


```
C:\Users\om\Desktop>gcc -S electricity.c [Convert electricity.c to electricity.s assembly file]
C:\Users\om\Desktop>gcc -S instru.c [Convert instru.c to instru.s assembly file]

C:\Users\om\Desktop>gcc -c electricity.s [Convert electricity.s to electricity.o object file]
C:\Users\om\Desktop>gcc -c instru.s [Convert instru.s to instru.o object file]

C:\Users\om\Desktop>gcc electricity.o instru.o -o electricity_instru.o

C:\Users\om\Desktop>gcc electricity_instru.o -o electricity_instru.exe
```

Figure 3

```
C:\Users\on\Desktop>gcc -S electricity.c
C:\Users\on\Desktop>gcc -c electricity.s
C:\Users\on\Desktop>gcc -S instru.c
C:\Users\on\Desktop>gcc -c instru.s
C:\Users\on\Desktop>gcc electricity.o instru.o -o electricity_instru.o
C:\Users\on\Desktop>e lectricity_instru.o

enter the following letters for the catagory of the customer
i for INDUSTRIAL
b for BULK INDUSTRIAL
d for DOMESTIC
e for EXIT
enter the catagory of the customerb
enter the customer number:1234

Enter the previous and present neter readings :120 130

your bill amount is Rs. 120.000000
pls enter your mobile no for sms bill:9831040995
you bill will be sent by sms to the nobile no:
enter the following letters for the catagory of the custom
i for INDUSTRIAL
b for BULK INDUSTRIAL
d for DOMESTIC
e for EXIT
enter the catagory of the customer
enter the customer number:_
```



Figure 4

information system without disturbing routine business operations. However, there are many issues arise with such Plug-in [14] approach we mentioned which need to more effectively answered in recent future before such instrumentations may be implemented in real life situation for legacy modernization.

References

- [1] O. Vasilecas, "Ensuring Consistency of Information Systems Rules Models", Proceedings of the International Conference on Computer Systems and Technologies and Workshop for PhD Students in Computing, Rouse, Bulgaria, June 18-19, 2009 .
- [2] A. Charfi, "Hybrid Web Service Composition: Business Processes Meet Business Rules". Proceedings of the

2nd international conference on Service oriented computing, ACM, New York, USA 2004, pp 30-38.

- [3] N. Zsifkov, "Business Rules Domains and Business Rules Modelling". Proceedings of the International Symposium on Information and Communication Technologies, Las Vegas, Nevada, USA, June 16-18, 2004, pp 172 – 177.
- [4] E. Putrycz and A. W. Kark, "Connecting legacy code, business rules and documentation" , Proceedings of the International Symposium, RuleML 2008, Orlando, FL, USA, October 30-31, 2008, pp. 17–30.
- [5] T. Systä, P. Yu, H. Müller, "Analyzing Java Software by Combining Metrics & program visualization", Proceedings of the Conference on Software Maintenance and Reengineering ,2000, IEEE Computer Society Washington ,USA, pp 199.
- [6] T. Kempf, K. Karuri, L.Gao "Software Instrumentation", Wiley Encyclopedia of Computer Science and Engineering, published online. New Jersey, 15 September, 2008.
- [7] B. R. Buck and J. Hollingsworth, " An API for runtime code patching" , Journal of High performance Computing Applications, 14(4): pp 317-329, 2000.
- [8] Source Code Instrumentation Overview at IBM website. Available:
http://www-01.ibm.com/support/knowledgecenter/SSSHUF_8.0.0/com.ibm.rational.testr.doc/topics/cinstruovw.html . [Accessed: Jan. 12, 2015].
- [9] C.K. Luk, R. Cohn, R. Muth, H. Patil, A. Klauser, G. Lowney, S.Wallace, V. J. Reddi, and K. Hazelwood, "Pin: Building customized program analysis tools with dynamic instrumentation", Proceedings of PLDI 2005, pages 191–200, Chicago, Illinois, USA, June 2005.
- [10] J. Maebe, M. Ronsse, and K. De Bosschere, "DIOTA: Dynamic instrumentation, optimization and transformation of applications", Proceedings of WBT-2002, Charlottesville, Virginia, USA, September 2002.
- [11] N. Nethercote and J. Seward, " Valgrind: a framework for heavyweight dynamic binary instrumentation" , Proceedings of the 2007 ACM SIGPLAN conference on Programming language design and implementation ,pages -89-100,ACM New York, USA.
- [12] H. Bruneliere, J. Cabot, F. Jouault, and F. Madiot, "MoDisco: a generic and extensible framework for model driven reverse engineering," in : Proceedings of the IEEE/ACM International Conference on Automated Software Engineering, ASE 2010, pp.173-174.ACM ,New York 2010
- [13] F. Barbier, G. Deltombe, P. O., and K. Youbi, "Model Driven Reverse Engineering: Increasing Legacy Technology Independence" , Proceedings of Workshop on Reverse Engineering , Feb 23 - 24, Thiruvananthapuram, India 2011.
- [14] D. Das and P. Kundu, "An Attempt to Analyze & Resolve the Pitfalls in CRM Software through Plug-In Instrumentation", *International Journal of Scientific and Research Publications* [ISSN 2250-3153], Vol. 2, Issue 5, pp. 313-320, May 2012.

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