carrot
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April 2024

Web Development
Masterclass

**Schedule
& Topics**

April 2024

www.cnc.io/wdm

Incubator-v4.0

The most important course *for your startups*

4 weeks of exclusive training to unlock the full potential of your web development startups.

We have been training and coaching teams of developers for over a decade. We saw many teams that are overloaded and stressed with tasks and we've recognized that it's because of the large skill gaps across team members.

We've developed an exclusive training and coaching program that addresses this issue to unleash the full power of your startups in web development and reduce the time-to-market.

What's inside...

"

Many startup dev teams could perform 2-5 times better with less stress.

Challenge #1

What **really** **happens** *in startup dev teams.*

Lack of resources and a tight schedule often leads to a tricky trap.

Is my dev team really underperforming?

Many startups and companies told us that they are stuck in a negative performance loop: Development resources are scarce, and time is a rare asset. Still, junior developers need the guidance of senior developers to become senior developers themselves to perform well.

Depending on the ratio of junior to senior developers, this has a significant impact on senior developers' time working on the product. In addition, our clients reported that the performance difference between junior and senior developers is about a factor of 5-10x.

This very often leads to frustration, missed deadlines, stress, increasing technical difficulties and wasted development resources, similar to driving with the handbrake on.

With the Masterclass

Product Development Resources *Senior Developer*	Product Development Resources *Junior Developer*	*Senior Developer* Resources spent for educating & reviewing code of Juniors
		Junior Developer Resources spent increasing the technical debt.

Learning on the job only

Product Development Resources *Senior Developer*	Product Development Resources *Junior Developer*	*Senior Developer* Resources spent for educating & reviewing code of Juniors
		Junior Developer Resources spent increasing the technical debt.

Challenge #2

Learning the right things.

There are many ways to implement a function, but only a few to implement it well. Learning the tools is a requirement, but does not automatically lead to fast and good development.
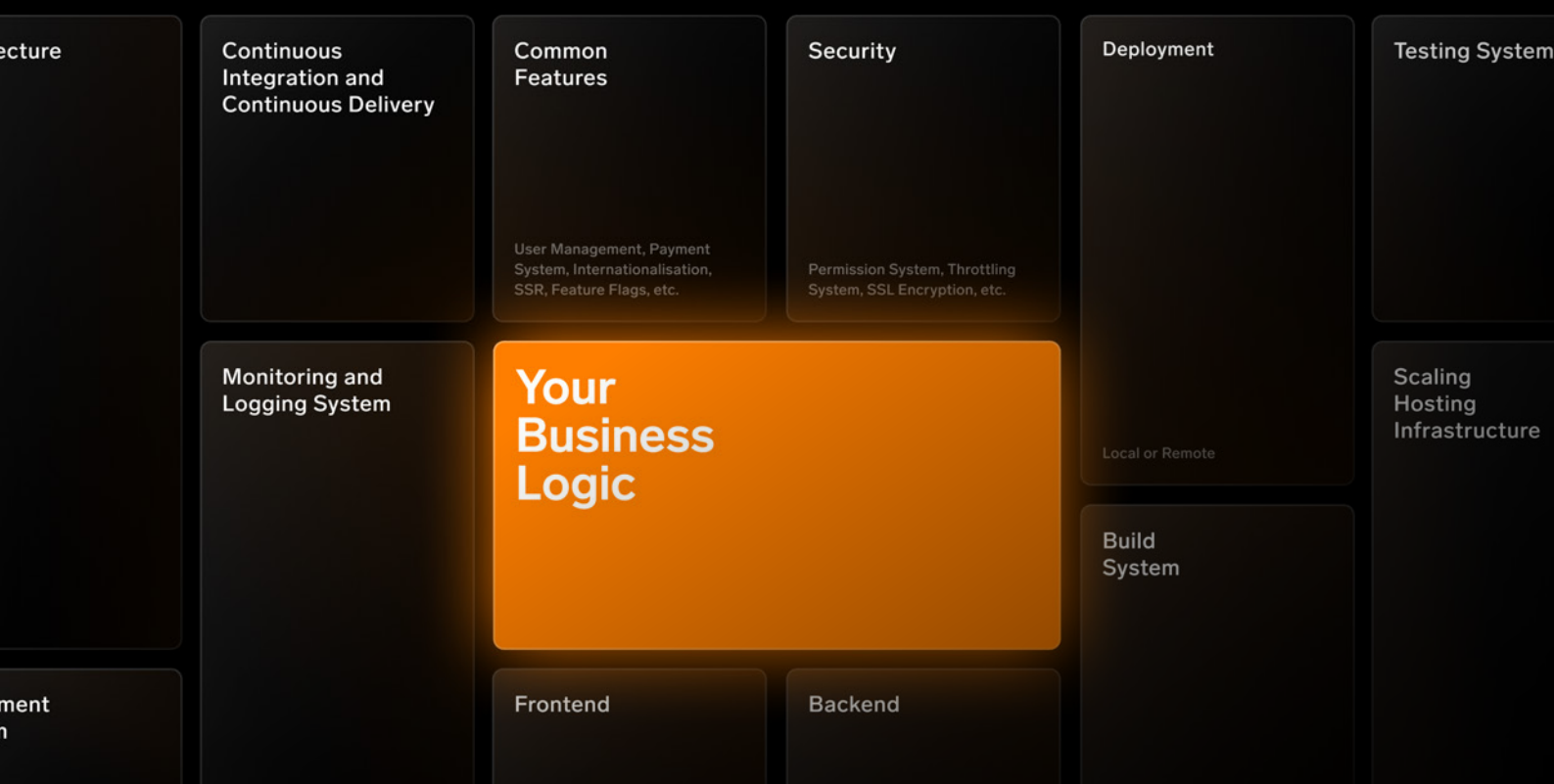
Frame-works vs. Patterns

What does "good" mean? "Good" means that new functionality can be implemented quickly without increasing technical debt, that it does not interfere with other functionality, that it is readable and maintainable, that it works well under heavy load and in edge cases, that it is secure, ...

You can put a picture on the wall with glue, tape, a shelf or a nail. The result is the same but not every way suits the individual requirements and expectations.

The same is true for frameworks and libraries. They are the tools that help in rapid creation of web applications and SaaS by providing a proper abstraction layer for the details. But you have to choose the right one for your startup.

This is what this masterclass is about: understanding the system and requirements behind web applications and SaaS systems. To be able to make decisions and build an appropriate architecture based on design patterns, product requirements and best practices. And making the right decisions in the first place leads to a better product, reduced time-to-market, and happier teams
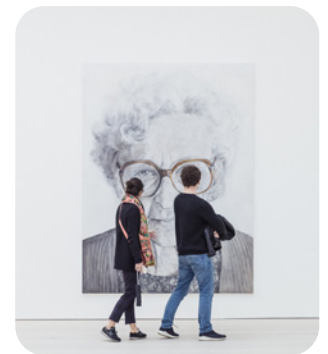
ecture

Continuous Integration and Continuous Delivery

Common Features

User Management, Payment System, Internationalisation, SSR, Feature Flags, etc.

Security

Permission System, Throttling System, SSL Encryption, etc.

Deployment

Local or Remote

Testing System

Monitoring and Logging System

Your Business Logic

Build System

Scaling Hosting Infrastructure
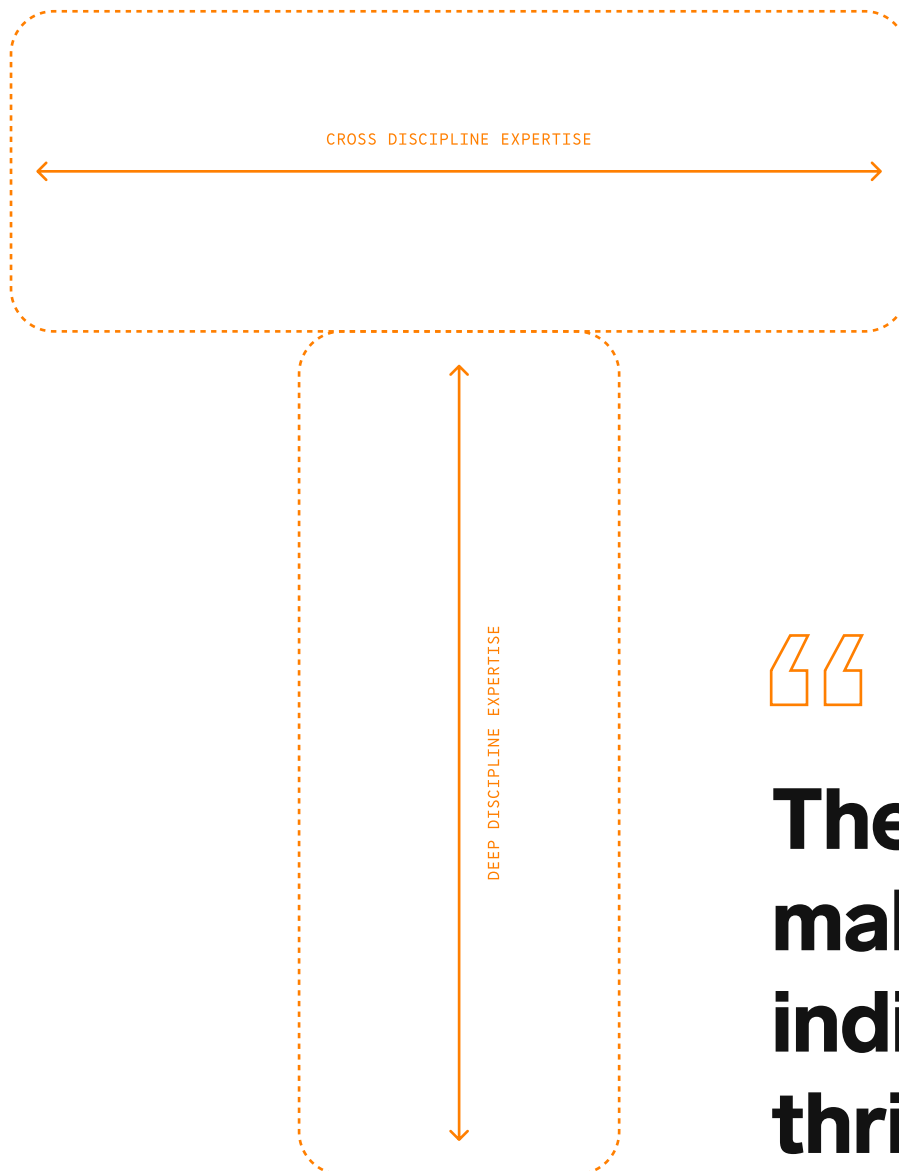
ment

Frontend

Backend

Challenge #3

Gaining T-Shaped Skills.

Many developers, project managers, CTOs, and technical leaders who have deep expertise in their field are only using part of their potential because of a lack of cross-functional knowledge.

A web application or SaaS is a complex system. It is crucial that the system as a whole functions like a well-oiled machine. And that's only possible if each part works as part of the big picture, not just in isolation.

A lot of potential is wasted here because individual software parts are developed without understanding the big picture. This Web Development Masterclass addresses exactly this issue and helps not only developers, but also team leaders, CTOs and project managers to understand the overall system in order to make decisions that optimally support your product and startup.

CROSS DISCIPLINE EXPERTISE

DEEP DISCIPLINE EXPERTISE

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The big picture makes the individual parts thrive.

Focusing *on the* *"whys and hows"*

Architecture and patterns are the backbone of any solid and maintainable web application and unfortunately often not known, both by juniors and experts.

This March, a league of 35 developers, CTOs, tech leads, and tech founders will embark on a 4-week intense training program around web development. The most important thing: it's not about technologies, it's about knowledge that can be applied to every Cloud, Web or Software-as-a-Service project. Whether it's based on a stable legacy tech stack or the most modern tech stack available today or 5 years from now. The whole course is independent of frameworks and libraries and applies to any tech stack.

We teach similar patterns and principles as at universities. Our goal is knowledge and understanding at a meta-level that is above implementation details. With this training, we empower web developers to solve daily development challenges faster and more sustainably. Resulting in happier teams, better code quality and faster, more efficient development that leads to faster product releases.
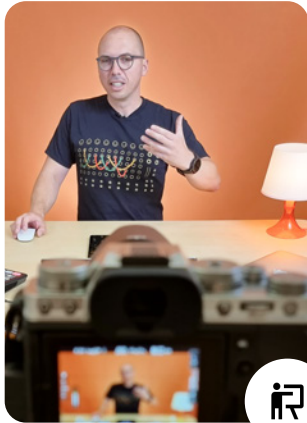
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We teach similar patterns and principles as at universities.

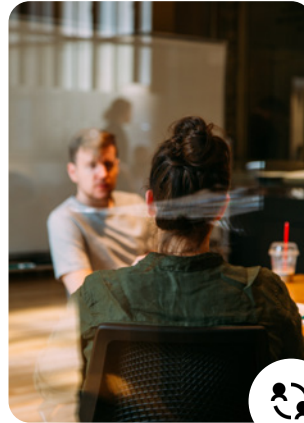# *The* **four pillars** *of the* *Web Development* *Masterclass*

Live online course

4 weeks interactive live online course. Focused not only on content but also on discussions.
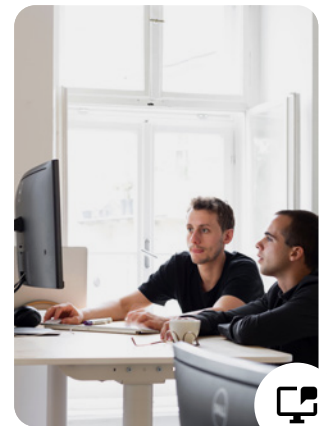
Monthly online Q&A[1]

Every month there are online Q&A's where current problems or topics can be discussed.

One-on-one coaching sessions[2]

The online one-on-one coachings are perfect for specific questions related to your project.

Online course community[1]

The course forum is the place to ask and discuss questions to other participants and experts.

Live and individual

Re-watch any time

The Masterclass starts with a 4-week live online course that focuses on imparting knowledge and experience, reinforcing it through discussion.

We will have two sessions per week for 3 hours each. Each session will be recorded so you can re-watch it if you can't attend live.

After the 4 weeks you are able "to read the Matrix". You understand web applications and SaaS systems holisticaly.

You can make the right decisions quickly and convince your team because you now know exactly what you are talking about.

But like everyone else, we'll never know everything. So we should never stop learning and sharing our experiences and questions. That's what our other pillars are for, to address specific questions, share experiences and acquired know-how and connect with other experts.

1) included for 12 months starting with the the masterclass.
2) 20% off for the first 10 coaching hours for participants.
Icons by Icons8

The Schedule *&* Topics *at a glance*

We have been training and coaching software development teams for over a decade. Based on this knowledge and experience, we have developed the Web Development Masterclass curriculum.

Week 01

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#1 Tue, Apr 2, 2024; 9 am - 12 noon CEST
#2 Thu, Apr 4, 2024; 9 am - 12 noon CEST
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Boost your dev quality and efficiency

Quality influences everything. The key thing is that quality can be improved while maintaining the pace or even increasing the speed of development, among many other positive effects.

Topics
- Quality Assurance
- Structure and Processes
- Responsibility
- Quality Plan
- Guidelines
- Processes and Activities
- Tools
- Quality Control

Keywords *Single Source of Truth, DOD, DOR, Development Guidelines, Library Selection, Agile Processes, Planning and Roadmap, Code Review, Retrospectives, Design System, Tech Stack, Component Libraries, Automated Testing, Infrastructure as Code, Deployment Environments, Security Testing, Continuous Integration*

Week 02

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#3 Tue, Apr 9, 2024; 9 am - 12 noon CEST
#4 Thu, Apr 11, 2024; 9 am - 12 noon CEST
```

Create a cozy project and development setup

Having a well suited project and development setup is the foundation for a fast and efficient development experience that leads to happier developers and faster development.

Topics
- Version Control
- Monorepo, Multirepo
- Project Structure
- Deployment Environments
- Configuration Management
- Secrets Management
- Infrastructure Architecture
- Containerization

Keywords *Principle-of-least-Privilege, Configuration Levels, Monorepo, Multirepo, Git, Infrastructure Abstraction Levels, Cloud vs Own Data Center, Databases, Container, Images, Docker, Kubernetes, Infrastructure as Code*

Topics may move between weeks because of time spent with discussions.

Week 03

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#5 Tue, Apr 16, 2024; 9 am - 12 noon CEST
#6 Thu, Apr 18, 2024; 9 am - 12 noon CEST
```

System architecture is key

The system architecture is the core element of every web application. Knowing and understanding the options and best practices is essential for a reliable, fast and maintainable system.

Topics
- CRUD & State
- Request & Response
- Client-Server Architecture
- MVC Concept
- SPA, MPA, CSR, SSR
- Backend Architecture
- Communication Architecture
- Frontend Architecture

Keywords *HTTP, GraphQL, REST, State Management, Authentication, Authorization, Throttling, Internationalization, Payload Validation, Caching, Optimistic UI, Filtering, CQS, Pagination, Multi-Tenancy, Realtime Updates, Microservices, Microfrontends, Performance, Design Patterns, CSS/HTML Patterns, Feature Flags*

Week 04

```
#7 Tue, Apr 23, 2024; 9 am - 12 noon CEST
#8 Thu, Apr 25, 2024; 9 am - 12 noon CEST
```

A payment architecture that ensures your success

Integrating a fully automated payment system is essential to build a highly scaling business model. When you know efficient, flexible and secure integration approaches, you can focus on your SaaS instead of struggling with the complexity of the payment process.

Topics
- Security
- What are PSP, PGW & PM?
- Integration with your SaaS
- Webhooks
- Payment Database Model
- Development & Testing
- Reality Check UX
- Provisioning of Services
- Legal Topics

Keywords *VAT, EU-OSS, MOSS, Payment Service Provider, Payment Gateways, Payment Methods, API, Security, UX, Metered Billing, Invoicing, Taxing, Proration, Dunning, GDPR, PCI*

Foto © Luef

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As a high-tech incubator, we have combined the deep technical knowledge of our startups with the excellent training and expertise of Carrot & Company. This helped the startups to reduce time-to-market through software development.

Martin Mössler
Managing Director Science Park Graz / ESA Space Solutions Centre Austria General Manager

Science Park
The High Tech Incubator
Graz

A course worth the success *of your development team*

All incl.

Super Early Bird

Open until 29th of February '24

1 spot	2 spots	3 spots	4 or more spots
2.090 €	**1.890 €**	**1.690 €**	**1.390 €**

Early Bird

Open until 31st of March '24

1 spot	2 spots	3 spots	4 or more spots
2.540 €	**2.290 €**	**2.090 €**	**1.690 €**

Late Bird

Open until 2th of April '24

1 spot	2 spots	3 spots	4 or more spots
2.990 €	**2.690 €**	**2.390 €**	**1.990 €**

All prices are per spot (one participating person = one spot)
and without VAT.

"

A package worth more than 10.000 €

- ✓ 4 week online course, 8 lectures each 3h
- ✓ Course recordings with lifetime access
- ✓ Monthly live Q&A sessions for 1yr
- ✓ 12 months Dev Community Forum access
- ✓ Course Certificate [1]
- ✓ 20% discount one-on-one coaching [2]
- ✓ 5% discount on your next Carrot Academy Course
- ✓ 30% discount on your first 12 months of Carrot Seed SaaS Kit subscription [3]
- ✓ Money Back Guarantee [4]

→ Reserve your spot www.cnc.io/wdm

Contact us is you have any questions:

m: hello@cnc.io
t: +43 316 375 777
w: www.cnc.io/wdm

Carrot & Company GmbH
Sparbersbachgasse 26
8010 Graz

1) Course Certificate is only available for participants when
attending more than 50% of the live online course lectures

2) 20% off for the first 10 coaching hours for participants

3) more details on the Carrot Seed SaaS Kit
available at www.cnc.io/seed

4) If you change your mind until the end of the first course week,
we will fully refund 100% of the already paid course price

Is the Masterclass the right course *for us?*

The Web Development Masterclass is technology independent. We focus on concepts, patterns and architecture. If you have a basic technical understanding and interest in the topics, it is for you.

Because of the technology independence and focus on concepts, best practises, and architecture any developer, tech lead, CTO, and project manager with technical background can participate and learn a lot in this course. You don't need specific web development skills, but should have a basic understanding of software development. Even if you are already highly skilled in a specific area and want to understand the big picture of SaaS and web development and improve the cross-discipline knowledge, this course is perfect for you.

After this Masterclass you will ...

✓ understand the complex interrelationships every web development project or SaaS has.

✓ see the big picture and can make the right architectural and development decision for your web application project.

✓ think in terms of patterns and architecture instead of focusing on technologies and frameworks

✓ have more time and fun for developing features and spend less time researching and asking your colleagues.

✓ be able to explain decisions to your team and argue based on proven architectural patterns

✓ produce more sustainable, solid and maintainable code.

✓ reduce time-to-market by targeted decisions with the business value in mind.

Your trainer:
Christian Haintz

Christian has been writing code for over 25 years. He has co-founded more than one startup and created several digital products that are being used in over 100 countries. Sharing his insights isn't new to him either, because he has already taught at universities and mentorship programs.

He is curious about new concepts and always stays up to date with new technologies and trends in web development. His outstanding skills, critical thinking and open mind allow different perspectives and views on various topics and lead to exciting conversations.

He loves to teach and tries to find different ways and metaphors to explain complex topics in a way that everyone can understand.

All his training, coachings and courses were 100% recommended by the participants.

Audience Feedback

Anonymous and honest audience feedback during the course in spring 2022 through the feedbackr web app.

Some of our clients at Carrot & Company

"

Good session, very well structured. Some interactive parts were included to keep the audience engaged.

"

Topics were well selected and provided a good overview. I also personally found the level good, not too superficial, but also not too deep into a subject area.

"

Good input! Even if I already knew a lot about some topics, there was also a lot of new stuff which can be very useful for me in the future :)

amazon

ERSTE

Science Park
The High Tech Incubator
Graz

blue-tomato

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smaxtec
INSIDE MONITORING

Frequently asked
Questions

What if I don't have time at every appointment?

Of course, it would be best if you could attend each appointment yourself. But don't worry, there will be a recording that you can watch again.

Do I get a certificate after completing the Masterclass?

Yes, you will get our certificate after you complete the Web Development Masterclass if you attended the live online class at least 50% of the time.

Is there a money back guarantee if I don't like it?

If you change your mind, there is a 100% money back guarantee in the first course week.

We work with certain technologies in our company, is this Masterclass suitable for me at all?

Yes, because this is not a programming course. We focus on technology-independent knowledge that can be applied to all web-, cloud- and software-as-a-service projects, regardless of the technology.

I am at the beginning of my software development career, is this Masterclass something for me?

Yes. We are always there for you if you have any questions. We also provide a communication platform for the entire group to discuss topics in more depth or ask questions.

What language is the course and the course material in?

The course and the material are in English.