Postdoctoral fellowship (18 months)
Web-Of-Browsers: Towards a fully decentralized web

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The ASAP team is recruiting a post-doctoral researcher for a duration of 18 months, with an immediate starting date.

1 Context: Decentralized Programmability of Browser-Based Systems

The project Web-of-Browsers aims at exploring the construction of a decentralized and browser-based web. This objective stems from the observation that browsers have become the most widely deployed execution environments in the world. Initially only designed to display HTML pages, they have evolved into comprehensive runtime platforms able to execute complex local code, interact with humans, and with remote web services. The recent introduction of WebRTC has further extended the capability of browsers by introducing support for browser-to-browser communication. This turns browsers into a decentralized execution environment where interactions between human and web services are enabled without third party.

2 Research Objectives

The objective of this post-doctoral project is to explore the programmability of browsers as the building block of a decentralized web. We would in particular like to develop a framework for emergent localities on the basis of our existing work [1, 2, 3, 4], i.e. allow practitioners to easily construct advanced decentralized services by assembling simpler and composable distributed bricks. The postdoc offers scope for both algorithmic and experimental developmental work, notably in the domains of information discovery, routing, and coordination.

The project holds potential for strong synergies with related on-going projects running in the ASAP group, notably on private decentralized aggregation, privacy-preserving decentralized learning, and browser-fingerprinting anonymisation.

3 Candidate Profile and Eligibility

The recruited post-doctoral researcher should hold a PhD in Computer Science, with ideally a focus on large distributed computer systems and web technologies. The candidate should be a driven and creative individual, with an interest in innovative and paradigm changing technologies.

Due to funding conditions, the offer is limited to candidates who have spent at least 12 months outside of France over the last 3 years.

4 Application

Applicants should apply, in the first instance, by submitting on-line a CV (up to two A4 pages), a short statement outlining their research interests and motivation (up to half an A4 page), and the names and addresses of at least two academic referees.

A rolling deadline applies.
References


