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IETF/IRTF Educational Processes
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Abstract

This document describes the basic use cases for the IETF to have a series of activities specifically tailored for educational and outreach purposes. These uses cases cover areas such as academia, industry, policy makers or anyone interested in learning the necessary skillset required to easily integrate into the innerworking of the IETF.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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1. Introduction

Lowering the barrier to entry in the process of reading and authoring RFCs will allow more participants to engage in the IETF/IRTF.

Increasing the IETF document literacy and developing skills in IETF protocol development can lead to more implementations and interoperability testing, better knowledge of the Internet infrastructure, more secure deployments and more participation and understanding in the IETF standardization process.

In addition, showcasing IRTF procedures, scope and modus operandi, more participants from academia will provide a path for new academic institutions, faculty and students to attend, participate and share research work

To this end this draft proposes the development of a number of educational material that can support a number of use cases described in this document.

1.1. Terminology and Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC2119 [RFC2119].

2. Use cases

2.1. Academic Teaching

The creation of a number of courses in academic institutions would enable students to be able to read, create, implement and debug RFC documents, and as such increase IETF document literacy and development experience. To assist in that process, the IETF can create a number of entry level educational RFCs that can then be used by academics to develop such courses. These RFCs can start with simple concepts that the IETF community agree that are important for students to understand. There are a couple of RFC types that can support this use case:

* A series of RFCs to be implemented. These RFCs can take into account different needs based on the various areas in the IETF, as each has its own ways of writing drafts.

* Additional RFC templates, with extra examples to write drafts.

* Drafts with errors that the students need to read, identify and provide solutions.

* Interoperability testing by providing RFCs with the code and requiring students to comply with existing code.

2.2. Tutorial material

Alongside academia, educational content can also be used by companies for internal training in the IETF and RFC process. More complex educational RFCs, or even a curated list of RFCs, such as one provided in https://wiki.ietf.org/en/group/iab/RFC_Readability, can be utilized alongside a number of targeted tutorial workshops to provide hands-on experience. These educational tutorials can focus on:

* Training on implementation and interoperability of RFCs.

* Training on security for protocols.

* Training and emulation on the process of writing and discussing drafts, such as writing drafts, consensus mechanisms and the general IETF process.

2.3. Policy material

IETF processes can seem complex for new or non IETF members and can lead to misunderstanding on how and why some decisions are taken in IETF working groups. To address this, high-level overviews of the IETF could be complemented with toy-examples of easy-to-understand cases of protocol development to highlight the complexity, variety of design options and highlight how consensus can emerge and the challenges in converging on to it.

2.4. Summer schools

This effort could help to prepare and conduct "summer school"-like training events that include lecture material, practical work such as implementing protocols and testing them in (virtualized) testbeds, and training for authoring protocol specifications.

2.5. Research in the IETF

ANRW has been successful into inviting researchers and research results in the IETF/IRTF and rasprg has conducted research on IETF processes and outcomes.

The activities defined in this draft, could provide additional outreach efforts that showcase how research is performed in the IRTF, the scope of IRTF, drafts and RFC authoring for research in the IRTF process.

3. IANA Considerations

This document makes no request to IANA

4. Security Considerations

While security considerations is a critical skill that is needed for a draft author, this document does not specify a new protocol and therefore has no need for security considerations.

5. References

5.1. Normative References

5.2. Informative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997, <https://www.rfc-editor.org/info/rfc2119>.

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