To deliver free preprint service for physical sciences

A proposal for further development &
Introduction to

www.sciprint.org

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(1) Purpose

This proposal is intended to develop a free digital preprint service for physical sciences to enable scientists/physicists publishing their preprint articles prior to submitting for formal publication in scientific journals, or perhaps they only want to see if their idea(s) received proper response prior to submitting it to journal editors.

(2) Introduction

Part of the infrastructure needed for doing science is a society of like-minded scientists. For physicists, it is essential to develop a society where they can share and discuss information related to their specific field.

In the meantime, the nature of scientific communication has changed significantly in response to rapid changes in the use of IT (information technology) in scientific publications [1][2][3].

The rapid growth of the Internet has also given scholars almost universal access to a communication medium that facilitates immediate sharing of results. In the last decade literally thousands of digital libraries have emerged, in conjunction with electronic journals which grow almost exponentially. One of the most significant advantage of digital library is to allow scientific communities to share information across institutional and geographic borders in no time [5].

An example of how digital preprint service could be very useful is given here. For physicists, due to some time required prior to get their paper published, sometimes they find it difficult to get publicizing their work quickly. Let suppose one physicist submits a paper for peer-reviewing. The peer-reviewing process would take sometime from six months up to one year (average), and after acceptance for publication the paper should wait in queue for the next six months (at least) before it could appear in the journal. By this time, new development in their corresponding field could take place which would make the paper already obsolete by the time of appearance in journal. This cycle goes on for almost each paper (in some cases, there are weekly and monthly journal to facilitate rapid communication).

This is why to some physicists [1]:

"*...implementation of peer-review -- an essential feature of scholarly communication -- is too rigid and sometimes acts to suppress new ideas, favor articles from prestigious institutions, and cause undue publication delays.*"

Therefore while the role of peer-review process remains to be instrumental to ensure quality of a scientific paper, it is essential to deliver a free preprint service where the authors may upload preprints, reprints, conference papers, pre-publication book chapters and author's lecture in multimedia format etc.

(3) Background

The origins of the Open Archives initiative were motivated by the growing number of electronic preprint archives. While some of these services began as informal vehicles for the dissemination of preliminary results and non-peer reviewed "gray literature", a number of them have evolved into an essential medium for sharing research results among the colleagues in a field.

Nonetheless, while similar preprint service is available for physicists, for instance by arXiv, CERN, SLAC,ICTP, etc., there is going concern among physicists that some of these archives were running with specific 'science policy' adopted by administrators. Unfortunately, authors and articles which do not support to this 'science policy' are likely to subject to excessive review

which appears unnecessary because these articles are only at 'preprint stage.'

1. Furthermore, this will assume that the archive administrators have the required knowledge to do such rapid review, while perhaps the proper reviewing known by scientific society is through *peer-reviewing* in scientific journals. No university, regardless its high reputability, should control the distribution of scientific papers via early review (which could be inappropriate), in particular where the ideas are very new to the scientific society.
2. This would mean a contradiction to the purpose of preprint service itself. They would impose unnecessary restriction for novel ideas, whereas their purpose is to deliver rapid publication new scientific preprints. There is worst condition that some *accepted papers* for publication in scientific journals were also rejected by archive administrators. This condition is at odd with the expected 'fair and free' posting for any preprint archive.
3. Because scientific paper for scientists/physicists could mean a sign of productivity, impossibility to get their work published in these 'open' archiving services deteriorates reputation to these authors. And it would also mean their works are in risk to become untracked by other peer, while otherwise sometimes others could find their work useful.
4. In other occasions, to include a review process into scientific 'preprint service' in practice could also mean unnecessary delay to get a paper appears in the preprint homepage.

(4) Advantages

By eliminating the rapid-review process, we could offer some obvious advantages:

1. ease-of-use in deployment, low-barrier for participation (only minimum Internet access is required);
2. self-publication of timely preprints. Other digital files could be considered are: seminar/conference proceedings, technical reports, book review, lecture summary, multimedia file (experimental test) etc.;
3. community diversity: the author could choose if they would put their articles into an 'open folder' accessible for all visitors, or to restricted folder where they could share to only few colleagues (private archive, resembles 'private deposit vault'). Let suppose an author has found significant breakthrough that he/she doesn't want announce yet publicly, but he/she wants a 'proof' that he/she has deposited earlier than anybody else, then he/she could use private archiving mode. Therefore, once the breakthrough has been confirmed experimentally, they could ask to retrieve the private archive to find out who has the first archiving time;
4. ability to submit in various formats: multimedia/video, lectures, public seminars etc.;
5. issue monthly notification of how much download to his/her paper & weekly newsletters.

(5) Deliverables

Expected features after improvement will include:

1. a homepage with functionalities to enable physicists/scientists upload their preprint files in almost any format (PDF, PS, PPT, Word, HTML, etc.) into specific folder, and get their preprint viewable by other colleagues immediately (real time);
2. text-based search throughout all content based on contextual search [4];
3. multimedia digital archives (deliver video from open lecture, seminars etc.);
4. citation/reference system;
5. auto-posting to other scientific database service;
6. notification to users new preprint based on subject of interests;
7. free newsletters;

8. user repository--> user can have his/her own special subfolder, like 'secure box' in bank, could be opened by his/her own password
9. monthly notification to user on download record of his/her paper in graphical chart format;
10. download tracker;
11. secure protection/antivirus;
12. online conference forum (using internet protocol);
13. posting news/breakthrough, broadcast new discovery;
14. posting digital multimedia archive: public lecture, free seminar etc.
15. support Open Archives Initiative's Protocol for Metadata Harvesting;
16. other features are to follow as per suggestion from users.

(6) Procedure:

1. To upload documents, scientists must register and login. The procedure is simple and self-explanatory and can be obtained by logging on to the sciprint.org homepage.He/she could upload in various formats: PDF, HTML, PS format, etc.
2. Guidelines to upload is also given in the sciprint.org homepage.
3. Registration of new member for the time being is carried out via email admin@sciprint.org.
4. Alternatively, the users could send their preprint articles via email to admin@sciprint.org.
5. The posted preprints will not be refereed or edited by anyone at sciprint.org or elsewhere, and only the authors are responsible for the preprint submitted.
6. It is required (recommended) to include a note where the preprint submitted should appear in journal.

(7) Fields in physics science:

At the time being, the preprints could be submitted according to this category of fields of physics science:

1. Alternative energy;
2. Astrophysics;
3. Biosciences;
4. Environmental science;
5. Gravitation and general relativity;
6. Hadronic physics (formerly elementary particle physics);
7. Mathematical physics;
8. Unification of physical theories.

(8) Proof of concept: recent experience

At the time being, sciprint.org has been opened for few months. It was based on our belief that only journal editors and peer-reviews could offer the proper judgment on the value of a preprint. Therefore there is no need to put such a restriction on preprint services. Furthermore, doing such restriction would only mean that preprint service cannot deliver rapid publication of preprint materials. This is the 'heart' of our service: '*Free preprint service without hassles*.'

For the time being, the administration service is carried out by a small team on voluntary basis. The result is summarized here:

1. Since first release in around June 2005 has grown to 93 papers (in Nov. 2005), and to 161 in Dec. 2005 in various subjects, including mathematical-physics, astrophysics etc.;
2. No special marketing effort except via peer-to-peer email by physicists themselves;
3. New features began at Sept. 2005. And from this time, number of paper download could be

monitored (see Appendix);
4. Number of paper download has grown at average 35 papers per week (5 paper per day), but has increased rapidly to more than 560 downloads by the end of Nov. 2005. By then end of January 2006, it has increased to more than 1000 times. Chart is shown at the Appendix.
5. Without almost no marketing effort (no advertising), it proves itself that physicists regard the *free-environment* where they can publish their preprints without any kind of restriction.

(9) **Timeline**

1. Expected Development & improvement stage: March 2006 – April 2006
2. Expected Internal test : April – May 2006
3. Expected Deployment : June 2006

(10) **Further steps**

1. Finding better dedicated hosting service;
2. Database re-design;
3. Develop new features based on existing applications;
4. Progress report will be prepared and delivered at six-months interval from the start of the project. These will assess the effectiveness of the management structure, a review of work to date, and an assessment of progress towards the project objectives.

(11) **Summary**

In order to deliver free preprint service for physics and natural sciences in various formats and also to enable multimedia digital archiving, it is proposed to enhance and improve the existing service of sciprint.org by introducing new features and using better dedicated servers. Multimedia archiving could also be expected as a result of such improvement. Key deliverables have been outlined, along with some basic requirements.

From the past few months, sciprint.org has proved to become a new alternative preprint service for scientific preprints, in particular physical sciences. And this will continue to the near future.

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References:

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[3] http://www.jpgmonline.com/article.asp?issn=0022-3859;volume=49;issue=4;spage=337;epage=342;aulast=Harnad;year=2003
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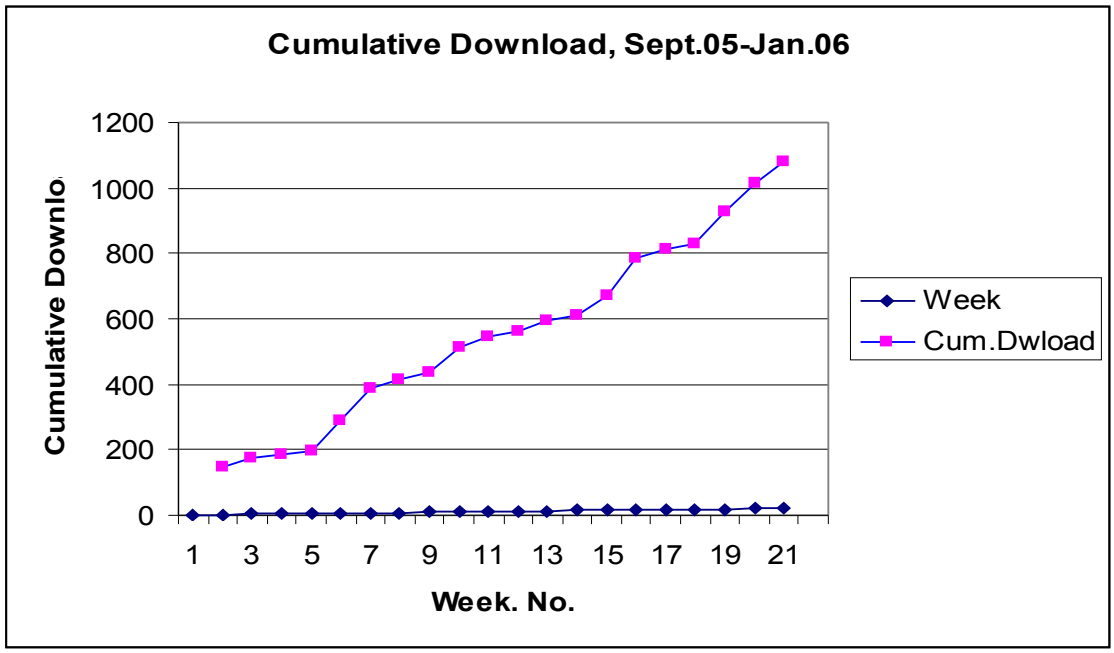
APPENDIX:

Recent experience in the past few months, September 2005 – January 2006

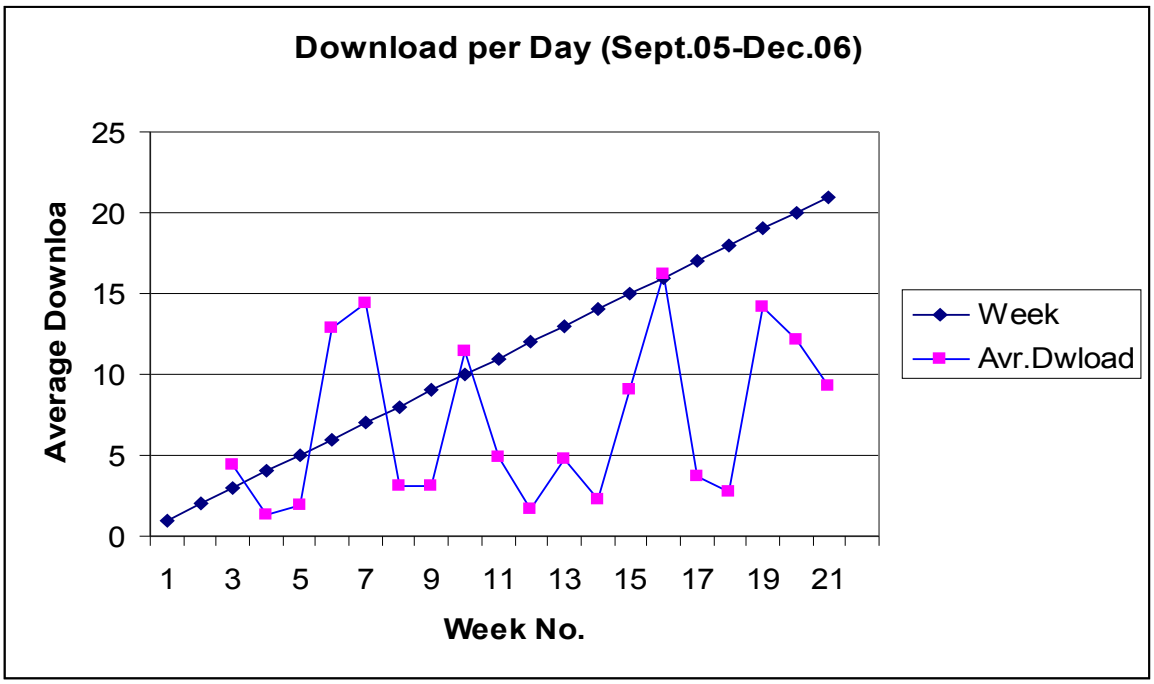
a. **Sciprint.org Download Number (September 2005- January 2006)**

Date	Week	Cum.Dwload	Week	Avr.Dwload	Week	% Growth
9-sept	1		1		1	
16-sept	2	146	2		2	
23-sept	3	177	3	4.43	3	
30-sept	4	186	4	1.29	4	5.08
17-oct	5	199	5	1.86	5	6.99
14-oct	6	289	6	12.86	6	45.23
21-oct	7	390	7	14.43	7	34.95
28-oct	8	412	8	3.14	8	5.64
4-nov	9	434	9	3.14	9	5.34
11-nov	10	514	10	11.43	10	18.43
18-nov	11	548	11	4.86	11	6.61
25-nov	12	560	12	1.71	12	2.19
2-dec	13	593	13	4.71	13	5.89
9-dec	14	609	14	2.29	14	2.70
16-dec	15	672	15	9.00	15	10.34
23-dec	16	785	16	16.14	16	16.82
30-dec	17	811	17	3.71	17	3.31
7-Jan	18	830	18	2.71	18	2.34
14-Jan	19	929	19	14.14	19	11.93
21-Jan	20	1014	20	12.14	20	9.15
28-Jan	21	1079	21	9.29	21	6.41
Average				**6.33**		**12.11**
Expected				**5**		

b. **Key indicator Cumulative Download:**



c. **Key indicator Average Download per Day:**



d. **Key indicator % download growth:**