echte Parallelität erlaubten. Doch weshalb gab es das Threading-Konzept schon vor Multi-Core-CPU's? Weil nicht nur Parallelität, sondern auch Asynchronität eine wichtige Eigenschaft von Computersystemen ist.

Asynchronität vs. Parallelität

Die Erfahrung zeigt, das häufig nicht analysiert wird, welches Problem von einer Software genau gelöst werden muss. Bei einer Bildverarbeitung kann zum Beispiel meist gut auf mehrere CPU-Cores parallelisiert und so ein deutlicher Mehrwert für den Nutzer erzielt werden. Bei einer Netzwerk-fokussierten Anwendung ist allerdings das Problem zu lösen, dass Anfragen zu beliebigen Zeitpunkten auftreten können. Somit ist hier primär Asynchronität und nicht Parallelität gefordert. Und dazu sind nicht zwingend mehrere Threads notwendig.

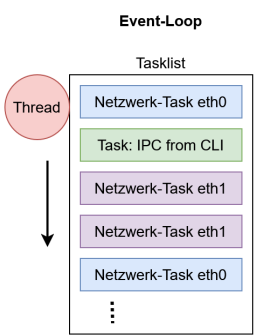
Eventloops

Um asynchron auf eingehende Netzwerkpakete von verschiedenen Interfaces zu reagieren, könnten mehrere Threads diese Interfaces in einer Endlosschleife abfragen. Diese Variante erzeugt allerdings nicht nur unnötigen Polling-Overhead, sondern auch der OS-Scheduler muss mehr Arbeit leisten, um die



Technologiestack in einer Applikation mit Eventloops.

Threads zu verwalten. Eventloops können diese Aufgabe viel effizienter lösen, indem sie den Kernel beauftragen, die Interfaces zu überwachen (was er sowieso bereits macht) und den Eventloop benachrichtigt, sobald Daten bereitstehen. Der Eventloop seinerseits

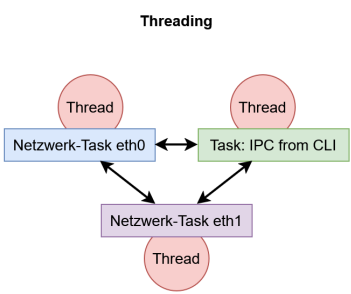


Vergleich zwischen einer Eventloop- oder Threading-basierten Architektur.

Task auf und lässt unseren Code die Daten abarbeiten.

Da Eventloops im Userspace laufen, können sie kein Preemptive Scheduling implementieren. Das heisst, laufende Tasks können nicht unterbrochen werden, weshalb ein neuer Task erst starten kann, wenn der Aktive komplett beendet wurde. Dies klingt wie ein Nachteil, hat aber mehrere Vorteile:

- Cooperative Scheduling im Userspace verursacht weniger Overhead.
- Sequenzielle Ausführung der Tasks ist «deterministischer» und lässt sich einfacher debuggen.
- Ohne Threading werden keine zusätzlichen Synchronisierungsmechanismen wie Mutexes benötigt



Multithreading: nur wenn nötig

Natürlich gibt es Anwendungsfälle, für die ein einzelner CPU-Core nicht mehr ausreicht. Für diesen Fall kann ein Eventloop pro Thread und ein gutes Software-Design mit klaren Thread-Grenzen hilfreich sein. Für alle anderen Fälle von Asynchronität sind Eventloops heute der Quasi-Standard und in allen gängigen Programmiersprachen verfügbar. Wie z.B. asyncio in Python oder Boost ASIO in C++.

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The SECIAS Corpus: For all of eternity

“Man, I’m sick of looking at Greek letters.”

“Tell me about it. I miss the days when math was numbers only.” Max frowns and raises an eyebrow.
“Should you be saying that as a physics major?”

“I can love something and still get tired of it.”

“Alright,” he shrugs, “I’m gonna catch the next bus, you coming too?” He pushes himself up, one hand on the table, the other reaching for his crutch.

“Nah. I’ll study some more and take the next one.”

“Dude, it’s getting late. You had a long-ass exam today. Take a break.”

“I will once all the exams are over.” I wave him off. “You’re gonna miss the bus.”

He grabs his backpack and limps away, but not before giving me one last look of concern. I force a smile and motion for him to go. His footsteps fade. The steady clicking of the crutch lingers a little longer before it disappears around the corner. I lean back in my chair and stretch, staring up at the ceiling. My back keeps aching. Twisting and turning it brings no relief. The couches across the hallway look tempting, but if I lie down, I’ll fall asleep for sure.

Guess I’ll walk around.

There’s no one around to watch my stuff, but it’s not like I have anything of value to steal. Unless someone’s desperate for half-finished exercise sheets. My footsteps echo in the hallway, the only thing filling the silence. I shove my hands into my jacket’s pockets and glance out the window. Whatever’s left of the campus is covered in white, a dense fog hides the HCI, HIL, and HPT buildings. My pockets offer no escape from the cold. This place still doesn’t have proper heating in winter.

I rub my hands, and breathe into my numb fingers. As if studying’s not hard enough already, it’s difficult to write when your fingertips feel like blocks of ice. The elevator and the stairs to the mensa come into view, then the entrances to lecture hall G2 and G3. I slow down, then stop when I reach G2.

Today’s exam comes back into mind. I was so confident, yet I left over half the questions unfinished. I continue, reaching the corner and walk by the elevator. I pass the empty tables and turn the corner

again. More rows of empty tables, followed by the entrances to the lecture halls G3 and G1, usually swamped with students, now desolate. My table comes back into view, when I turn the corner for a final time.

Everything’s still there, exactly as I left it.

I’m not ready yet. I can’t study like this. One more loop.

I have a week till my Analysis 1 exam. I turn, more tables and empty chairs. I walk by the entrances to G1 and G2. Do I compensate with computer science instead? I pass the elevators, the stairs and lecture halls. Keeping my eyes open becomes more difficult by the second and my nose is runny. Yeah, no point in staying here. Turning the corner again, I see the first row of tables. Another corner, G3 and G1 come into view. I quicken my pace, the thought of home has given me a small burst of energy.

The final turn. Rows of tables. Empty chairs. G3 and G1.

click

Again?

I turn toward the sound.

„Max? Did you forget something?“



How long have I been running? My sides sting. My heart rapidly slams against my chest. The cold air sucked in from my ragged, shallow breaths hurts my throat. It's raw from screaming, calling for help. No answer ever follows. Instead... **click click click**

It won't stop. That thing. It wasn't Max. Or a human. Metal pieces fused with flesh covered in pus. Limbs where none belong. Crutches sprouting from impossible angles. Moving like it's being puppeteered. A grotesque imitation of a human being.

click click click

Each followed by a disgusting squelch. Persistent, unrelenting, with no intention of stopping.

click click click

I turn the corner again and again. G1 and G3, G1 and G3 again. Empty tables and more empty tables. No sign of my belongings or couches. No elevators or stairs I can escape from.

click click click

I can't go back. All I'd be doing is run into its open arms. Going against my better judgement, I look back. Nothing. My right foot catches onto something hard. My body slams against the ground, full force. My phone slides out of my pocket. My phone! I flip it open. Some buttons are missing, the screen is shattered to oblivion. Worst of all, it won't turn on. I try to push myself up. Pain shoots through my body like lightning. No, I can't let it get closer. My vision blurs. I feel sick to my stomach. The hard cold ground keeps me conscious. Fuck. The pain is real. It's all real. It's not a dream.

...

Has it stopped? My eyes drift downwards. A piece of debris, the size of a backpack, lies at my feet. Where did that come from—no, it doesn't matter. I force myself up and take a step.

click

I run.

click click click

My legs give out. I stop before I collapse onto the ground.

...

I peek over my shoulder. The blinding white light casts a large lumpy shadow on the ground, just around the corner. It's not chasing me. For now. I catch my breath, still ragged and uneven, the side stitches in my waist persist. At least my vision's no longer blurry.

...

Does it... only move when I move? I take two careful steps forward.

click click I fight the urge to run, remaining still, listening carefully.

...

Instead, I hear a rumbling and grinding noise from above, pebbles and dust rattling to the floor. I look up. Cracks mar the grey ceiling. But it's not just the ceiling. Fallen chairs with missing legs, collapsed tables, overturned trash cans, everything is strewn across the floor. The hallway reeks of dust and rust. A large rock hits the ground one step away, kicking up a cloud of dust. I stumble back, heart racing.

click click

I jolt forward, but inhale too much of the dust. A coughing fit brings me to a halt again.

The dust settles, but where large debris and cracks should be, is nothing. I scan the area. My eyes land on the emergency exit. I sprint toward it and yank at the handle. It doesn't budge. I try the lecture hall door. If it's open I can get to the stairs on the other side. But it's locked. Every door. Locked. My phone won't turn on either. Slowly, I peek over my shoulder. The shadow stretches farther across the floor than before. It's not moving. But it's gotten closer. I should grab a chair. Swing at it, rush it. Just do something. But my body refuses to. Every instinct screams the same thing. Run. Getting closer means death. My only choice is to move forward.

I take a step.

click

The floor splits with a dry crack, the fractures spread before coming to an abrupt halt. The lights above flicker. Why? Why is any of this happening?

Another step.



click

The light in front bursts with a sharp pop, the glass flying in all directions.

Another step.

click

Something behind me snaps. The sound of the collapsing table echoes down the corridor. The air thickens with the smell of rust and something sweet and rotten. I take a deep breath and look back. The shadow hasn't grown. A dust cloud hovers above a table lying on the floor. I look ahead. The ground before me looks too unstable, I move sideways, then take a few steps due to debris blocking my path.

click click click

A few cracks retract and vanish. I rub my eyes in utter disbelief. They're gone. Like the ground was never damaged there. The light in front hums again, no shattered glass in sight. I slowly turn back.

The shadow. It's grown. The corner of a bloody crutch is protruding from the corner. I hold my breath. It's closer.

No. No. NO.

My feet move before I can finish my thought.

click click click

„GET AWAY FROM ME!“

The ceiling groans, plaster rains down, sections of the floor cave slightly inward.

click click click

But I keep running, ignoring the snapping furniture, shattering lights. G1 and G3, G1 and G3, again and again.

click click click

The ground beneath me gives way, hexagon shaped tiles cracking and falling. I throw myself sideways, hitting a stable patch of floor. Where I stood a chasm has formed, revealing beneath it nothing but blackness. I freeze. The destruction halts. The shadow waits.

I take a step back, the hole shrinks.

The shadow grows. I can see it now. Peeking behind the corner. Watching. Silently.

I'm standing at the edge of the last strip of solid ground. Before me is an endless pitch-black abyss. It's standing behind me. Quietly. Completely still. But close enough for its warm laboured breath to form droplets on my neck. Thick drops of a viscous liquid hit the nape of my neck and run down my back. The thing traces my spine with something sharp. Slowly. Deliberately. I don't dare to move a muscle.

Why?

Why won't it do something?

„Dude, it's getting late.“

Somehow Max's words ring in my head. *„You had a long-ass exam today.“* Why didn't I leave with him?

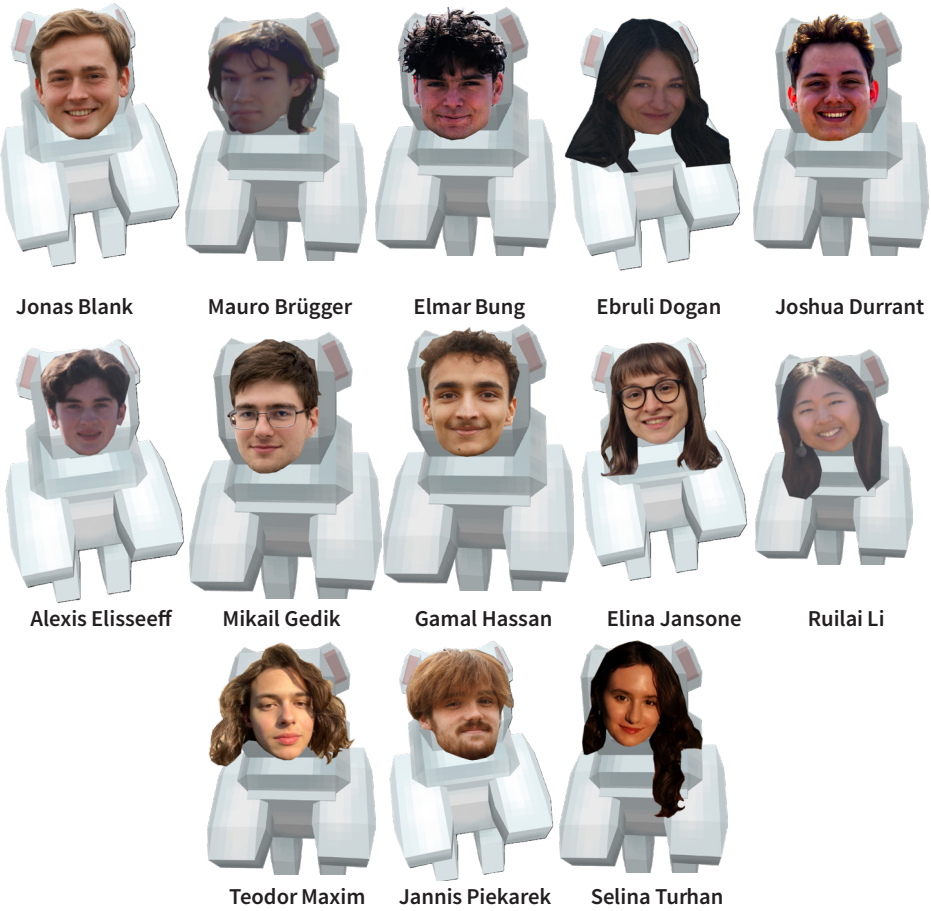
„Take a break.“ He was right. I should've taken a break.

A hand is gently placed on my shoulder. I don't pull away.

„...“

„Aren't you tired?“ I close my eyes.

„So tired. So fucking tired.“



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