



Technical Workshops Series – 2016

Hands on workshop on Introduction to Game Programming

- Organized by Venture Center -

Learn	Learn how to Program a Game Engine Develop games for Android , iOS and PC platforms							
Workshop Director	Subhojit Basu, Advisor, Tinkering Lab, Venture Center							
Organized by	Tinkering Lab at Venture Center							
Supported by	<ul style="list-style-type: none"> • Biotechnology Industry Research and Assistance Council (BIRAC) via its BIG mentoring program and SIIP program • Venture Center 							
For whom	Future Game Developers Existing Programmers							
When	14-26 March 2016 Mon-Fri: Time: 1800-2000 hrs Sat: Time: 0900-1800 hrs							
Where	E-Classroom, Venture Center, 100 NCL Innovation Park, Dr. Homi Bhabha Road, Pashan, Pune-411008							
Contact	Ms. Lipika Biswas Phone: +91-20-25865877 Email: eventsdesk@venturecenter.co.in							
Cost	<table border="1"> <tr> <td>Students with valid ID card</td> <td>Rs. 5000/-</td> </tr> <tr> <td>Micro, small & medium enterprises/individuals</td> <td>Rs. 10000/-</td> </tr> <tr> <td>Large companies</td> <td>Rs. 15000/-</td> </tr> </table> <p>Limited seats: 25 ; First come first serve</p> <p>For registration please contact: siip@venturecenter.co.in</p> <p>Note:-</p> <ul style="list-style-type: none"> • Fees paid is not refundable and non transferable under any circumstances. • Organizers reserve the right to accept or refuse or delay registrations so to optimize the composition of the group and hence maximize learning for all participants. 		Students with valid ID card	Rs. 5000/-	Micro, small & medium enterprises/individuals	Rs. 10000/-	Large companies	Rs. 15000/-
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Venture Center: <http://www.venturecenter.co.in/>

Contact No: 020 2586 5877; Email: reception@venturecenter.co.in

Facebook Page: <https://www.facebook.com/venturecenterpune?ref=hl>



Introduction

Game Programming is a mixed skills task requiring knowledge about Game Engine , Game Design and Graphics. This workshop will introduce participants to a 2D Game Engine LOVE, which can be used to make games for various platforms. The workshop will also introduce Lua , a lightweight scripting language for developing games and Game AI. LOVE uses an underlying graphics library to draw objects , has also an associated physics library as well input/output interfaces for File I/O . LOVE is based on Lua and thus has access to Lua's Data Structure, the Table and the MetaTable. Together , they provide a very strong and efficient framework for 2D game development.

Workshop Outline

The workshop will include the following:

- Learn Lua, a Scripting Language
 - Variables
 - Statements
 - Expressions
 - Conditionals
 - Loops
 - Table : Data Structure
 - Functions
- Introduction to LOVE , a 2D game engine
 - Game Simulation Basics
 - Game Event Engine
 - LOVE Graphics
 - LOVE Objects
 - LOVE I/O
 - LOVE Physics
 - LOVE Particle System
- Real Hands-on Game programming assignments
 - Tic-Tac-Toe
 - BattleShip
 - BaghBandi

Participants need to have their own Laptop and an Android or iOS Device .

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Workshop includes

- Tea and lunch at Venture Center Innovation Cafeteria (on Saturdays only)
- Course notes including slides, case studies, application notes
- Demo and hands on sessions
- One-on-one interactions with the experts
- Certificate of participation issued by Venture Center
- Access to restricted website with online compilation of resources for 1 month
- Membership in mailing list to other workshops by Venture Center

Participants need a laptop with install permissions

***Please note, the participants will have to arrange for their own travel/local transport and accommodation and dinners.**

- For accommodation (standard and budgeted hotels) please visit:
<http://www.venturecenter.co.in/puneguide/standard.php>
- For accommodation (deluxe and luxury hotels) please visit:
<http://www.venturecenter.co.in/puneguide/deluxe.php>
- For local transport details visit: <http://www.venturecenter.co.in/puneguide/taxi.php>



Schedule

Time (hrs)	Topic and Contents	Venue	Faculty
Day 1:			
1730	Registration	Foyer area	
1800-1815	Introduction to Venture Center and the workshop	E-classroom	V. Premnath
1815-2000	Introduction to Lua	E-classroom	Subhojit Basu
Day 2:			
1800-2000	Lua Continued	E-classroom	Subhojit Basu
Day 3:			
1800-2000	Lua Continued	E-classroom	Subhojit Basu
Day 4:			
1800-2000	Introduction to LOVE	E-classroom	Subhojit Basu
Day 5:			
1800-2000	First Game Design : Tic-Tac-Toe	E-classroom	Subhojit Basu
Day 6:			
0900-1100	First Game Design : Tic-Tac-Toe continued	E-classroom	Subhojit Basu
1100-1115	Tea/coffee and biscuits	Foyer area	
1115-1300	Advanced Lua	E-classroom	Subhojit Basu
1300-1400	Lunch	Cafeteria	
1400-1545	Advanced Lua Continued	E-classroom	Subhojit Basu
1545-1600	Tea/coffee and biscuits	Foyer area	
1600-1800	Advanced Lua Continued	E-classroom	Subhojit Basu
Day 7:			
1800-2000	Advanced Lua Continued	E-classroom	Subhojit Basu
Day 8:			
1800-2000	LOVE Graphics	E-classroom	Subhojit Basu
Day 9:			
1800-2000	LOVE Input/Output	E-classroom	Subhojit Basu
Day 10:			
1800-2000	LOVE Mechanics	E-classroom	Subhojit Basu
Day 11:			
1800-2000	LOVE Mechanics (continued)	E-classroom	Subhojit Basu
Day 12:			
0900-1100	Division into groups ; Hands-On Continued	E-classroom	Subhojit Basu
1100-1115	Tea/coffee and biscuits	Foyer area	
1115-1300	Project Definition and Kickoff	E-classroom	Subhojit Basu
1300-1400	Lunch	Cafeteria	
1400-1530	Project Definition and Kickoff continued	E-classroom	Subhojit Basu
1530-1600	Tea/coffee and biscuits	Foyer area	
1600-1530	Project Definition and Kickoff continued	E-classroom	Subhojit Basu
1530-1800	Feedback and Valedictory	E-classroom	V. Premnath



Speakers and faculty (in alphabetical order of last names)

	<p>Subhojit is currently working on a Myoelectric Prosthetic Limb at Venture Center, Pune. He is B. Tech (Electrical Engg.), M. Tech (Instrumentation) from IIT, Kharagpur. He has experience in VLSI Design, EDA and Multicore Processor Design and Multicore Computing, Analog and Digital Domains and Embedded systems. He is passionate about doing low power designs to solve the impending energy crisis and reducing e-waste.</p>
	<p>Premnath is Founding Director of Venture Center and Head, NCL Innovations. He holds a B.Tech from the Indian Institute of Technology - Bombay and a Ph.D. from the Massachusetts Institute of Technology, USA. He has also been a Chevening Technology Enterprise Fellow with the Centre for Scientific Enterprises, London Business School and Cambridge University, UK. He brings with him considerable experience in technology development and commercialization, working with start-up companies (in Cambridge-UK and India) and engaging with large corporations on research and consulting projects as project leader.</p>

About the organizer

	<p>About Venture Center Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering. For more information, visit http://www.venturecenter.co.in/</p>
	<p>About Bioincubator The BioIncubator at Venture Center aims to nucleate and nurture technology and knowledge-based enterprises leveraging knowledge in the areas of biotechnology (biopharma, agrobiotech, industrial biotech, clean technology), biomedical engineering/ devices/ diagnostics, biomass value addition/ renewable fuels/chemicals/materials, bioinformatics, bio/medical services and related disciplines. Created with support from DBT-BIRAC under the Bioincubator Support Scheme. For more information, visit http://www.bioincubator.venturecenter.co.in/</p>
	<p>About Tinkering Lab Tinkering Lab is a facility at Venture Center. This Venture Center initiative has been created with the generous support from in-house funds from Venture Center and the host Institution. The focus in the Tinkering Lab is on electronics, instrumentation and optics besides related prototyping and design. The main aim of the Tinkering Lab is to help inventors and entrepreneurs to build prototypes of their ideas and generally "tinker" around exploring new ideas. For more information, visit http://www.venturecenter.co.in/tinkeringlab/</p>

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