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Preferential attachment in the growth of social networks: the case of Wikipedia GUIDO CALDARELLI, CNR-INFM Istituto dei Sistemi Complessi, and Dipartimento Fisica, Universita' di Roma "La Sapienza", Piazzale Aldo Moro 2, Rome Italy, ANDREA CAPOCCI, Centro Studi e Ricerche Enrico Fermi, Rome Italy, VITO SERVEDIO, Dipartimento di Fisica, Universita' "La Sapienza" Piazzale Aldo Moro 5 00185 Rome, Italy, LUCIANA BURIOL, DEBORA DONATO, Dipartimento di Informatica e Sistemistica, Universita' "La Sapienza", STEFANO LEONARDI, Dipartimento di Informatica e Sistemistica, Universita' "La Sapienza" via Salaria 113 00198 Rome Italy, CNR-INFM TEAM, CENTRO FERMI TEAM, DIP. DI INF. E SIST. TEAM — Here we present experimental data and a model in order to describe the evolution of a socio-technological system. The case of study presented is that of the online free encyclopedia Wikipedia, for which we have the complete series of pages addition during time. The varioius entries and the hyperlinks between them can be described as a graph. We find scale-invariant behaviour in the distribution of the degree and a topology similar to that of the World Wide Web. By using the information on dynamics we are able to model and reproduce the features of this system. We also find that regardless the fact that any user has the possibility of global reshape, still Wikipedia has a growth described by local rules as that of the preferential attachment.

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