*100KGARAGES, SHOPBOT TOOLS, INC., WORLDWIDE*



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| *Picture source* *http://www.shopbottools.com/*  ***GENERAL INFORMATION*** | |  |
| **Project name** | 100kGarages | |
| **DE type** | Production (DP)  Design (DD) | |
| **Producer/provider** | Shopbot Tools, Inc. | |
| **Designer** |  | |
| **Start (year)** | 2009 | |
| **State** | On-going | |
| **Project location** | Worldwide. Based in Durham, NC USA | |
| **Source of information** |  | |
| **Link to videos** |  | |
| **Main contact** | Dave Minella | |
| **E-mail** | dave.m@shopbottools.com | |
| **Website** | http://www.100kgarages.com/ | |

***SYSTEM CHARACTERISTICS***

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| **SYSTEM CONFIGURATION:** |  |
| **Provider/s (role)** | Shopbot Tools provides 100kGarages, an online platform that connects buyers, local fabbers and designers.  Ponoko provides “Personal Factory” a software for the maker movement that to receive a new stream of work from a wide range of customers and makes it manufactured providing communication with creators, digital fabricators and materials suppliers.  Fabbers (digital fabricators) provides manufacturing with CNC Tools, 3D Printers, Laser Cutters and other fabrication hardware. |
| **Customer/s (type)** | Consumers, makers, designers, small enterprises |
| **S.PSS CHARACTERISTICS:** |  |
| **Unit of satisfaction** | On-demand designed and manufactured goods |
| **Type of S.PSS** | Hybrid of Type I & Type II:  Type I: Product-oriented PSS (adding value to product life cycle)  Type II: Use-oriented PSS (enabling platform) |
| **Offered product/s (related producer/s)** | CNC Tools (Shopbot Tools, Inc.)  3D Printers, laser cutters and CNC Tools (Various Producers) |
| **Offered service/s** | Shopbot offers leasing option for their CNC Tools  100kGarages offers matchmaking service to connect with local fabbers  Fabbers (digital fabricators) provides manufacturing. |
| **Ownership of the offered product/s** | Fabbers owns the manufacturing hardware in most cases. However, it is possible that Shopbot owns the hardware since they offer leasing options. |
| **DE access payment** | There is no charge to use the matchmaking service of 100kGarages  Hybrid Payment for design and manufacturing services from designers and fabbers (Pay per design time, materials, cutting time with laser cutting & CNC routing, 3D printing time, packaging, handling, waste) |
| **DE system configuration** | Decentralised |

***DESCRIPTION***

ShopBot is a company that designs, manufactures and distributes CNC routers for milling, drilling, and cutting of wood, plastic, metals and other materials. Their CNC routers are commonly used in fablabs, schools and various community organizations. Their products ranges from small to large CNC routers, including ShopBot Desktop that can be used in home and offices.

100kGarages is an online platform created by ShopBot in collaboration with Ponoko. At 100kGarages, people with designs or even just with an idea can connect to local fabbers (through an online matchmaking service) to get help with design and manufacturing to create things with 2D and 3D digital fabrication tools such as laser cutters, CNC routers, 3D printers along with other production machines and tools.

100kGarages could initially be used only by fabbers who own ShopBot CNC routers but now can be used by fabbers who owns any brand of digital fabrication hardware such as 3D printers and laser cutters. ShopBot also gives a service for leasing their products which is an example of Use-oriented PSS (enabling platform). On the other hand, as 100kGarages is a service provided by ShopBot, it’s also an example of Product-oriented PSS (adding value to product life cycle).

The users who has a design can post their project on the platform for fabbers to bid on them or they can use the platform to locate the fabbers nearby. The users who has just an idea wanting to get help also with the design can access to the digital fabrication tools and information provided on the website or find designers near to them in the platform.

There is no cost to access to the platform, tools or the information on the website. Users pay for the services they get from the fabbers and designers. There is some information on the website to estimate these costs at http://www.100kgarages.com/costEstimating.php. For example, it explains “An hour of CNC Routing generally costs $60-120 on average, but can vary quite a bit from that depending on location and type of work” for CNC Routing and “Laser cutting is usually estimated by the length of the cut, ranging from $.20/inch to $.50/inch, but varies considerably depending on material type and thickness” for laser cutting.

***SUSTAINABLE BENEFITS***

**Environmental Benefits**

*System life optimization: ShopBot provides leasing service for their products so it’s in the company’s interest to optimize the product life.*

*Transportation/distribution reduction: 100kGarages help users connect with the nearby manufacturers which reduces the transportation of the products.*

*Resource reduction: Digital fabrication tools in the system are used to produce single products on demand which helps resource reduction since it eliminates the existence of unused products that can emerge from mass production.*

**Socio-ethical Benefits**

*Enable a responsible/sustainable consumption: 100kGarages helps fabbers who own digital fabrication tools to make use of their unused time of their hardware by providing manufacturing services to the others. This helps sustainable consumption of manufacturing hardware.*

*Favor/integrate the weaker and marginalized: The service provides access of digital fabrication tools to people who don’t have enough capital to purchase them.*

*Empower/enhance local resources: 100kGarages help users connect with the nearby manufacturers which enables the use of local resources.*

**Economic Benefits**

*Added value for customers: 100kGarages helps designers and fabbers to access to more customers and increase their profits.*

*Profitability/added value for companies: Since 100kGarages help increase the profit of the owners of their products, it also helps the ShopBot to increase their profit as this can cause more people to be able to afford and be interested in their products. 100kGarages also helps ShopBot to access to more potential buyers since 100kGarages are also open to fabbers who doesn’t own their products.*

*Long term business/development risks: As 100kGarages helps the owners of digital fabrication tools to earn more money with their products, it helps the development of their businesses and decrease the risk of owning these digital fabrication tools. It also helps the users of 100kGarages who doesn’t own the digital fabrication tools to decrease the risk of their businesses as they can access to these tools without purchasing them.*

*Partnership/cooperation: Ponoko is an online service for manufacturing that uses distributed manufacturing and on-demand manufacturing. They receive customers' digital designs, then has it printed in 3D or cut at the time of purchase by laser cutters or CNC milling machines or 3D printers with the manufacturers exist in a worldwide distributed network. Customers can sell their objects via the Ponoko site. They developed Personal Factory, an online system for buying, selling and making custom goods with instant online pricing, 2D and 3D digital making technologies (such as customize, auto check and auto fix functions), and a huge catalog of open-source electronics hardware. ShopBot partnered with Ponoko to merge their network of digital fabricators, creators and digital products; and to use Pinoko’s online digital fabrication tools.*