



The University of Manchester

## Sharable Infrastructure, Tools and Resources for Teaching Core Software Engineering Skills

Julio César Cortés Ríos, Sukru Eraslan, Kamilla Kopec-Harding, Gerard Capes, Peter Crowther, Gareth Henshall, Christopher Page, Robert Haines, Caroline Jay and Suzanne M. Embury

School of Computer Science, The University of Manchester / Institute of Coding

Introduction

The Institute of Coding (IoC) is a consortium of universities and employers, with a mission to develop the next generation of digital talent at degree level and above, promoting higher-level digital skills capabilities among those already in work as well as improving graduate employability.

At the University of Manchester, we are working to package our expertise in teaching modern software engineering skills (such as automated testing, collaborative) coding workflows, code review and continuous integration) to create infrastructure, tools and learning resources that can be reused and reconfigured by IoC partner organisations in their own courses. We aim to deliver 4 separate packages, described below, that work together in a virtuous cycle that maximises the learning value obtained from the teaching resources put in. All packages are configurable to work with different courses, different employer requirements and different coding standards, and are potentially applicable to courses beyond software engineering. We are also exploring their application in workplace training and CPD courses.



Suggest

resources

			IUI COUISEWOIK.	As students submit	
		р	artial versions of o	coursework through	
		Git, the RoboTA tool re-evaluates			
Supporting	,	p	progress so far and provides feedback,		
framowork			including early de	tection of common	
		m	istakes and best p	ractices compliance	
	1	Metric			
	Ę	generation		Sugge	
			Profiles	resou	
			Definition		
				learning	
				Leannig	
				Analytics	
				Our unique learner	
Automation Server				analytics pipeline is	
Integration	Data		allowi	ng us to understand	
Jenkins	extraction	De-duplica	tion how s	students learn these	
			cor	o skills providing an	
	CI			idonco baco for tho	
	Data		e		
Git-Repository			Analysis	learning resources	
Gitlah				we share with	

they look for in their graduate employees. Students then receive reports on how their coursework matches up to the profiles of employers they are interested in working for.

Support	
improvement	
Micro Learning Units (μLUs)	
Compact and informative	

resources (web or mobile) that teach core Software Engineering concepts in an engaging way, and that can be combined into comprehensive tutorials

## **Git Concepts Series**

Support

compliance

Suggest

resources



## For further information, please contact:

Suzanne M. Embury: suzanne.m.embury@manchester.ac.uk Caroline Jay: caroline.jay@manchester.ac.uk

Or visit: ioc.cs.manchester.ac.uk

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