

O kolektivnom temljenju – DIY i DIWO prakse




jer DIY je s nama odavno! DIY (Do It Yourself) ne postoji tek otkada postoji internet kakav danas poznajemo, sa sjajnim pričama o otvorenom kodu i čitavim nizom Pinterest pinova na temu samoobnovljive energije, ili pak blogova o sredstvima za čišćenje bez otrovnih kemikalija. Cijela je povijest ljudske civilizacije, od antičke nadalje, prožeta zanatlijama i DIY idejom u svrhu preživljavanja i stvaranja, kao i tendencijama prema inovaciji. Ustvari, mogli bismo to nazvati tendencijama prema olakšavanju stvari, pojednostavljivanju tog istog "preživjavajućeg" života.

DIY – "uradi sam" – termin je koji se u zapadnoj civilizaciji modernog doba nalazi u svakodnevnoj upotrebi još od poslijeratnih kriznih i siromašnih 1950-ih godina, kada se stvari nisu bacale, nego popravljale i koristile "za cijeli život". Naravno, refleksije na umjetnost pritom nisu bile zanemarive, i one još dva i više desetljeća nakon toga snažno prožimaju radove Fluxusa, spomenemo li samo najpoznatiji primjer. S druge strane Zida, zrcalna slika Zapada u obliku komunističke Istočne Europe donosi nam niz crnohumornih epizoda u obliku vrlo živih i nostalgičnih "urbanih legendi", kao i kinematografskih anegdotalnih uprizorenja u dijapazonu od 40-ak godina, na prozaične teme "Snađi se družu" i "Sam svoj majstor". Uradi sam – izraz je to s kojim se danas susrećemo možda više ikada prije.

Naša balkanska stvarnost, surova ili pak romaneskno-nostalgična, kako god želite, "teleportira" nas na sajmište. Sajmovi i tržnice opisuju se u mnogim vodičima za fotografe kao mjesta gdje možete uloviti dušu grada. Jedan od njih, koji u ovoj regiji uživa doista kulturni status, jest zagrebački Jakuševac aka Hrelić.

"To je bio tranzistor za cijeli život!" – kaže umirovljeni prodavač "stare krame" na Hreliću - najvećem sajmu rabljenih stvari posljednjih tridesetak godina i podjednako popularnom okupljalištu umjetnički osviještenih ljudi i predstavnika pop-trash subkulture grada, uz pokojeg pomodnog posjetitelja čija je strast obično nešto kraćeg daha. Naravno, Hrelić je od svog samooorganiziranog nastanka u svojstvu "priljepka" službenom Sajmištu za rabljene

On Collective Soldering – DIY and DIWO Practice



for DIY has been with us for ever. DIY has not existed just as long as the Internet exists the way we know it today, with its marvellous tales of open source code and a whole range of Pinterest pins on the theme of self-renewable energy, or blogs about cleaning materials that don't use toxic chemicals. The whole history of human civilisation, ever since Antiquity, is shot through with artisans and fabricators and the DIY idea for the sake of surviving and creation, as well as with tendencies to innovation. In fact, we might call it tendencies towards making things easier, towards simplifying the same "survivalist" life.

DIY is a term that in the Western civilisation of the modern age has been in everyday use since the post-war crisis-laden and impoverished 1950s, when things were not chucked, but repaired, and used for a lifetime. Of course, the reflections on art were not negligible, and for two and more decades after that, they strongly informed the works of Fluxus, to mention just the best known example. On the other side of the Wall, the mirror image of the West in the form of communist Eastern Europe brings us a number of black-humour episodes in the form of very vital and nostalgic urban legends, as well as cinematographic anecdotal mises-en-scène in a range of 40 or so years on the prosaic theme of "get by, mate" and "be your own handyman". "Do it yourself" is an expression we meet with today perhaps more than ever before.

Our Balkan reality, harsh or perhaps picaresque-nostalgic, however you like it, teleports us to the flea market. Fairs, markets, flea markets and produce markets are described in many guides to photographers as places where you can capture the spirit of the city. One of them, enjoying cult stats in this region, is Zagreb's Jakuševac aka Hrelić.

"That was a transistor radio for a lifetime", says the pensioner-salesman of old junk at Hrelić, the biggest fair of used stuff in the last thirty years and an equally popular forum for artistically aware people and representatives of the pop-trash subculture of the city, with the occasional fashion-conscious

automobile inspirativno i vrijedno mjesto, na kojemu će predstavnici DIY kulture pronaći nevjerojatne i rijetke uređaje. Tako u kulturi koja ne poznaje instituciju američke "garažne rasprodaje" sajam odbačenih stvari postaje nabrijani supermarket DIY generacije s kontinuiranom rasprodajom.

Odbačeni i jeftini sintesajzeri tada će se u nečijem garažnom ili podrumskom "laboratoriju" tehnikom *circuit-bendinga* pretvoriti u nove, modularne glazbene instrumente metodama kakve je u svojem radu možda koristio i pionir eksperimentalne elektronske glazbe Robert Moog. Stari koferi i izgrebene "plehnate" retro-kutije postat će kućišta za inovativne gadžete, dok će stereoskopske naočale, grafoskopi i dia-projektori postati alati za analogni VJ-ing.

Prisjetimo se 2006. godine, kada u prosinačkom izdanju *Time* objavljuje na svojoj naslovnici: Osoba godine ste Vi! Ta se godina, slučajno ili ne, u širem društvenom kontekstu podudara s godinom kada su Massimo Banzi i David Cuartielles u talijanskom gradu Ivrei lansirali novi mikro-kontroler Arduino i pripadajući istoimeni softver sa simplificiranom varijantom C++ programskog jezika. Osim Banzija i Cuartiellesa, jezgru Arduino tima čine i Tom Igoe, Gianluca Martino, David Mellis i Nicholas Zambetti. Ni Ivrea nije bila slučajan izbor. Kao sjedište poznate tvrtke za pisaae mašine Olivetti i Instituta za interaktivni dizajn Ivrea, nastanak takvog uređaja, čije ime u prijevodu s talijanskog znači "postojani prijatelj", bilo je i više nego logično. Arduino je, naime, baziran na razvojnoj platformi za elektronske prototipove u vidu programiranja i elektronskih sučelja pod nazivom *Wiring*, čiji je autor Hernando Barragan, uz mentorstvo Arduino-tate Massima Banzija. *Wiring* platforma "naslanja se" na integriranu razvojnu platformu programerskog dua Caseyja Reasa i Bena Frya pod nazivom *Processing*. Platforma *Processing* vodi nas potom do ugledne i inovativne institucije MIT – Massachusetts Institute for Technology i grafičkog dizajnera/računalnog znanstvenika Johna Maede, pod čijim vodstvom davnih 1990-ih nastaje programski jezik DBN (*Design by Numbers*).

Arduino je tako dizajniran sa svrhom da umjetnicima, zajednici open-source hardvera i DIY entuzijastima, koje na Zapadu zovu jednostavno *makers*, olakša rad s elektronskim sučeljem u raznim multidisciplinarnim projektima. Od trenutka lansiranja Arduina mikrokontroler se brzinom munje širio po hakerskim klubovima te je prirodni zakonima *crowdsourcinga* prihvaćen u internetskoj open-source zajednici, koja opet, koristeći *Creative Commons* i *Public Domain* licence, još više olakšava pristup projektima i razvoj istih prosječnom korisniku nudeći svoj programski kod od prethodno programiranih projekata na slobodno preuzimanje i prenamjenu svim korisnicima.

Arduinov mikrokontroler tako je doista, poput enigmatičnog kauboja koji jaše u suton čekajući nove avanture s novim danom, izravno i neizravno utabao stazu za pojavu novih generacija SBC računala, izvedenih na jednoj jedinstvenoj elektronskoj ploči koja sadrži čip, memoriju i sve izlazne komponente od kojih je sačinjeno svako funkcionalno računalo, primjerice nešto kompliciranijem i starijem *Beagleboardu* iz srpnja 2008. Danas su takva mini računala, kao što je iznenađenje ove sezone, *Raspberry Pi* iz veljače 2012., pogonjena Linux operativnim sustavima poput Debiana, Fedore ili Archa. Može se slobodno reći da je open-source hardverska zajednica s uzbuđenjem čekala

or hipster visitor whose passion is usually a bit shorter-breathed. Naturally, Hrelić, from its self-organised origin as a hanger-on of the official use-car mart, has been an inspiring and valuable place, at which reps of DIY culture will find incredible and rare devices. Thus in a culture that doesn't know the institution of the garage sale, the flea market becomes a hep supermarket for the DIY generation with an ongoing sell-out.

Cheap, discarded synthesisers are then in someone's garage or cellar lab being turned with the circuit-bending technique into new modulated musical instruments with methods that were perhaps used in his work by the pioneer of experimental electronic music Robert Moog. Old suitcases and scratched tinny retro-boxes become housings for innovative gadgets, while stereoscopic glasses, OHPs and slide projectors turn into tools for analogue VJing.

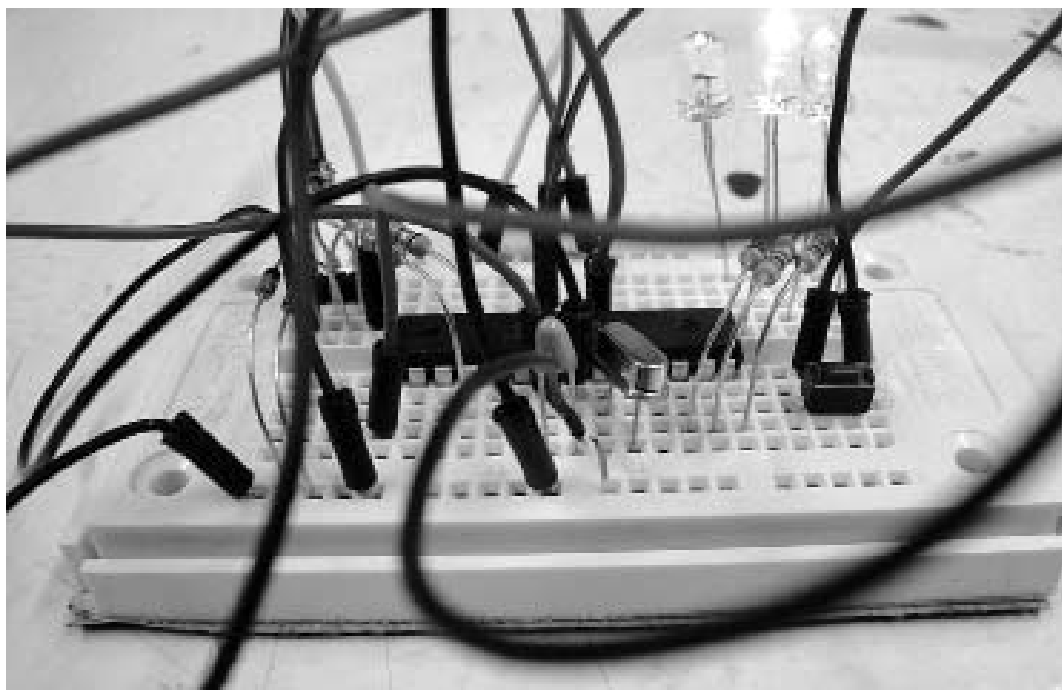
We might recall 2006, when in the December issue *Time* published on its cover – You are the person of the year! That year, by chance or not, in the broader social context, is the same year in which Massimo Banzi and David Cuartielles in the Italian city of Ivrea launched the new Arduino microcontroller and accompanying software of the same name with a simplified version of C++ programming language. The core of Arduino at that time consisted of not only Banzi and Cuartielles, but also Tom Igoe, Gianluca Martino, David Mellis and Nicholas Zambetti. Nor was Ivrea in the picture only coincidentally. Because it was the HQ of Olivetti and of the Ivrea Institute for Interactive Design, the origin of a gadget of this kind, the name of which in Italian means “firm friend”, it was more than logical. Arduino was based on a development platform for electronic prototypes in the form of programming and electronic interfaces named Wiring, the author of which was Hernando Barragan, with the mentorship of Arduino-daddy Massimo Banzi. The Wiring platform “draws on” the integrated development platform of the programming pair Casey Reas and Ben Fry named Processing. The Processing platform then takes us back to the high-profile innovative institution MIT and graphic designer/computer scientist John Maeda, who in the 1990s led the development of DBN, Design by Numbers, another programming language.

Arduino was thus designed with the purpose of making work with electronic interfaces in various multidisciplinary projects easier for artists, the community for open-source hardware and DIY enthusiasts, called in the West simply *makers*. From the moment the Arduino microcontroller was launched, it spread with the speed of light among hackers' clubs and by the natural laws of crowdsourcing was accepted in the Internet open-source community that, again, making use of Creative Commons and Public Domain licenses, still further facilitated access to projects and the development of them for the average user, offering its programme code from previously programmed projects for free downloading and remodelling for all users.

Arduino's microcontroller then really did, like the enigmatic cowboy who heads off to the sunset for new adventures, directly and indirectly blaze the trail for the appearance of new generations of SBC computers produced on a single board that contains chip, memory and all output components from which every functional computer is made, for example the somewhat more complicated and older Beagleboard of July 2008. Today such mini-computers,



foto/photo: bodypixel (cc)



like the surprise of this season, Raspberry Pi, of February 2012, driven by Linux operating systems like Debian, Fedora or Arch. One can freely say that the open-source hardware community awaited Raspberry Pi with bated breath, and this enabled the appearance of the still more advanced Cubie-board SBC computer in September 2012, with Android and Ubuntu operating systems, i.e. Linux operating systems for human beings.

After the appearance of the Arduino microcontroller as brand and concrete product, on the Asian market numerous equally functional clones appeared, and in the last year Arduino microcontrollers have been being etched and soldered in endless hacker labs worldwide under various names, adding only the suffix "duino". So, the reduction of the dimensions of computer components has led to the wider use of SMT miniature components and the appearance of still smaller ATtiny Arduino microcontrollers. So, now, you can do literally everything yourself, and it all depends how long you want to google, seeking for just what you need. But in the whole story you are not alone, far from it.

In 2007, Ruth Catlow and Marc Garret, co-founders of the online community for digital art Furtherfield.org thought up the project E-Mail-Art, inspired by the mail-art of the 1970s, calling it DIWO – do it with others, with clear reminiscences of the abbreviation DIY. The project culminated in an exhibition in the London HTTP gallery the same year.

After that the term, with the exception of the authors, was used sporadically, mainly at conferences and festivals until 2010, but in 2012 it underwent a media explosion, particularly during May and June, during the renowned Helsinki Pixelache festival, held under the slogan *Do it with others – D.I.W.O is the new D.I.Y!* Reams of blogs and online magazines have since then devoted articles to the phenomenon.

What we absolutely mustn't forget in a galaxy rich in anglicisms, which some big world languages also still haven't domesticated within their own linguistic outlines (*DIY, DIWO, crowdsourcing, open source, open-source hardware, hacker spaces, media labs, open design, hacklab, mass customization, social design, amaterissimo, downloadable design*) is the world phenomenon of fab labs.

Only seven or eight years after the founding of Berlin c-base the first hacker association in the world, dating from 1995, at the beginning of the 21st century the first fab lab was launched within the setting of MIT's Media Lab, an associated project of Grassroots Invention and CBA – the Centre for Bits and Atoms. A fab lab is an open product laboratory that contains a whole number of machines like 3D printers, laser cutters or CNC engraving and cutting machinery, available completely free to the public. If you are interested, all you have to do is bring the materials you will work on and you have to stick to the agreement about timetabling. After this initial initiative, MIT opened a license for the foundation of fab labs worldwide, with the request that MIT itself should no longer be mentioned as in charge of the project or licences for individual labs. Fab labs are being founded in public or educational institutions for the sake of concluding a financial package that enables the free public use of sets of machines and rapid prototyping machinery. To-

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www.body-pixel.com
| www.bodypixelstudio.com
| textiletronics.org

Raspberry Pi, koji je pak omogućio pojavu još naprednijeg Cubieboard SBC računala u rujnu 2012., čiji su operativni sustavi Android i Ubuntu, dakle Linux operativni sustavi za ljudska bića.

Nakon pojave Arduino mikrokontrolera kao brenda i konkretnog proizvoda, na azijskom su se tržištu pojavili bezbrojni, jednako funkcionalni klonovi, a u posljednjih se godinu dana Arduino mikrokontroleri jetkaju i leme u brojnim hakerskim labovima diljem planeta pod različitim nazivima, dodajući samo sufiks "-duino". Dakako, smanjivanje dimenzija računalnih komponenti dovelo je do šire upotrebe SMT minijaturnih komponenti i pojave još manjih ATtiny Arduino mikrokontrolera. Dakle, sada dosta sve možete izvesti sami, i sve ovisi o tome koliko dugo želite googlati tražeći upravo ono što vam treba. Međutim, u cijeloj priči ipak niste sami, daleko od toga.

Tako su 2007. godine Ruth Catlow i Marc Garrett, suosnivači online zajednice za digitalne umjetnosti Furtherfield.org, osmislili projekt *E-Mail-Art*, inspiriran mail-artom 1970-ih godina, i nazvali ga DIWO (*Do It With Others*) s jasnim reminiscencijama na skraćenicu DIY. Projekt je kulminirao izložbom u londonskoj HTTP galeriji iste godine.

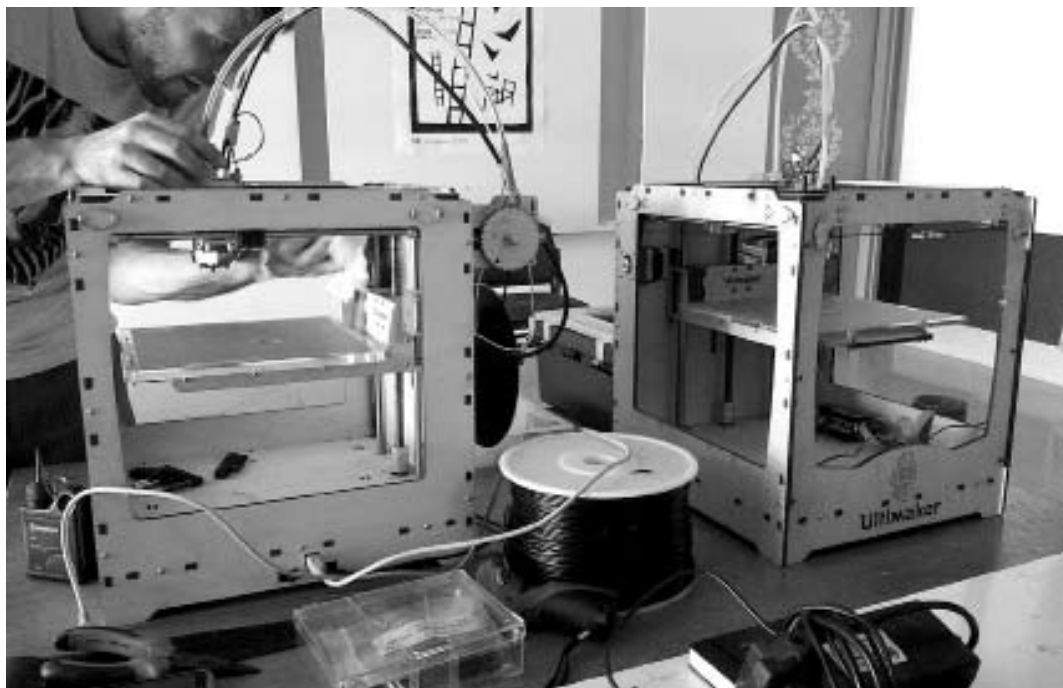
Nakon toga se termin, s iznimkom samih autora, koristio sporadično, uglavnom na konferencijama i festivalima, sve do 2010. godine, da bi u 2012. doživio pravu medijsku eksploziju, posebice tijekom svibnja i lipnja, za vrijeme trajanja renomiranog helsinškog festivala Pixelache, koji se održao pod sloganom *Do It With Others – D.I.W.O is the new D.I.Y!* Cijeli je niz blogova i online magazina otada posvetio članke tom fenomenu.

Ono što nikako ne smijemo zaboraviti u galaksiji bogatoj anglicizmima, koje i neki veliki svjetski jezici još uvijek nisu preveli u svoje lingvističke gabarite (*DIY, DIWO, crowdsourcing, open source, open-source hardware, hacker spaces, media labs, open design, hacklab, mass customization, social design, amaterissimo, downloadable design...*), svakako je svjetska pojava fab labova.

Samo sedam ili osam godina nakon osnutka berlinskog c-basea, prve hakerske udruge u svijetu, koja datira iz 1995. godine, početkom 21. stoljeća pokrenut je i prvi fab lab u okviru MIT-ovog Medijskog laboratorija kao suradnički projekt skupine Grassroots Invention i centra CBA (Center for Bits and Atoms). Fab lab je otvoreni proizvodni laboratorij koji sadrži čitav niz strojeva poput 3D printera, laserskih rezača ili CNC strojeva za graviranje i rezanje, koji su potpuno besplatno na raspolaganju javnosti. Sve što zainteresirani moraju donijeti jest materijal s kojim će raditi, i moraju se pridržavati dogovora u pogledu rasporeda. Nakon te početne inicijative, MIT je otvorio licencu za osnivanje fab labova diljem svijeta, uz zamolbu da se sami MIT više ne navodi kao nositelj projekta ili licence za pojedinačne labove. Fab labovi se tako osnivaju pri javnim ili edukativnim institucijama radi zatvaranja financijske konstrukcije koja omogućuje besplatno javno korištenje setova strojeva i alata iz domene rapidnog prototipiranja. Danas govorimo o fab labovima u Keniji, Afganistanu, Peruu, Čileu, Kostarici, Etiopiji, Kolumbiji, Namibiji, Gani, JAR-u, SAD-u, zemljama Europske unije, na Novom Zelandu, u Indiji, Egiptu, Indoneziji itd.

... jer i 2012. ste VI zanatlije!

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foto/photo: bodypixel (cc)



Arduino



foto/photo: Copyleft

Raspberry Pi



foto/photo: Jwrodgers

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www.body-pixel.com
| www.bodypixelstudio.com | <http://textiletronics.org>

day we can talk of fab labs in Kenya, Afghanistan, Peru, Chile, Costa Rica, Ethiopia, Columbia, Namibia, Ghana, the SAR, USA, the EU, New Zealand, India, Egypt, Indonesia and so on.

... because in 2012, you are the fabricators.