Title	Promoting user-driven innovation in open source hardware communities
Sub Title	
Author	Eisner, David Siren(Eisner, David Siren) 稲蔭, 正彦(Inakage, Masahiko)
Publisher	慶應義塾大学大学院メディアデザイン研究科
Publication year	2011
Jtitle	
JaLC DOI	
Abstract	Open source hardware as it is generally thought of today has grown from modest roots six years ago into a vibrant and exponentially expanding movement. De-velopments over the past few years have made it dramatically easier for people to design, customize, and fabricate their own hardware. This democratization of tools has helped to fuel a rapid flow of innovations, but open source hardware still has not had the same widespread impact that is associated with open source software. Recent studies examining user innovation in open source hardware communities has shown that a good portion of the open source hardware ecosystem is not optimized to promote user-driven innovation. The InMojo open source hardware platform was created to see if releasing a theoretically optimized system into the marketplace would successfully help fuel open source hardware innovation. The core concepts that were used to design the platform are de ned through a literature review and used to propose a set of guiding principles for the creation of open source hardware platforms that o er better theoretical support for user innovation than existing alternatives. From those principles a specific implementation of the platform was developed. After the research and design phase the platform was released to the marketplace, and user adoption, interactions, and feedback were closely monitored. This information was used to make iterative improvements to the system. As the community grew, marketplace reaction was measured using several di erent factors and case studies were performed on a select number of items to demonstrate incidences of user-driven innovation. This data will be analyzed against theoretical expectations, and will be used to make recommendations for further research and system development.
Notes	修士学位論文. 2011年度メディアデザイン学 第127号
Genre	Thesis or Dissertation
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=KO40001001-00002011-0127

Master's Thesis

Promoting User-Driven Innovation in Open Source Hardware Communities

by

David Siren Eisner

Submitted to the Graduate School of Media Design
in partial fulfillment of the requirements for the degree of

MASTER OF MEDIA DESIGN

at

KEIO UNIVERSITY

Academic Year 2011

Promoting User-Driven Innovation in Open Source Hardware Communities

by

David Siren Eisner

B.S., Carnegie Mellon University. Pittsburgh, 2000

Submitted to the Graduate School of Media Design
in partial fulfillment of the requirements for the degree of

MASTER OF MEDIA DESIGN

at

KEIO UNIVERSITY

Academic Year 2011

Certified by .....
Professor Masa Inakage
Professor and Dean, Graduate School of Media Design
Thesis Supervisor

Certified by .....
Professor Adrian Cheok
Professor, Graduate School of Media Design
Thesis Co-Supervisor

Accepted by .....
Professor Masa Inakage
Professor and Dean, Graduate School of Media Design

Promoting User-Driven Innovation in Open Source Hardware Communities

by

David Siren Eisner

Submitted to the Graduate School of Media Design
on August 1, 2011, in partial fulfillment of the
requirements for the degree of
Master of Media Design

Abstract

Open source hardware as it is generally thought of today has grown from modest roots six years ago into a vibrant and exponentially expanding movement. Developments over the past few years have made it dramatically easier for people to design, customize, and fabricate their own hardware. This democratization of tools has helped to fuel a rapid flow of innovations, but open source hardware still has not had the same widespread impact that is associated with open source software. Recent studies examining user innovation in open source hardware communities has shown that a good portion of the open source hardware ecosystem is not optimized to promote user-driven innovation. The InMojo open source hardware platform was created to see if releasing a theoretically optimized system into the marketplace would successfully help fuel open source hardware innovation.

The core concepts that were used to design the platform are defined through a literature review and used to propose a set of guiding principles for the creation of open source hardware platforms that offer better theoretical support for user innovation than existing alternatives. From those principles a specific implementation of the platform was developed. After the research and design phase the platform was released to the marketplace, and user adoption, interactions, and feedback were closely monitored. This information was used to make iterative improvements to the system. As the community grew, marketplace reaction was measured using several different factors and case studies were performed on a select number of items to demonstrate incidences of user-driven innovation. This data will be analyzed against theoretical expectations, and will be used to make recommendations for further research and system development.

Keywords: open source hardware, user innovation, open innovation, community marketplaces

Thesis Advisor: Professor Masa Inakage
Thesis Co-Advisor: Professor Adrian Cheok