



# COURSES PORTFOLIO

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By: FLUX Strategic Design  
Shachar Oz and Liron Levi

January 2019

## WHO ARE WE? CHI SIAMO?

# Our Mission: Empower the Next Generation by Building Engaging Learning Experiences

FLUX helps people prepare more effectively to a fast-changing world, by developing required skills: self-esteem, sense of competency, social and interpersonal skills.

**Shachar Oz** has 10 years of experience in design and development of learning experiences, video games, emergent technologies. Over 15 product releases. He has teaching experience in both formal and informal systems. Worked for Intel Corporation after they acquired a startup he worked for. BA degree in using Technologies for Learning. Currently taking MBA at the University of Bologna in Italy, and dream of building a new type of school. See his [website](#).

**Liron Levi** is an emotional coacher, therapist and educator with over 10 years of experience. Practiced formal and informal education systems, from infants through teenagers to elderly. Certified life coach from David Yalin school of Education, with expertise for adulthood, relationships, parenting & family. Also holds a certification for professional reflexology from the Reidman international college for complementary medicine. Has management experience from the restaurant business (6 years) and nursery home. Effectively motivating and empowering others. Well organized & sensitive for details. See [resume here](#).



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## OUR METHODOLOGY

### From Zero Knowledge to a Portfolio (Project Based Learning)

Where people see students, we see future colleagues. We prepare our learners to be ready for real world challenges. We make sure each participant leave our class with a **new tool** in their bag. In longer workshops, we make sure they also have a **portfolio** with projects ready to be presented in a job interview.

### Active Learning

Every lesson or meeting is an active session. The learners engage in hands-on activities, and spend most of the time working. We believe there is no other way to learn a new skill.

### Develop Social Skills for the 21st Century

Essential part of every training is the required social skills for the future. With the era of robotics and machine learning taking more and more jobs from humans, it is more and more important that we maintain our uniqueness – our society. We work hard on collaborative team building, self-esteem, self-confidence, adaptability to change, interpersonal skills, empathy, communication, presentation skills and more.

### Workshop Length is Flexible.

Tools can change. So can we. We show here our successful programs, but if you have different needs – please tell us.



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## OUR CLIENTS

**Group Size:** up to 15 participants for a workshop and up to 60 for a discussion. For bigger groups we would need a special organization.

**Various Backgrounds:** we teach any age group, from any background level. It can be a dedicated workshop for private company, highly customized for the client's needs, or an introductory course for a group with mixed backgrounds.

**Preferred Audience:** teenagers (12–20 years old), young professionals (20–35 years old), teachers. But we can also work with professionals and parents.



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## OUR COURSES

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## CODING FOR ALL



Introductory coding course for those who know nothing in the field. This course teaches the concepts of computational thinking, and by understanding how computers are built we can also understand how to “explain” them what we want them to do.

### Lesson Plan

- Lesson 1: [Lightbot](#) (6 hours)
- Lesson 2: [Scratch](#) (6 hours)
- Lesson 3: [Code Monkey](#) (6 hours)
- Lesson 4: [Cubelets](#) (3 hours)
- Lesson 5: mBot Ambulance (3 hours)
- Lesson 6: [Web development](#) (6 hours)
- Lesson 7-8: Final Project

### Performed

- [Casa Bondi, Castenaso, Italy](#)
- [PianoroFactory, Pianoro, Italy](#)

### Projects

- Websites → Bootstrap
- Games → Unity 3D or [Kodu](#)
- Robotics → [Lego mindstorm](#)
- IoT → MakeyMakey or [Click4All](#)
- Mobile app → [App-inventor](#)
- Backend → Python powered app

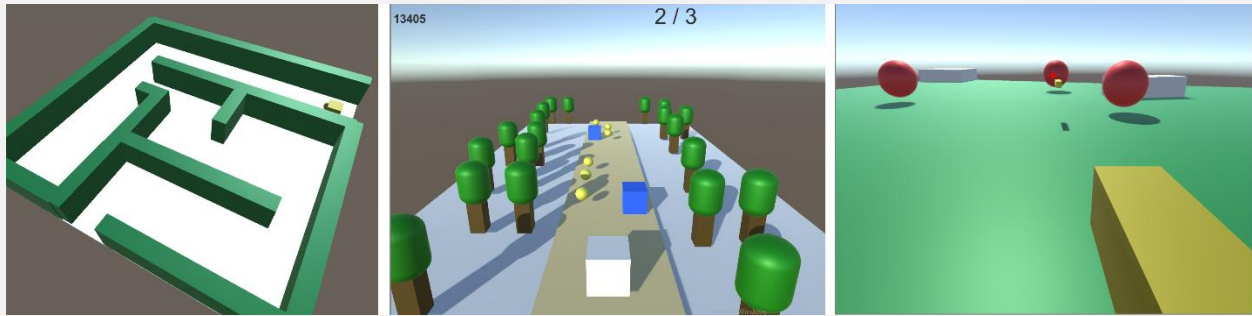
### Target Audience

5 – 18 years old

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## UNITY 3D FOR GAME DEVELOPERS



Unity3D is probably the most popular, professional, free-to-use, game engine. It is used for almost any platform available today: phones, PCs, game consoles and eye-wear. After 40 hours participants will become **Junior Unity Developer**, and have a portfolio with 2-3 projects.

### Lesson Plan (3 hours each)

- Lesson 1: Intro to Unity interface
- Lesson 2: Activating events with triggers
- Lesson 3: 1st Person shooting range
- Lesson 4: UI and menu system
- Lesson 5: Building a standalone playable
- Lesson 6: Animating basics
- Lesson 7: Sound effects
- Lesson 8: Particles
- Lesson 9: Adding Art
- Lesson 10: Advanced animation
- Lesson 11: Ray-casting
- Lesson 12: Level design
- Lesson 13: Final projects

### Performed

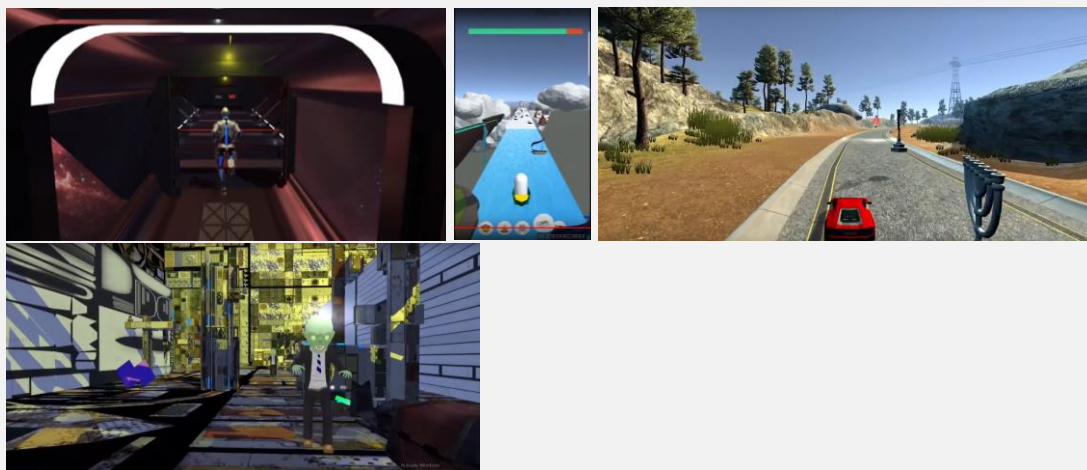
- [HandsOnGames](#), Israel

### Projects

- Maze
- Escape Room
- First Person Shooter
- Mario
- Temple Run

### Target Audience

14 – 50 years old

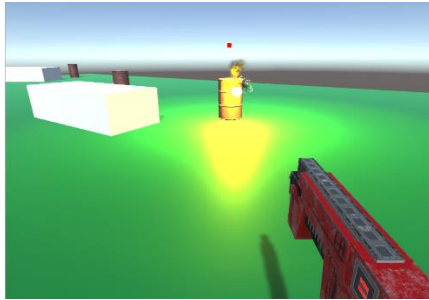
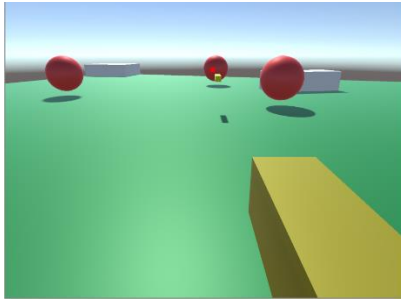


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## UNITY 3D- 12 HOURS INTRO WORKSHOPS



Shorter introductory workshops of 12 hours can be designed to fit specific needs and backgrounds. These would result in one big project.

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### Lesson Plan: Game Enthusiasts

Lesson 1: Intro to Unity interface  
Lesson 2: Activating events with triggers  
Lesson 3: UI & menu system  
Lesson 4: Building a standalone playable

### Projects

Maze  
Escape Room  
First Person Shooter  
Mario  
Temple Run

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### Lesson Plan: Visual Artists & Architectures

Lesson 1: Intro to Unity interface  
Lesson 2: Camera movements  
Lesson 3: Lighting, Materials & Shaders  
Lesson 4: Animations

### Projects

Exploring a high resolution virtual 3D scene with lighting effects

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### Lesson Plan: App Designer

Lesson 1: Intro to Unity interface  
Lesson 2: UI and 2D principles  
Lesson 3: Building mobile app screens  
Lesson 4: Sounds & animations

### Projects

Mobile app built with Unity

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### Lesson Plan: Animators

Lesson 1: Intro to Unity interface  
Lesson 2: Animating basics  
Lesson 3: Advanced animation  
Lesson 4: 3D character animation

### Projects

3D character with complex animations

### Performed

- [MakeInBO, Fablab Bologna, Italy](#)
- Intel Israel Makers community

### Target Audience

14 – 50 years old, with a specific background or previous knowledge

## ADVANCED UNITY 3D- 12 HOURS WORKSHOPS



Shorter workshops of 12 hours for advanced participants, who already have required background. These would result in one big project.

### Lesson Plan: Junior Developers

Lesson 1: Animating basics  
Lesson 2: Effects- sound & particles  
Lesson 3: Using 3D models  
Lesson 4: Advanced programming

### Projects

Depend on what participants work on

### Requires

Game Enthusiasts certificate

### Lesson Plan: Project Manager

Lesson 1: The development team  
Lesson 2: Project planning  
Lesson 3: Communicating developers & designers  
Lesson 4: Github integration

### Projects

Full gantt of a 3 months project planning in Github, ready to start working

### Requires

Game Enthusiasts certificate

### Lesson Plan: (Advanced) Game Developers

Lesson 1: Level design  
Lesson 2: Enemies & monsters  
Lesson 3: Ray-casting  
Lesson 4: Saving user progress

### Projects

Adding enemies to the existing project of the participants

### Requires

Junior Developer +  
Programming experience

### Lesson Plan: (Advanced) Intro to VR

Lesson 1: Designing for VR and AR  
Lesson 2: Building a 360 VR  
Lesson 3: Building a 360 VR  
Lesson 4: Building a 3D VR for Vive  
Lesson 5: Building a 3D VR for Vive

### Projects

VR app on HTC Vive or  
Samsung Gear

### Requires

Game Developers +  
Programming experience

### Lesson Plan: (Advanced) Intro to AR

Lesson 1: Designing for VR and AR  
Lesson 2: Building a marker AR with Vuforia  
Lesson 3: Building for ARCore/ ARKit  
Lesson 4: Building for Hololens  
Lesson 5: Building for Hololens

### Projects

AR app

### Requires

Game Developers +  
Programming experience

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## ENTREPRENEURSHIP COURSE



Course packed with best practices from years of innovation and creativity in the startup nation, Israel. The workshop is hands on, and the participants will be grouped together to practice the concepts.

### Lesson Plan (3 hours each)

#### CHAPTER 1: IDEATION

Lesson 1: From Napkin to a Business

Lesson 2: Funding and Founding

Lesson 3: Leading a Development Team

#### CHAPTER 2: DESIGN

Lesson 4: From Concept to Design

Lesson 5: Product Management

Lesson 6: Performing an Effective User Testing

#### CHAPTER 3: PROTOTYPE

Lesson 7: Intro to Coding

Lesson 8: Makers Culture

Lesson 9: Planning a Software Project

### Projects

Anything. Depends on participants.

Social entrepreneurship,

Hardware products,

Software services, etc.

These methods are relevant to any.

### Performed

- Youth Center, Jerusalem, Israel

### Target Audience

16 – 40 years old. Interested in innovation

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## GAME DESIGN & PLANNING



We all play games during our childhood. What is it that catches us so hard? Why do we care so much? Why are we so concentrated? This course will teach you these secrets.

### Lesson Plan (3 hours each)

Lesson 1: Game Genres  
Lesson 2: Building blocks of games  
Lesson 3: World, environment, story  
Lesson 4: Goals, rewards  
Lesson 5: Analysis of existing games  
Lesson 6: Level design and gameplay  
Lesson 7: a Toy and a game  
Lesson 8: Board games  
Lesson 9: Escape rooms  
Lesson 10: Presentations

### Projects

Board game.  
Escape room planning.  
Video game design.  
Card game.

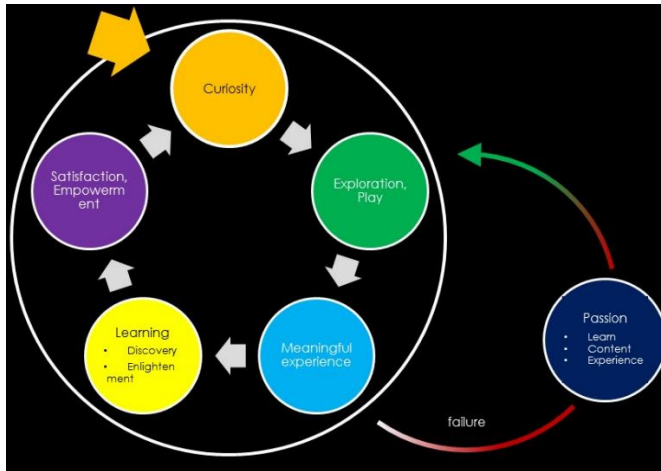
### Target Audience

12 – 35 years old. Interested in games

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## TEACHING MEANINGFULLY



Our students are drawn to tech like flies to light. We would like to win back some of that attention, and help them become better people, critical thinkers, filled with social care. This series of meetups will explore the world of games, motivation, learning theories, & teaching practices. The graduate will be able to make first steps to incorporate games into their teaching.

### Lesson Plan (2 hours each)

#### CHAPTER 1: WHY GAMES? MOTIVATION

Lesson 1: Games & education? No, thanks  
Lesson 2: Myths around video games  
Lesson 3: Similarities of game design & instructional design

#### CHAPTER 2: UNDERSTANDING GAMES

Lesson 4: What is a game  
Lesson 5: Game genres  
Lesson 6: Toys for learning

#### CHAPTER 3: ACADEMIC RESEARCH

Lesson 7: Violence and games  
Lesson 8: Games for social change  
Lesson 9: Serious games

#### CHAPTER 4: IN PRACTICE

Lesson 10: Using games in the classroom  
Lesson 11: Guided game building  
Lesson 12: Reflecting on game building  
Lesson 13: Intersection of meaningful learning and innovative pedagogy

### Projects

Board game.  
Escape room planning.  
Video game design.  
Card game.

### Target Audience

12 – 35 years old. Interested in games

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## LONG PROGRAMS / SUMMER CAMPS

### GAMING CLUB



With the right guidance, video games can be used as a highly empowering tool. Gamers are already playing in teams, collaborating on a daily basis. We will use this to help them improve their: creative thinking, decision making, self-confidence, adjust to changes, sociability, empathy.

#### Subjects

- Choosing team
- Choosing characters
- Reading map
- Building strategy
- Picking a battle
- Predicting enemy moves
- Analyze possible outcomes

#### Skills

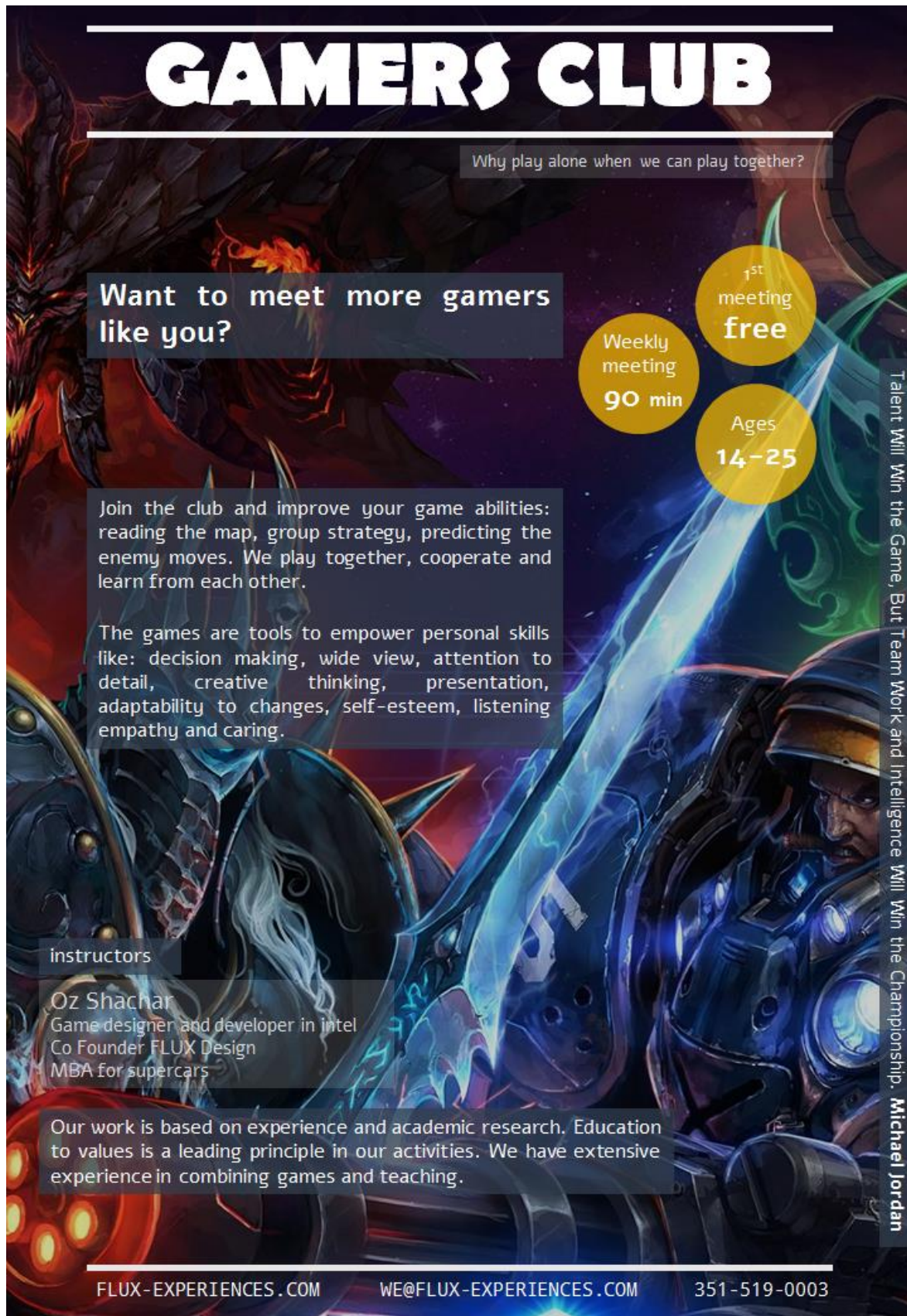
- Collaboration & trust
- From losing to learning
- Learning from each other
- Effective respectful communication
- Wide picture
- Stubborn, but know when to stop
- Listening, empathy and caring
- Risk management

#### Target Audience

14 – 25 years old

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# GAMERS CLUB

Why play alone when we can play together?

Want to meet more gamers like you?

Join the club and improve your game abilities: reading the map, group strategy, predicting the enemy moves. We play together, cooperate and learn from each other.

The games are tools to empower personal skills like: decision making, wide view, attention to detail, creative thinking, presentation, adaptability to changes, self-esteem, listening empathy and caring.

instructors

Oz Shachar  
Game designer and developer in Intel  
Co Founder FLUX Design  
MBA for supercars

Our work is based on experience and academic research. Education to values is a leading principle in our activities. We have extensive experience in combining games and teaching.

1<sup>st</sup> meeting **free**

Weekly meeting  
**90 min**

Ages  
**14-25**

Talent Will Win the Game, But Team Work and Intelligence Will Win the Championship. **Michael Jordan**

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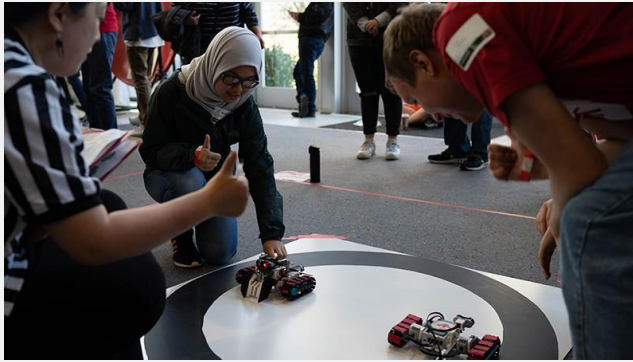
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## ROBOTICS TOGETHER



Robots offer different programming experience than pure code, since there is a physical element to it. Kids enjoy it, and parents are interested. This class connects the two together in order to make sure the generation gap do not get deeper. The bond between parent and child is the essence here.

### Lesson Plan (2 hours each)

Lesson 1: Step by step kit assembly  
Lesson 2: Block programming  
Lesson 3: Driving around  
Lesson 4: Selecting task. Planning project  
Lesson 5: Project work

### Projects

mBot Ambulance  
Autonomous Car  
Line Follower  
Confused Bot  
Lego Mindstorm

### Target Audience

8 – 50 years old



# Robotics Together

Parents and kids build together

Series of meetings where  
parents and their child will  
build robots together

Decide on a robot design, and learn how to  
program its behavior.

Computational thinking, problem solving,  
project-based experimental learning.

Special emphasis on the bond between the  
parent and child. That is WHY we are here.

FUN  
guaranteed

Final  
exhibit

Personal  
speed

30  
hours

Instructor: Oz Shachar

Game designer and developer in intel  
Co Founder FLUX Design  
MBA for supercars  
Teacher trainer for robotics

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## OUR LECTURES

### INTERSECTION OF INNOVATIVE PEDAGOGY, PLAYFULNESS AND MEANINGFUL LEARNING



Curiosity is the key for meaningful learning. But how do you inspire curiosity in students that do not necessarily want to be engaged? How do you nourish it over time? We believe that by offering play you might be able to create meaningful experience for the user, which would bring moments of enlightenment. This should trigger more curiosity and develop passionate learners.

Levi L. & Oz S. (2017). The Learning Cycle: Model Explained. Retrieved from <http://www.flux-experiences.com/learning-cycle.html>

### MYTH-BUSTING ABOUT VIDEO GAMES



What are the things we believe about video games that are absolutely mistakes? Are video games created to isolate people? Can we learn from video games or are they a waste of time?

Levi L. & Oz S. (2017). Myth Buster: Are Video Games Really That Bad? Retrieved from <http://www.flux-experiences.com/videogame-myths.htm>

### ROAD-TRIP THROUGH AUGMENTED REALITY



Since BMW's visionary video back in 2007, we saw huge market potential for Augmented Reality. This talk shows how AR technology was developed and some early prototypes and products along the path. Big focus on current use cases and the features and developments we can expect in the near future.

### TECHNOLOGIES FROM THE MOVIES



A list of innovative technologies that were showed in TV series and movies that nowadays come to life. Among these: gesture recognition, speech recognition, health monitoring, autonomous robots, self-driving cars

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## HUMANOID ROBOTS AND SOCIAL ASPECTS



Eventually technology will be able to create humanoid robots. As developers, we must be responsible for the social implications of the technology. In this talk, I explain a few best practices when designing your next robot, focusing on how to make it appealing, useful and most of all, less rejected by users.

## SIMILARITIES BETWEEN INSTRUCTIONAL DESIGN AND GAME DESIGN



Instructional design could learn from good game design at how to tangle the users into the web of curiosity, challenge and fun. Let's see how these two design fields are actually quite similar. We have identified 9 design principals in the game design theory that can be used to generate a great instructional design.

Oz, S. (2012). Similarities between instructional design and game design. In Y. Yair, & E. Shmueli (eds.), The world of open information: teleprocessing teaching in the higher education (79-80). Rehovot: Weizmann institute of science.

## THE JOBS OF THE FUTURE



The future technologies will change the jobs we now have: bartender, taxi services, manufacturing, etc. What are the new jobs that are coming? How can we prepare ourselves and our children to these jobs? How can we identify the required skills for the jobs using toys and games?

Oz, S. (2014). Predicting player personality through play behavior. In Y. Yair, & E. Shmueli (eds.), New technologies and their evaluation in online teaching and learning (313-317). Tel Aviv: Lewinsky College of education.





*Learning is fun and curiosity is the key*

## Learning is FUN

We discover the engaging sections in the content. Then understand how it should be conveyed. We can do this with any subject, at least with those that truly matter. Our expertise with game design and development comes in very handy.

## Curiosity is Key

Curiosity plays key role for true and meaningful learning. Therefore we place much attention investigating the product's audience: their needs, personality, characteristics. We interview them, play their games, brainstorm together, and let them try out our ideas.

MEANINGFUL LEARNING CYCLE

## Ed + Tech Advisers

Creative educational entrepreneurs, experienced with teaching various age groups and audiences, both formal and informal systems.

We are experts with emergent technologies, but we use it without letting it ruin the personal bond created between student and tutor.

## Social Values and Growth Mindset

The subject matter is only one part of our responsibility as educators. We empower our users to become better and stronger beings, using coaching methodologies.

## Implementable and Scalable Learning Experiences

Learning experience is when learner meets content in a mediator technology. The instructional wrapping is the implementation guide for the tutor. We excel at creating the entire package.

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