

References for SSE Ticket to Ride Expansion Pack

This is the reference list for 'Ticket to Sustainability'! This booklet serves as a curated compilation of references to relevant literature for further exploration of the SSE patterns and topics covered in the game. The references are organized based on the categories of cards in the game. Happy learning!

References for the AI Cards

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References for the Data Center Cards

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- [4] Eduard Oró et al. "Energy efficiency and renewable energy integration in data centres. Strategies and modelling review". In: *Renewable and Sustainable Energy Reviews* 42 (2015), pp. 429–445.
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- [8] Severin Zimmermann et al. "Aquasar: A hot water cooled data center with direct energy reuse". In: *Energy* 43.1 (2012), pp. 237–245.

References for the Design Patterns I & II Cards

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- [2] Christian Bunse and Sebastian Stiemer. "On the Energy Consumption of Design Patterns". In: *Softwaretechnik-Trends* 33 (2 May 2013). Patterns: Facade, Observer, Abstract Factory, Decorator, Prototype, Template Method, pp. 7–8. DOI: [10.1007/s40568-013-0020-6](https://doi.org/10.1007/s40568-013-0020-6).
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For easy comparison between the different studies, the tables below contain a complete overview of the results from all papers analyzed. The percentages indicate how the design pattern solutions perform relative to their non-pattern alternative, for each study.

Paper	Focus	Design Pattern						
		Abstract Factory	Adapter	Bridge	Builder	Chain	Command	Composite
Alders 2016 / Feitosa 2017	Java							
Bunse 2013	Java (mobile systems)	+15.9%						
Litke 2007	C++ (embedded systems)		+0.1-0.3%					
Maleki 2019	OOP							
Nouredine 2010*	C++, Java	+4.5%	-0.5%	+4%		-2%	+2%	-1.5%
Qasim 2021	Mobile systems (Android)	-65-61%						
Sahin 2012	C++	+21.6%		-0.2%	+1.2%		-1.8%	+5.1%

Paper	Focus	Design Pattern						
		Decorator	Facade	Factory Method	Flyweight	Interpreter	Iterator	Mediator
Alders 2016 / Feitosa 2017	Java							
Bunse 2013	Java (mobile systems)	+133.6%	+2.5%					
Litke 2007	C++ (embedded systems)			+0.1-0.3%				
Maleki 2019	OOP	+496.6%	-4.3%		-49.7%			
Nouredine 2010*	C++, Java	+12.24%			+3%		-33%	+7%
Qasim 2021	Mobile systems (Android)		-61-22%		-2.5%			+26.61%
Sahin 2012	C++	+712.9%		-0.1%	-58.1%			-9.6%

Paper	Focus	Design Pattern						
		Observer	Prototype	Proxy	Singleton	State/Strategy	Template Method	Visitor
Alders 2016 / Feitosa 2017	Java					+115.9-124.8%	+21.1-32.2%	
Bunse 2013	Java (mobile systems)	+0.1%	+33.2%				+0.1%	
Litke 2007	C++ (embedded systems)	+43.6-44.5%						
Maleki 2019	OOP		+0.6%				+0.8%	
Nouredine 2010*	C++, Java	+30.63%	0%	+1.5%	-3.5%	+3%/-3.5%		+9%
Qasim 2021	Mobile systems (Android)	-91-89.3%			+10%, +105%		-41%, +89%	+3.5%
Sahin 2012	C++	+62.2%	-0.9%	-36.5%	+0.4%	-0.2%		-7.5%

* This source contains a visual graph rather than exact numbers for most design patterns; the numbers are therefore estimates.

References for the Mobile Cards

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