BIOBRICKS FOUNDATION — LEGAL STANDARDS WORKSHOP

Assessing Stakeholder Concerns and Developing a Legal Framework

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OVERVIEW OF IDENTIFIED ISSUES, CONCERNS, AND IMPLICATIONS FOR THE BBF

Issue	Interviewee concerns	Potential implications for the community	Questions to address
Incentives and Barriers to Participation	• Consistency with academics' sharing incentives (convenience, efficiency, reputation, community standards, fulfillment of obligations (NIH)) • Consistency with private sharing incentives (adoption of parts and other strategic motives) • Distrust of a complicated framework • Uncertainty of data ownership • Distaste for a framework with negative rules and limitations • Virality and its negative impact on commercialization	• Create incentives to participate (access to technical tools, journal, accession numbers, online social network, reputation system) • Make obligations simple and clear • Do not have IP assigned to one player • Weigh implications of virality with care • Focus on incentives over prohibitions	• Why do researchers want to share? • Why do companies want to share? • Is a carrot model (rewards-based) or a stick model (punishment-based) more appropriate?
Ownership, Rights, and Obligations	• Definition of key terms • Authority of researchers to sign license • Mechanism of accepting license terms • Liability for giving away others' rights • Developers giving up too many future interests • Unknown third-party rights to, and nebulous ownership of, the repository contents • General distrust of a single large organization with many roles • Timing and content of disclosure	• Define legal framework terms very carefully • Do not have IP assigned to one player • Perform rights clearance for incoming parts • Clearly indicate IP rights and limitations for each part (ie flagging) • Attempt to limit liability of BBF and repository users and contributors • Establish a process to deal with parties in contention over ownership	• Who owns the repository data? • Can researchers assign rights? • What rights do contributors give up? • What obligations do users take on? • What is the *quid pro quo* of the BioBrick legal framework? • How will BBF deal with third party rights?
Enforcement	• Enforcement could require a lot of work • Participants may not give back without enforcement • Evolving technical standards could encumber enforcement • Enforcement complicated by reverse engineering	• Establish who will enforce obligations and how • Be careful basing obligations on technical standards • To promote "give back," use both legal mechanisms and social incentives	• Who will enforce the rights and obligations of the legal framework? • How will enforcement be accomplished? What are the costs and penalties?

Patents	• Patents could stifle growth • Burdensome - cost (prosecution & enforcement), jurisdiction, licensing • Public domain as alternative to patenting • Patenting some, but not all, BioBricks might be beneficial • Participation of VCs, industry and some academics is unlikely in a framework imposing patent limitations • A recognized mechanism for international protection • Patents help clarify ownership of repository parts • Public domain is not a guaranteed "patent spoiler"	• Don't allow patented parts • Act as a "patent spoiler" by openly discussing potential parts • Consider a multi-pronged IP approach: patent, trade secret, contract, copyright, etc. • Discourage but allow patents under limited conditions (use patents, system patents, product patents) • BBF patents some parts, forbids patenting of others (prevent "nuisance-level patents) • "Flag" patented Bricks in repository and include some licensing information • Use pro-sharing sentiment of field to advocate for (and demand) liberal licenses for non-commercial use	• Is it possible to satisfy both researchers and industry? • Can BBF afford to not include industry? • How big of a problem is free-riding (industry use of parts without contribution of new parts?) • Are patents a necessary element of a successful BioBrick legal framework? • If so, what should be patentable?
Repository Quality and Content	• Quality and quantity of parts and metadata • Impact of loss of private sector investment • Absence of metadata standards and tools • Commercial sector key to increasing quality	• Provide incentives and tools to submit metadata (e.g. biosafety information, part tracking, improved searchability, impact scores) • Establish technical standards for parts • Integrate both commercial and academic players	• How do we ensure quality and reliability of parts and metadata? • What mechanisms should we use?

Issue	**Suggestions**	**Questions to address**
Perspectives on Roles of the BBF	• Set sharing standards for the field • Be a "patent spoiler" • Act as a clearinghouse for licenses to use parts • Be an advocate for a *sui generis* legal framework • Set up a patent pool and/or become holder of large portfolio of fundamental bricks • Be a coordinator of inexpensive or *pro bono* patent prosecution	What roles can and should the BBF play to promote open sharing in the field of synthetic biology?