



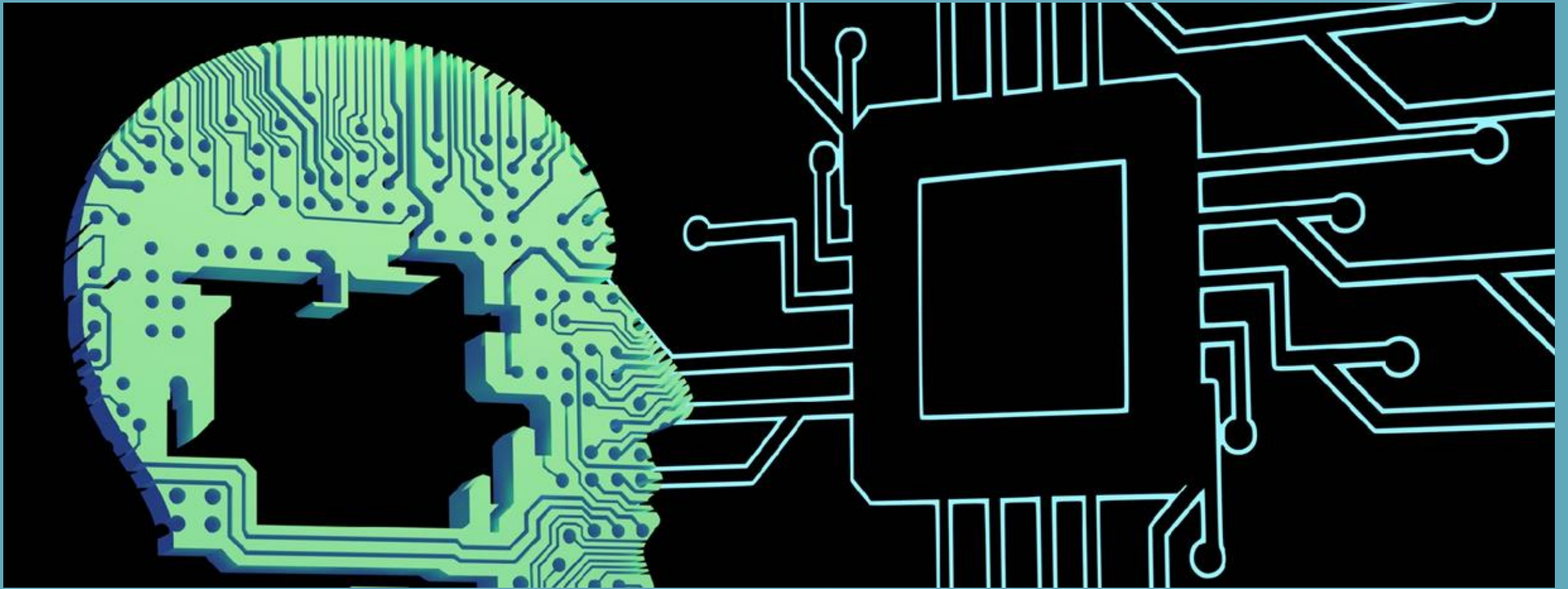
EMMA

— WORKFORCE. CONNECTION. OPPORTUNITY. —

MOVING PEOPLE. BUILDING FUTURES.

RICHMOND, VA

June 10-12, 2026



WWW.EMMA.FOUNDATION

The Eli Madison Memorial Apprenticeship (EMMA)

The future of technical education in the era of Hybrid Cloud & AI



Agenda

- 1. The Birth of EMMA**
- 2. Meet the Founders & Key Personnel**
- 3. The Current Model**
- 4. Our Model**
- 5. Examples of the Training**
- 6. EMMA's Current Academic & Corporate Alliances**
- 7. The Future**

EMMA Dedication

THIS PRESENTATION IS GIVEN IN MEMORY OF MIKE MYERS, A 40+ YEAR IBM EMPLOYEE WHO WORKED ON THE CODE FOR OS/360 WHICH BECAME Z/OS.



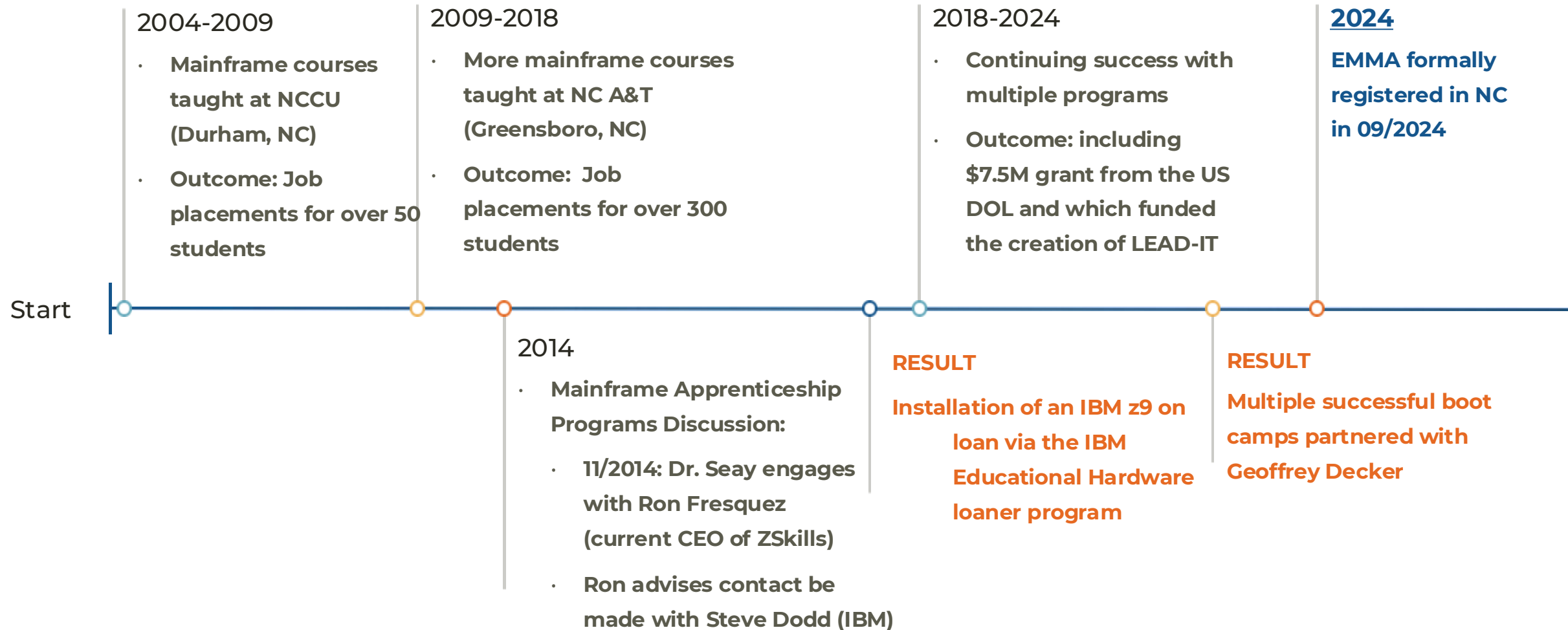
Rest now, well done Airman.



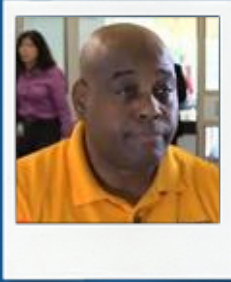


The Birth of EMMA

The Motivation for EMMA



Meet the Founders



Dr. Cameron Seay

Adjunct Instructor, ECU (Greenville, NC):

- Teaching undergraduate & graduate level courses since 2004 at 7 public universities

PhD in Education:

- MBA; MA in Econ; MS in CIS

IT SME for 21 years as:

- Programmer, analyst, PM & technical lead for several organizations



Prof. Geoffrey Decker

CS Instructor, NIU (DeKalb, IL) for 25 yrs

- Professional mainframe software developer in financial industry for 11 years
- IBM Champion 2022-2026 & Planet Mainframe Influential Mainframer 2025 & 2026
- Board Member of the Open Mainframe Project (OMP) & an OMP Ambassador



Mr. Cable Rose

U.S. DOL Certified Success Coach

Let's Talk Leadership, Founder

United States Air Force, Retired, 20+ years Service

Meet the Team

EMMA Administration: Key Personnel



Jeffery Brown

- Sr Apprentice
- R&D Co-Dir



Emin Oliver

EMMA OPS Dir



Chris Petty

R&D Co-Dir



Oscar Malave

EMMA Fellow

- MBA Candidate (UM)
- Residency: EMMA BR



Dr. Rahmira Rufus

EMMA PMO Dir



Geoffrey Decker

- Lead Instructor
- Academic Prog Dev

Meet the Instructors

Below are some of the visionaries behind our innovative delivery



EMMA Academic Programs Directory Lead & SME Instructors

Geoffrey Decker
Assembler & COBOL

Neale Ferguson
Assembler & Adv Architecture

David Boyes
(in memoriam)

Jeff Brown
z/VM & VSEn Curriculum

Reg Harbeck
Cybersecurity, Assembler & COBOL

Mike Myers
(in memoriam)

Verbus Counts
AI, Adv SE & Assembler

David Kreuter
REXX, Assembler & z/VM

Rich Smrcina
Infrastructure, REXX & Assembler

Emin Oliver
File & Mgt Architecture

Karl-Erik Stenfors
Assembler & Linux

Kevin Flanagan
Database (DB)



The Current Model

The Implementation of a Mainframe Apprenticeship

Case Study

Industry Overview

Current Internship/Apprenticeship Model



The Intern Problem #1

Internships offered to students from accredited universities often are for a period of 3-6 months – during semester breaks



The Intern Problem #2

Internships make no guarantees for a permanent position



The Alternative Solution

Apprenticeships - Primarily run for approximately 1 year in duration



Employment Guarantee

Apprentices are considered probationary employees day one

Case Study: Workforce Development (Employer's View)

Context

Company Profile:

Companies, in general, are focused on quarterly bottom line.

The Sponsor (Employer) designs & teaches the program or contracts a third party to do so.

Challenge

Internships show no significant improvement to the bottom line in a quarterly report.

Startup companies have to justify every penny spent & building an internship and/or apprenticeship program usually does not pass scrutiny.

Outcome

Apprenticeships have the ability to show significant improvement to the bottom line, but it takes at least three (3) quarters to do so.

There is a rigid criteria for progressing through apprenticeship programs.

The apprentices receive continuous mentoring throughout the program and after.

At any time, an apprentice does not comply with the agreement they can be removed.

Value Proposition for Mainframe Apprenticeship



- Highest reward/lowest risk onboarding solution
- We find & vet our client's candidates
- Learners can develop the level of proficiency you require
- Clients can pay apprentices at discounted rates/special pricing for year one while being acclimated to your company's environment
- The apprentices can leverage the EMMA global network of collaborators on hand 24/7/365
- The apprentice is already apart of the Mainframe Culture via our training
- Apprentices can add value DAY ONE!
- This program also supports succession plan strategies & mitigates legacy environment issues involving personnel/talent transition

New Hire Dashboard

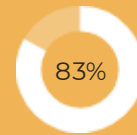
This data is in addition to the 20-30% of the first-year salary costs to onboard the employee.

Focus: Industry Data

Highest reward/lowest risk onboarding solution

Average cost of training a new IT employee is about 10-20% of their salary.

EMMA can onboard, fully trained, for less than 1/2.



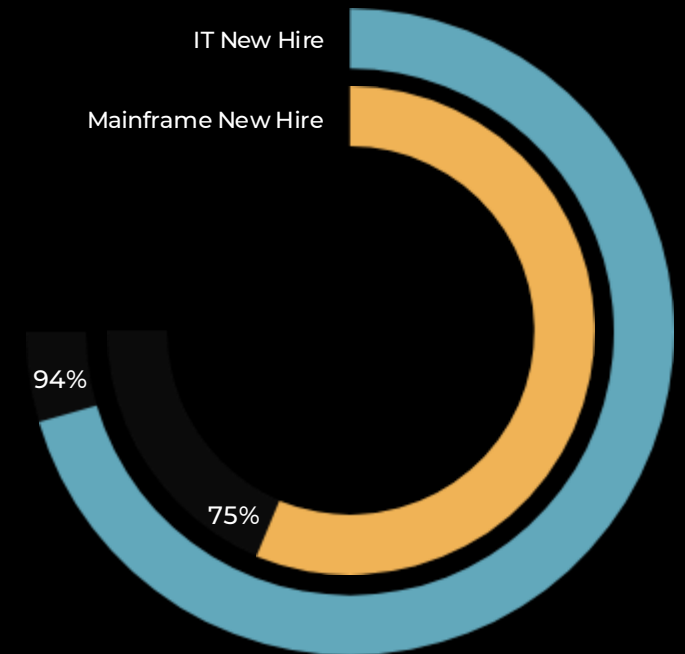
\$9k-\$18k
per
employee



● 90k IT ● 90k+Onboard \$ ● 90k Main

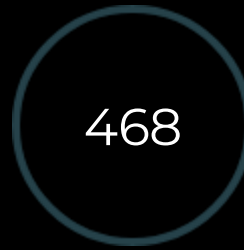
\$90k

Entry Level
Onboarding Salary



Established October 2024

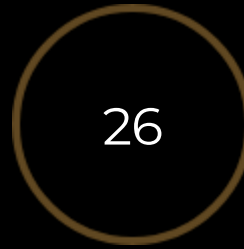
EMMA Stats



Total Learner Intake



Current Learners



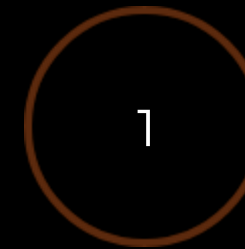
Completed Intro Course



Mainframe Employee
using EMMA to Upskill



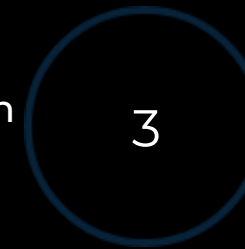
Direct Hire via EMMA



Avg Intake Submission
Per Day



Employer Direct Hire with
EMMA reference



Apprentices Placed with
EMMA Client

Academic Partner Highlight

Congratulations to the following NIU Computer Science students & recent graduates that recently secured mainframe internships & jobs after attending SHARE & IBM TechXchange.

Learner	Placement	Organization
S. Pham	Internship	21CS - Morehead City, NC
G. Sanner	Internship	21CS - Morehead City, NC
N. Allen	Internship	Behaim ITS - Chicago
C. Hinajoz	Internship	Broadcom - Lisle, IL
A. Ibarra	Internship	Broadcom - Lisle, IL
Y. Saini	Internship	Broadcom - Lisle, IL
V. Taiwo	Internship	Broadcom - Lisle, IL
J. Espino	Internship	IBM - Dallas, TX
T. Nakazaki	Job	Levi, Ray & Shoup - Springfield, IL
H. Freitag	Job	H&W Software - Remote
E. Konarzewski	Job	H&W Software - Remote
M. Schneider	Internship	H&W Software - Remote
A. Stanczyk	Internship	H&W Software - Remote
T. Lara	Job	Pellera Technologies - Remote
A. Havryliuk	Internship	SVA Software, Inc. - Remote



Prof. Geoffrey Decker, EMMA Founder
Academic Prog Dev & Lead Instructor
NIU Computer Science Faculty



IDEA

Our Ultimate Goal

Anyone, anywhere around the globe that
wants a technology career can be trained

Our Model

EMMA: The Model

Working Together for Best Results



Curriculum (Academic Programs Development)

Catalog of course work including but not limited to Assembler, COBOL, REXX

Training Disciplines (Training flow alignment matches current career path)

Jr Software Eng --> Sr Software Eng (Sr Software Arch)

Jr Discipline (tool) Admin --> Sr Discipline (tool) Admin

Jr Systems Programmer (SysProg)--> Sr SysProg

Multiple entry points into training program based on the entrant's viewpoint

Two generalized entry points: Ex. Learner & Company



General Example #1: Learner

Entry Point Process Flow



General Example #2: Company

Entry Point Process Flow



OPEN FOR BUSINESS



E-LEARNING

Pedagogy/Andragogy: Socio-cultural Learning Theory

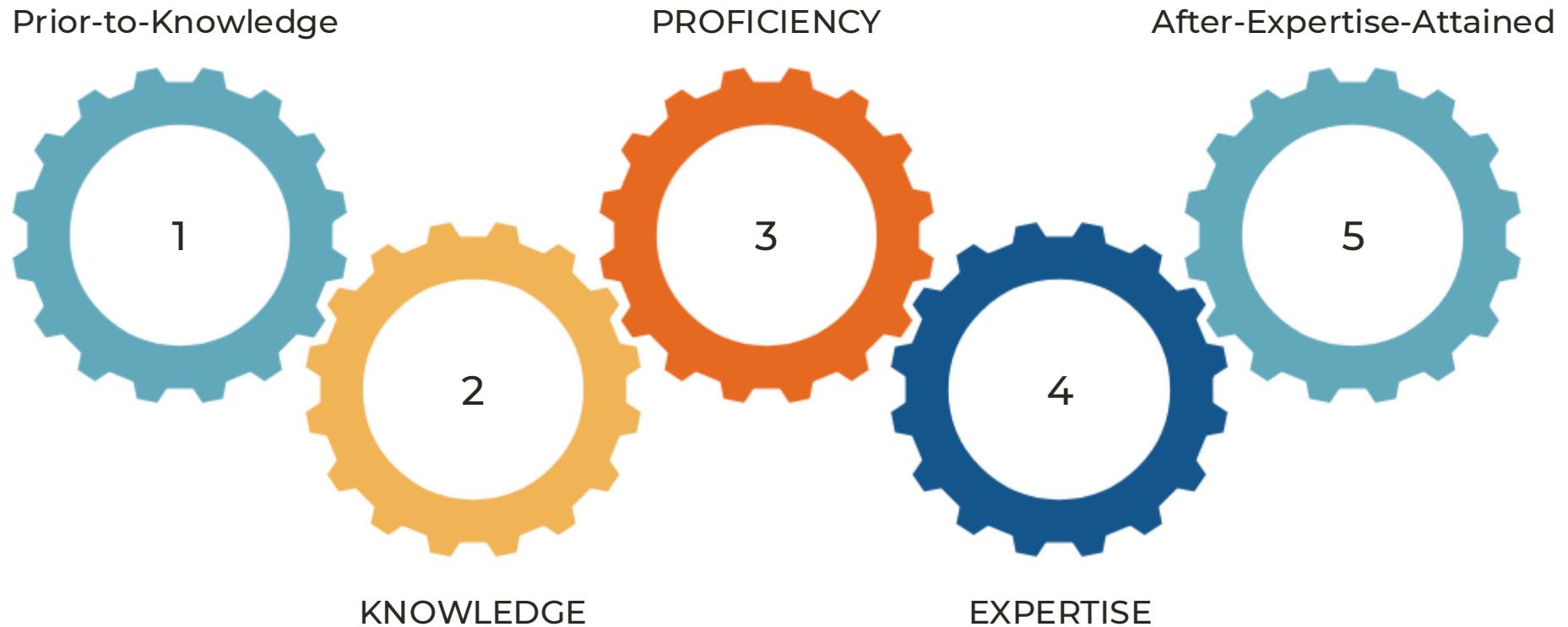
EMMA Perspective

Developed by Russian Psychologist Lev Vygotsky, it contends that learning is propagated by a “community of practice” where domain expertise is acquired and displayed.

The unit of analysis is the activity, and not the individual. We gauge the effectiveness of an activity both by how it is embraced by the community and how it demonstrably moves the learner toward proficiency to expertise.

Expertise Path

Knowledge + time_on-task, in non-trivial, domain specific activities = expertise





Daily: Course Study

1. **Courses** are broken up into labs that the students work through
2. **Video tutorials** are available for guidance.
3. **1-on-1 mentoring is available 24/7**
4. **Learn at your own pace.** There are no grades at the basic community participation level*. You either complete the lab successfully or repeat it until you do.
5. **It is all self paced, but we require progress.**

Weekly: Collaboration

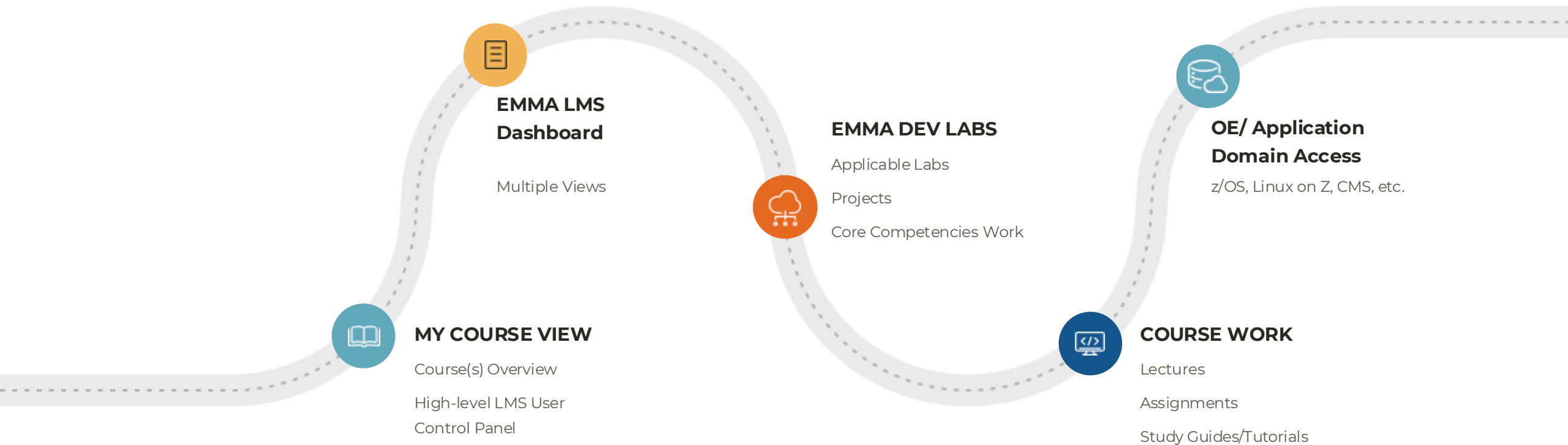
1. **Motivation Monday** - Professional development, career advice from current industry leaders
2. **Tech Talk Tuesday** - Deep technical dives into various topics
3. **All Call Wednesday** - An open meeting, the world is invited.
4. **NEWCOMERS Thursday** - Formal intake process meeting for all newcomers to the EMMA community.
5. **Communication Stack** - LMS, Slack. MS TEAMS, Zoom, Sharepoint, etc.
6. **Focus Groups** - Multiple public channels: varying topics



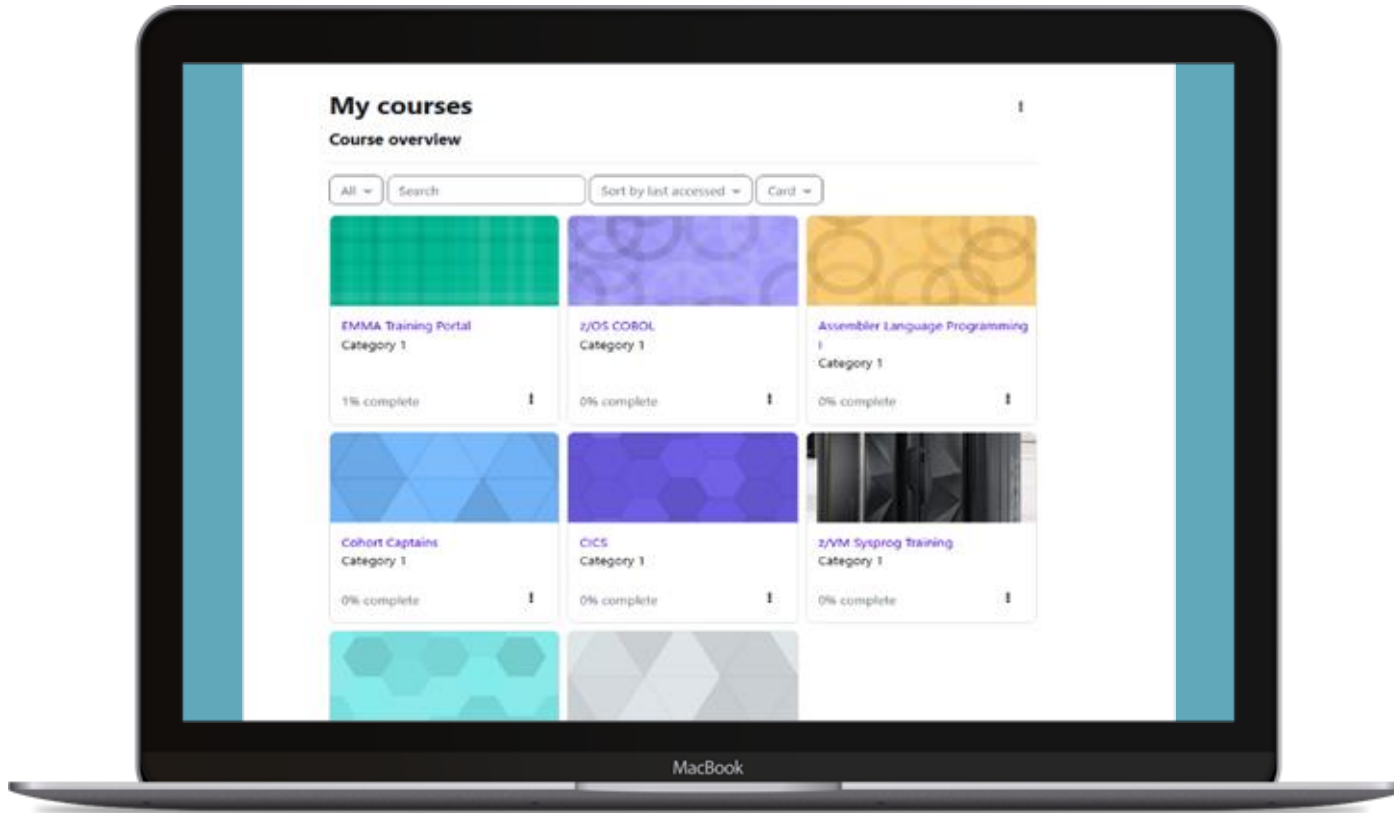
EMMA Training Examples

Samples of Training Flow & Course Work

A flexible path that can adapt to different disciplines, while emphasizing continuous growth and collaboration.

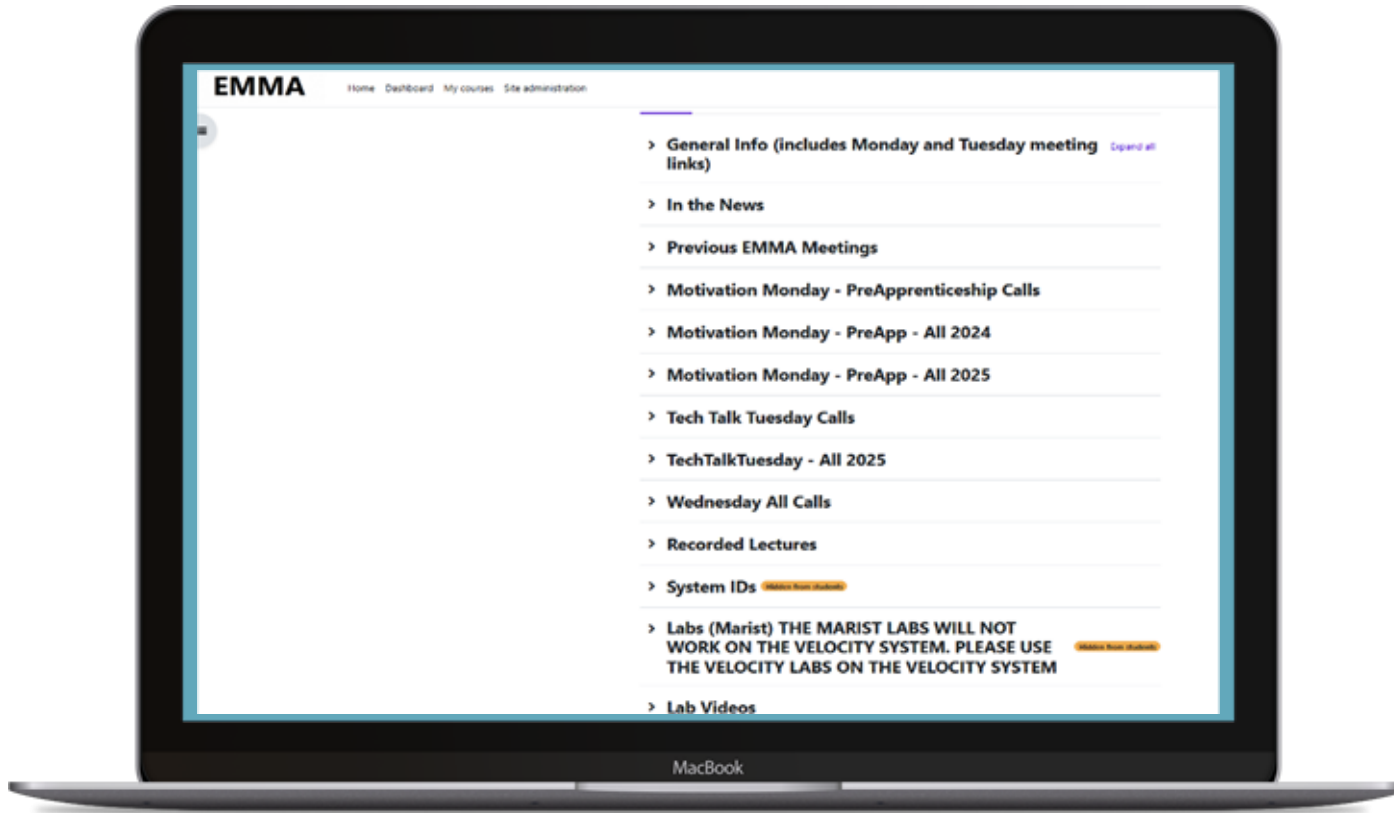


EMMA: My Courses View



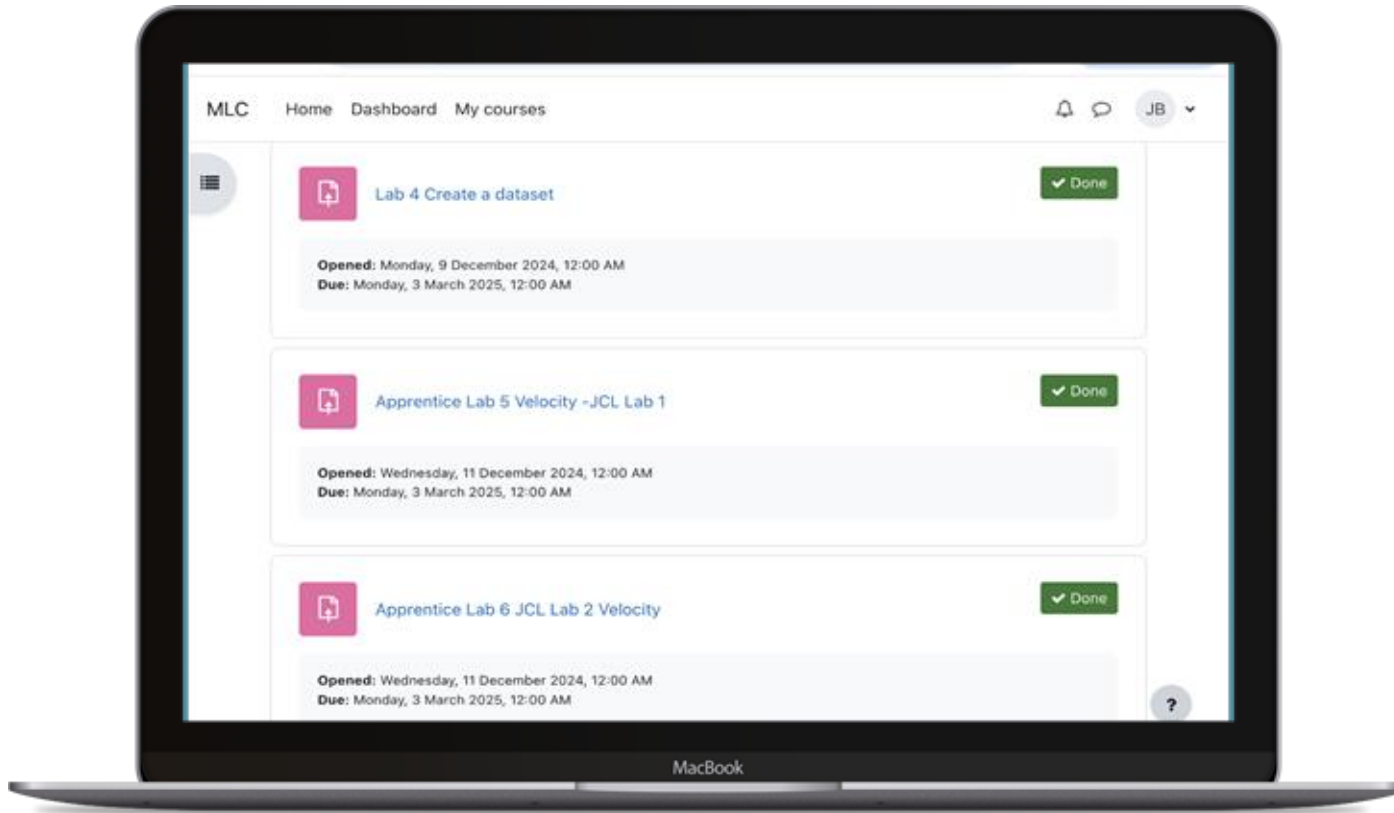
LMS Courses View

EMMA: LMS Dashboard View



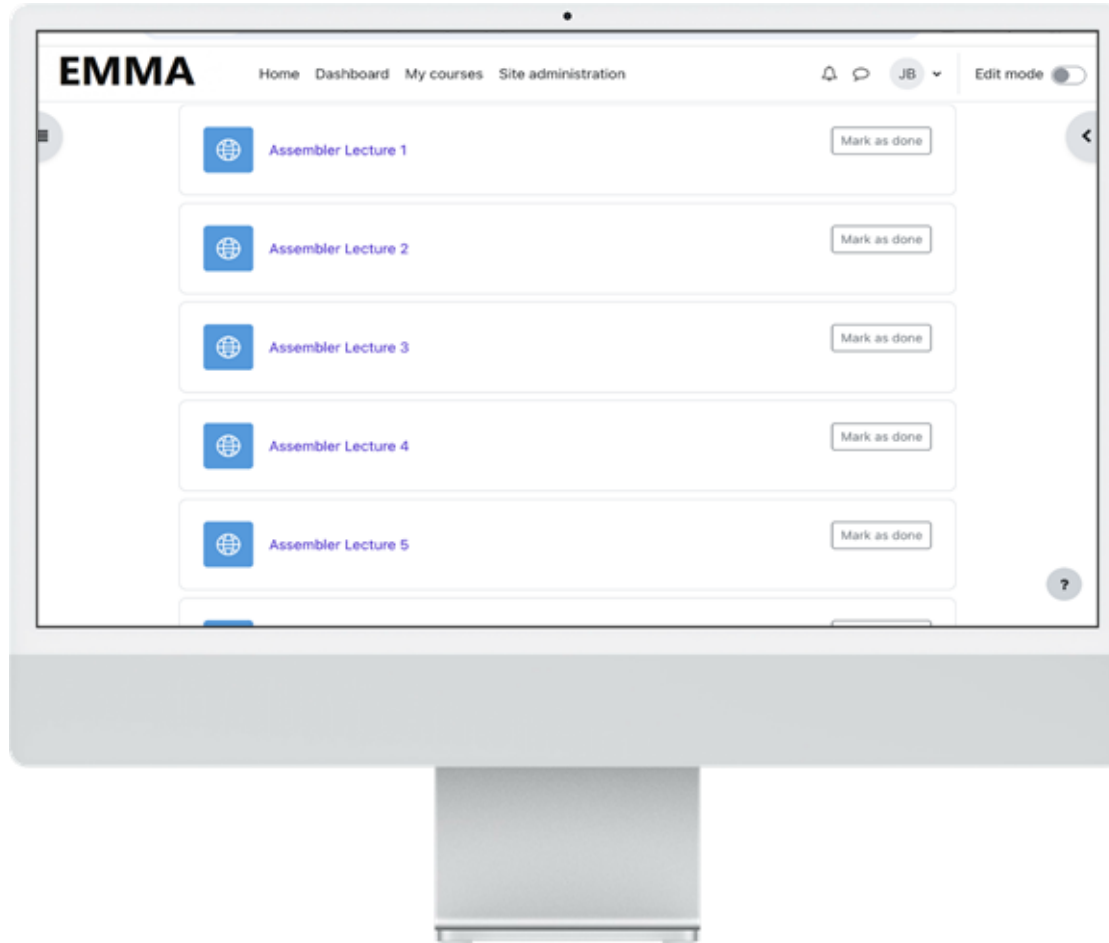
Dashboard Outline

EMMA: Development Labs View



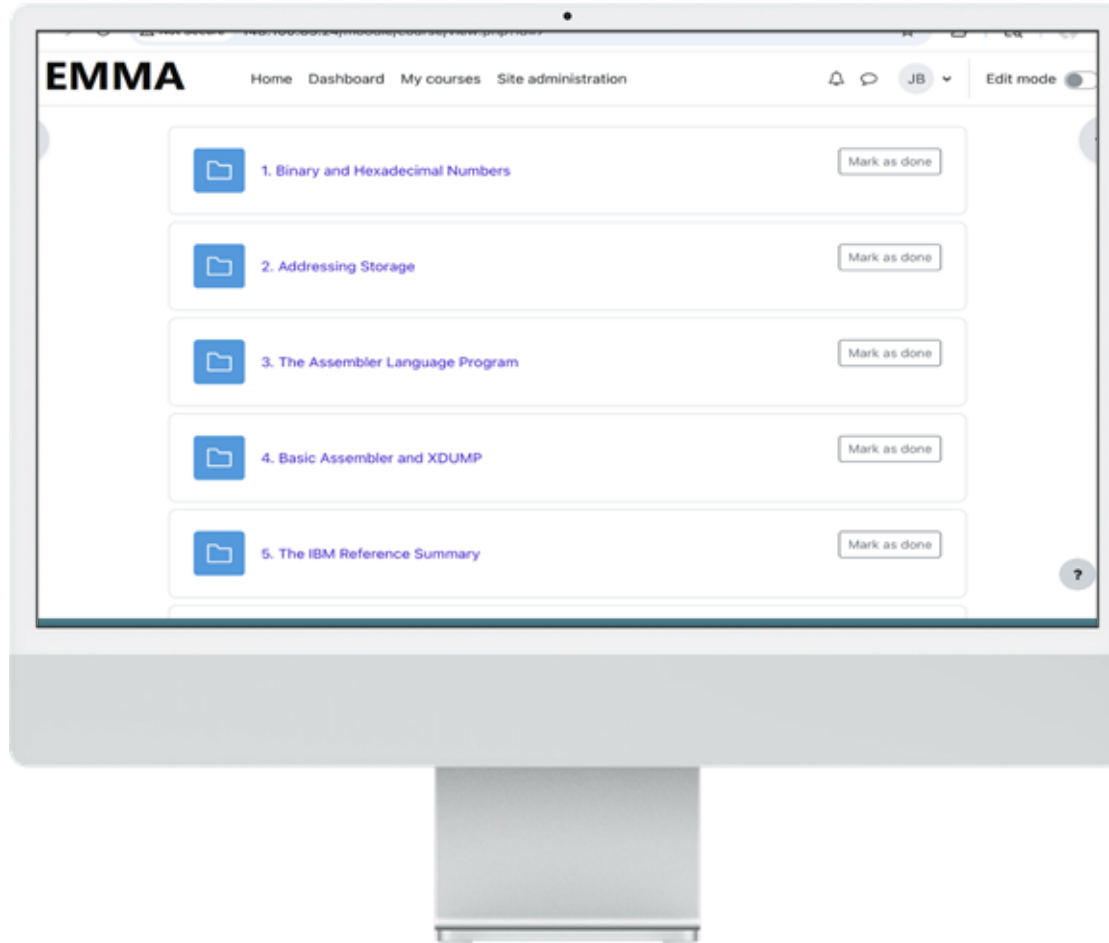
DevLabs Work

EMMA: Course Work View (1)



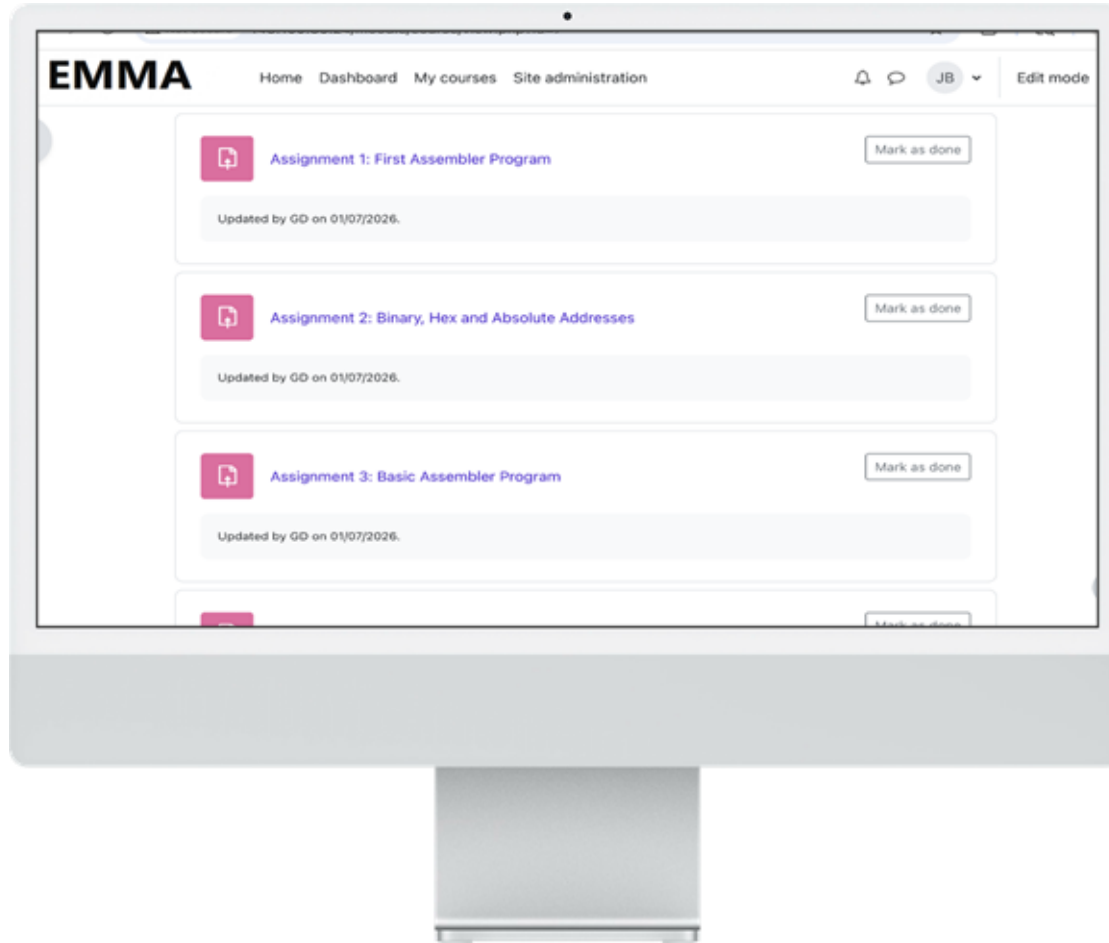
Assembler Course Lectures

EMMA: Course Work View (2)



Assembler Course Learning
Materials

EMMA: Course Work View (3)



Assembler Course Assignments

Industry Partner Highlight

EMMA & Velocity Software, Inc.

Velocity has allocated a number of resources to EMMA via zPRO and zLOV. Current allocations include:

- **z/OS Instance**

Supporting over 120 users learning fundamentals of ISPF, COBOL coding, HLASM coding, compiling, linking, execution

- **CMS**

General User creation & access allowing for training in CP/CMS commands, REXX coding & execution, execution COBOL & HLASM programs

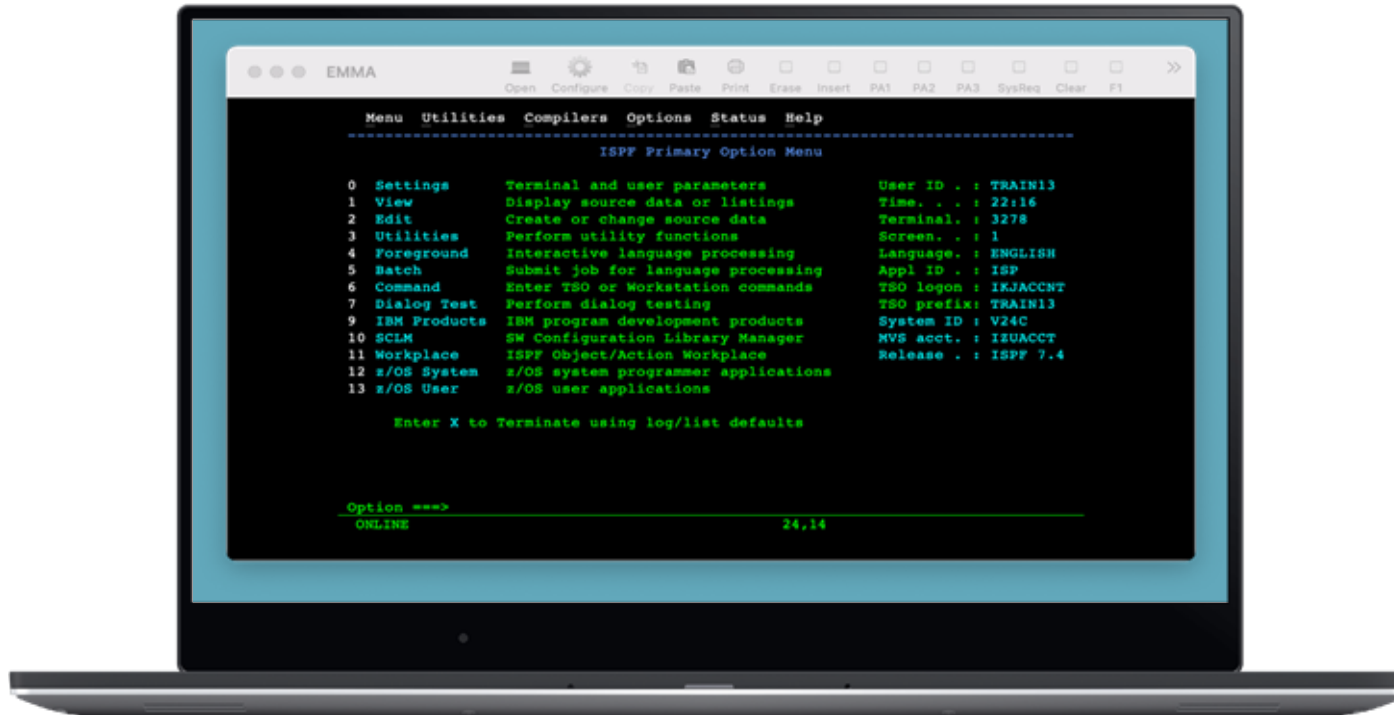
- **Linux on z/VM**

Creation of various versions of Linux servers Ubuntu, Red Hat, SuSE, etc.

Creation of second level z/VM guests

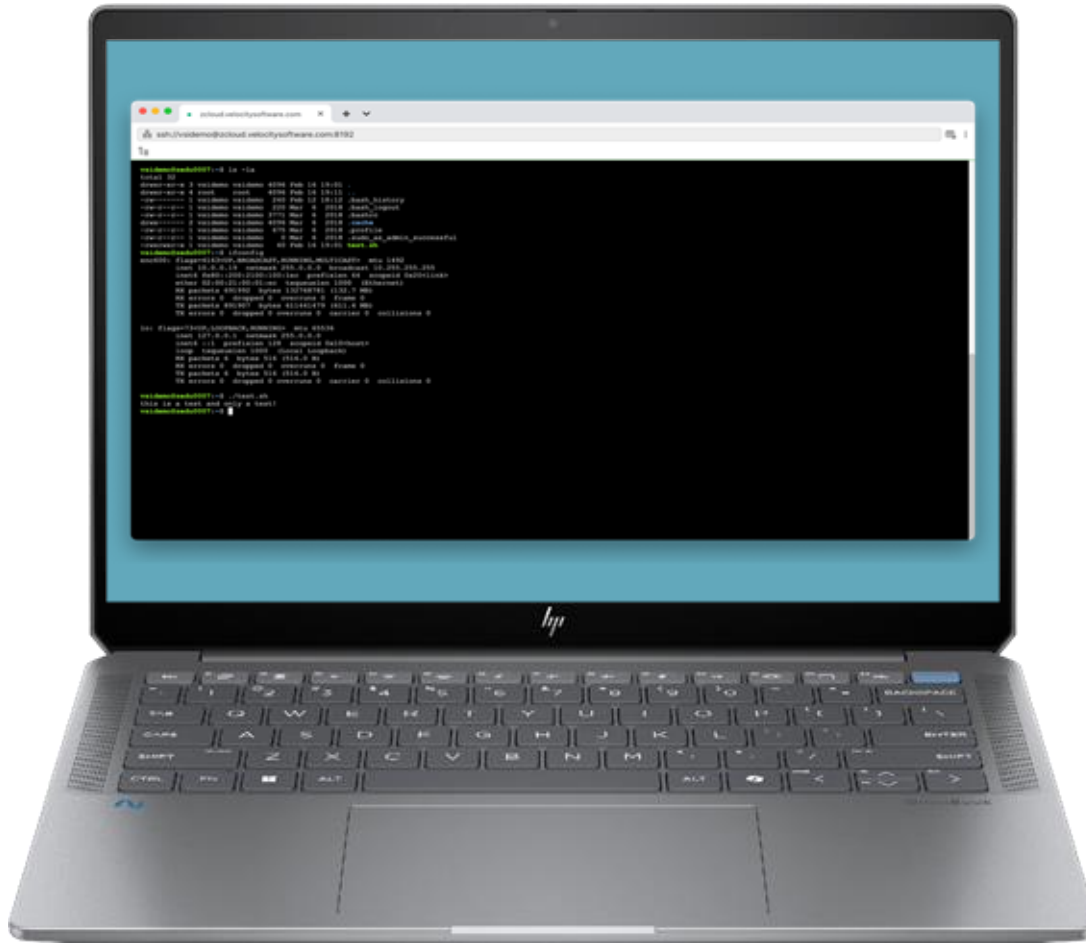


EMMA: OEs & Application Domains (1)



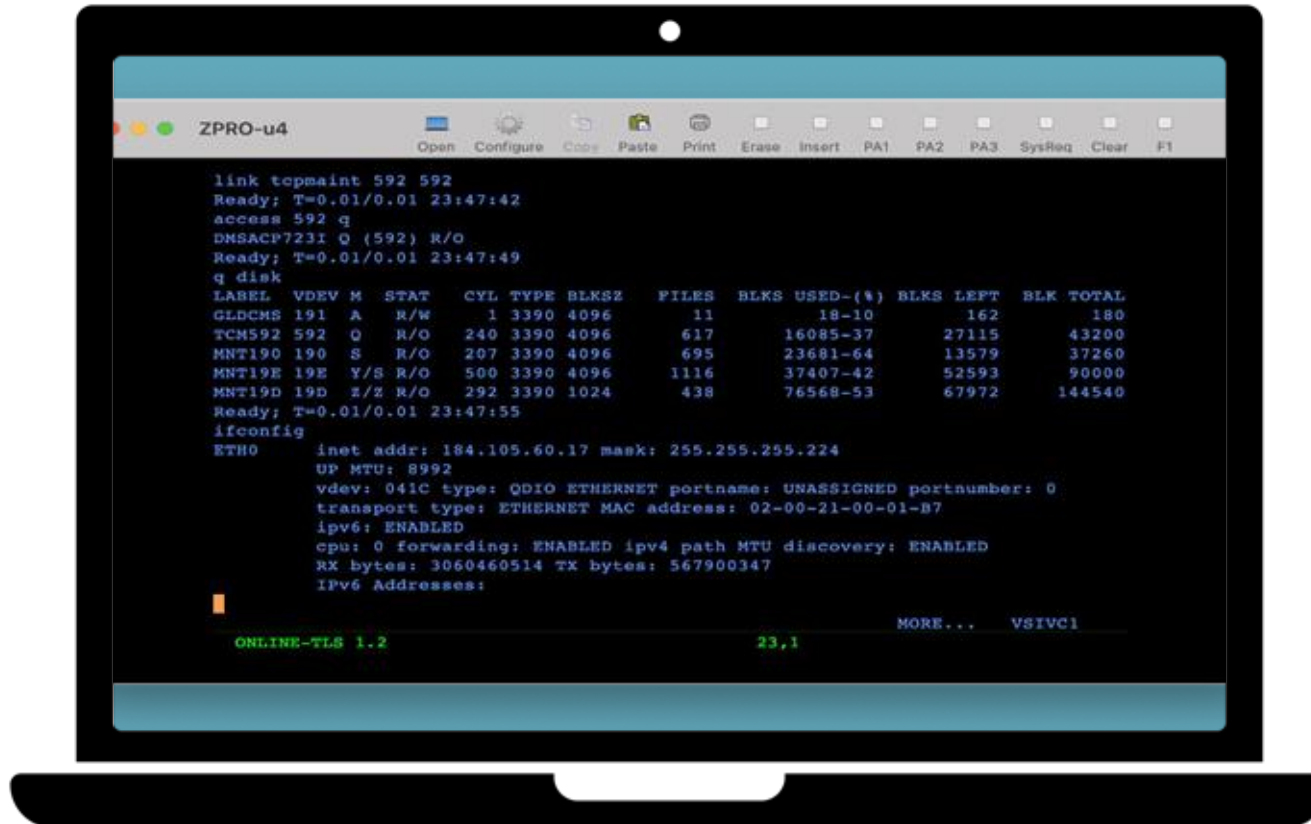
z/OS OE

EMMA: OEs & Application Domains (2)



Linux on Z

EMMA: OEs & Application Domains (3)

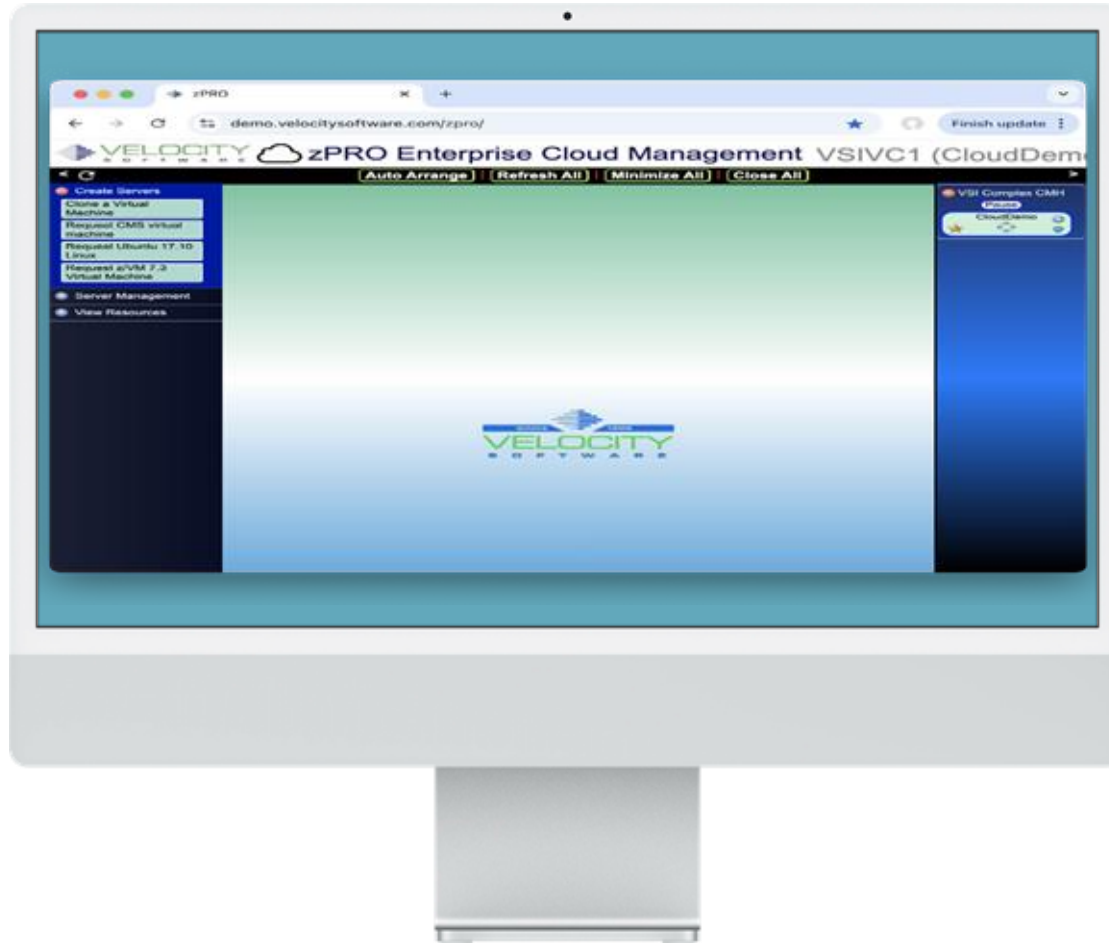


```
link topmaint 592 592
Ready; T=0.01/0.01 23:47:42
access 592 q
DMSACP723I Q (592) R/O
Ready; T=0.01/0.01 23:47:49
q disk
q disk
  LABEL VDEV M  STAT  CYL TYPE BLKSZ  FILES  BLKS USED-(%) BLKS LEFT  BLK TOTAL
GLDCMS 191  A   R/W    1 3390 4096    11      18-10      162      180
TCMS592 592  O   R/O   240 3390 4096    617    16085-37    27115    43200
MNT190 190  S   R/O   207 3390 4096    695    23681-64    13579    37260
MNT19E 19E  Y/S  R/O   500 3390 4096   1116    37407-42    52593    90000
MNT19D 19D  Z/Z  R/O   292 3390 1024    438    76568-53    67972   144540
Ready; T=0.01/0.01 23:47:55
ifconfig
ETH0      inet addr: 184.105.60.17 mask: 255.255.255.224
UP MTU: 8992
vdev: 041C type: ODIO ETHERNET portname: UNASSIGNED portnumber: 0
transport type: ETHERNET MAC address: 02-00-21-00-01-B7
ipv6: ENABLED
cpu: 0 forwarding: ENABLED ipv4 path MTU discovery: ENABLED
RX bytes: 3060460514 TX bytes: 567900347
IPv6 Addresses:

ONLINE-TLS 1.2                                23,1  MORE...  VSIVC1
```

CMS/CP

EMMA: OEs & Application Domains (4)



zPro



WE ARE THE FUTURE

Establish global partnerships & alliances.
Anticipate steady & sustained growth.
Expect an eventual acceptance of the model.

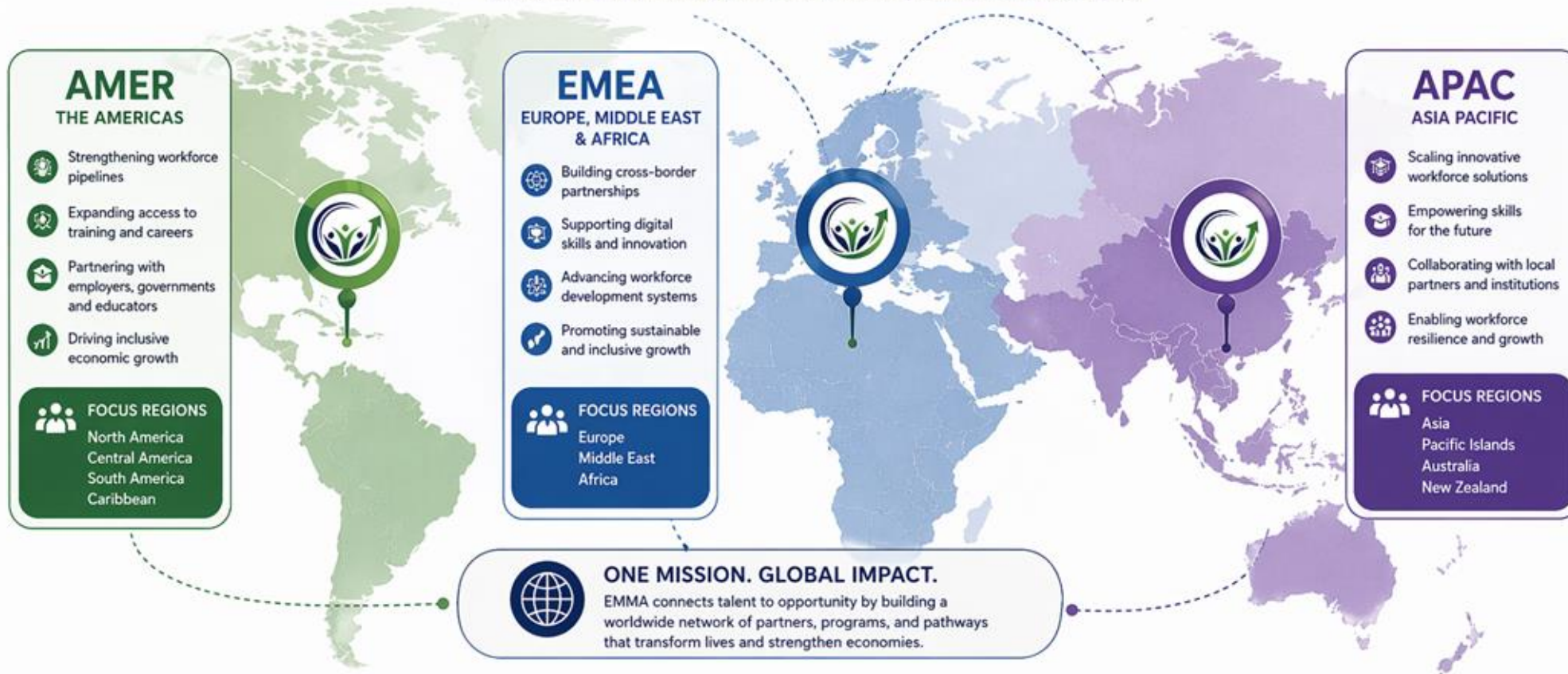
EMMA Expansion



EMMA'S GLOBAL REACH

EMPOWERING WORKFORCE POTENTIAL. CONNECTING OPPORTUNITIES. TRANSFORMING COMMUNITIES.

EMMA is expanding across the globe to deliver innovative workforce solutions, build strategic partnerships, and create meaningful impact in every region.



A GLOBAL NETWORK. A LOCAL IMPACT.



GLOBAL PARTNERSHIPS

Collaborating with governments, educators, employers, and industry leaders worldwide.



WORKFORCE SOLUTIONS

Delivering relevant training, certifications, and career pathways for in-demand jobs.



ECONOMIC GROWTH

Driving productivity, innovation, and economic opportunity across all regions.



INCLUSIVE IMPACT

Creating equitable access to opportunity and building stronger, more resilient communities.



SUSTAINABLE FUTURE

Investing in people today to build a skilled, adaptable workforce for tomorrow.



EMMA

Local Solutions.
Global Connections.
Limitless Potential.

EMMA Global Platform

[About EMMA](#)[Workforce Solutions](#)[Programs & Pathways](#)[Global Reach](#)[Innovation Labs](#)[Partnerships](#)[Impact](#)[Contact](#)[Get Involved](#)

Connecting Workforce Potential to Global Opportunity

EMMA is a global workforce infrastructure platform that orchestrates capability development, aligns talent to opportunity, and drives economic mobility across industries and regions.

[Explore Our Platform →](#)[Partner With Us](#)

EMMA Global Platform

GLOBAL REACH. LOCAL IMPACT.

A Worldwide Network of Opportunity

EMMA connects ecosystems, employers, educators, and communities to build workforce pathways that drive sustainable economic growth.

[Explore Global Initiatives →](#)

AMER

Building resilient workforce ecosystems across North, Central & South America.

[View Initiatives →](#)

EMEA

Accelerating capability development and innovation across Europe, Middle East & Africa.

[View Initiatives →](#)

APAC

Empowering talent and driving digital transformation across Asia Pacific.

[View Initiatives →](#)

WORKFORCE PATHWAY ENGINE

From Potential to Economic Mobility

Our proven pathway model transforms potential into lifelong economic opportunity through a structured, data-informed journey.

[Explore Pathways](#)



1. LEARNER

Engage and discover potential



2. SKILLS

Build foundational and in-demand skills



3. CAPABILITY

Apply knowledge in real-world environments



4. COMPETENCY

Validate mastery and industry recognized credentials



5. PLACEMENT

Connect to meaningful career opportunities



6. GROWTH

Advance, upskill and achieve economic mobility

EMMA Global Platform



EMMA Global Platform

MEASURABLE IMPACT. REAL CHANGE.

Driving Economic Mobility at Scale

 2.3M+ Individuals Impacted	 120% Average Income Increase	 85% Job Placement Rate	 45+ Countries Engaged	 650+ Employer Partners	 \$1.2B+ Economic Impact Created
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Stronger Together. Greater Impact.

Join a global ecosystem of employers, governments, educators, and innovators building the workforce infrastructure the world needs.



For Employers

Access skilled talent, close skill gaps, and build a future-ready workforce.

[Partner With Us →](#)



For Governments

Strengthen communities and drive economic resilience at scale.

[Collaborate →](#)



For Educators

Expand pathways and prepare learners for in-demand careers.

[Work With Us →](#)



For Investors

Invest in scalable solutions that create measurable social and economic impact.

[Explore Opportunities →](#)



EMMA

GLOBAL WORKFORCE
INFRASTRUCTURE PLATFORM

Stay Connected

Get insights on workforce trends, programs, and impact delivered to your inbox.

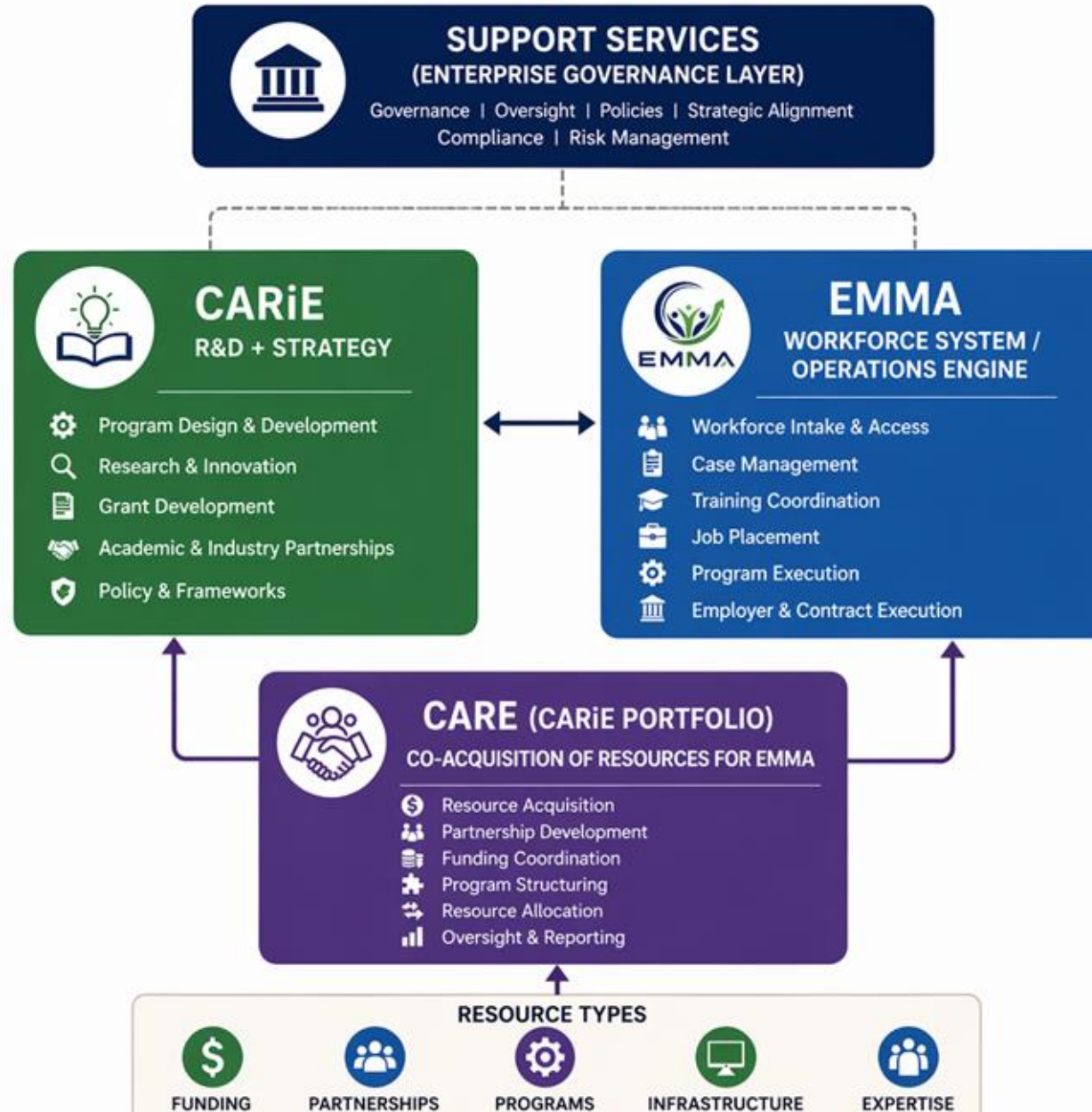
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CORE RELATIONSHIP MODEL

(TRI-LAYER STRUCTURE)

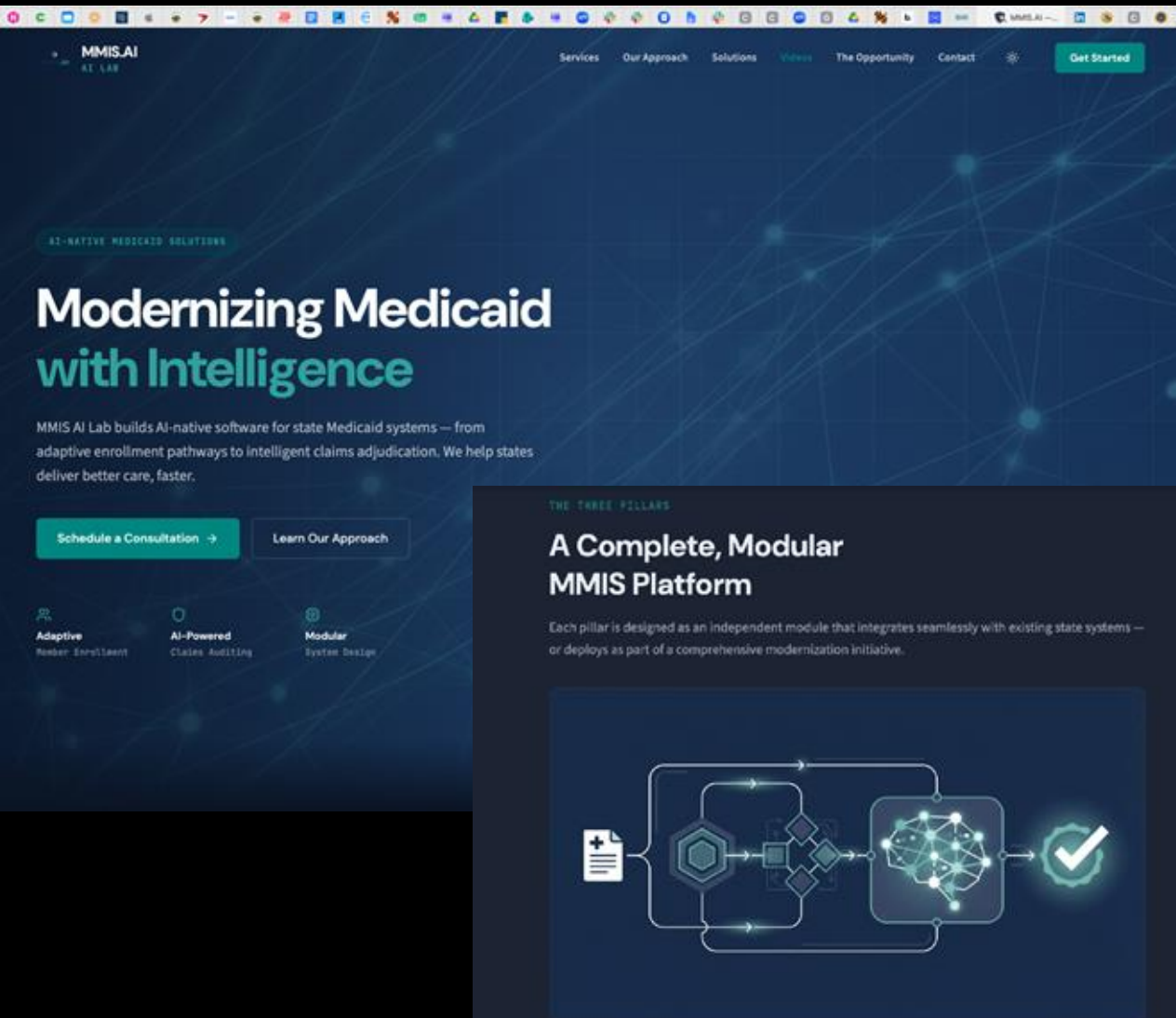




OPERATIONAL FLOW
(HOW THE SYSTEM ACTUALLY WORKS)



AI-Native Solutions -MMIS.AI-



01



Member Eligibility & Enrollment

A two-step process: first determine eligibility, then guide qualified members through an adaptive enrollment pathway. Forms dynamically adjust based on input — if a member selects 'male,' pregnancy-related questions are automatically removed. If they are not eligible, the system provides clear guidance on next steps.

- Adaptive Eligibility and Enrollment Pathway
- Dynamic form fields based on member data
- Real-time eligibility determination
- Clear non-eligibility guidance

02



Provider Enrollment

Providers enroll through an adaptive pathway that adjusts form requirements based on provider type — individual vs. organization, specialty, and licensing. Re-enrollment is tracked automatically (every 3 or 5 years depending on provider type). A 24/7 virtual voice assistant helps providers navigate the process.

- Adaptive Enrollment Pathway for providers
- Automated re-enrollment tracking
- 24/7 virtual voice assistant
- EIN/SSN fields based on entity type

03



Claims Processing & Adjudication

Business analysts manage adjudication rules through a domain-specific language (DSL) — no programmer required. Rules are parsed through an abstract syntax tree and converted into executable logic. We support real-time adjudication via direct API calls from EMR to payer, eliminating clearinghouse delays.

- Domain-Specific Language for business rules
- Abstract Syntax Tree rule processing
- Real-time API-based adjudication
- Support for 837P, 837D claim formats

Thank You

WWW.EMMA.FOUNDATION

VM Workshop 2026

Richmond, VA

CONTACT US



COMPLETE THE INTEREST FORM

<https://form.typeform.com/to/onNSEk18>