

Amy Wesolowski [mentor, Nathan Eagle], Mobile phone usage in the developing world is rapidly outpacing that of the developed world. This growth can clearly be seen in Kenya, currently the fastest growing mobile phone market in the world. From 1999 to 2006, the number of mobile phones in Kenya grew from 15,000 to 5.6 million. Mobile phones are changing the daily lives of Kenyans as the technology spreads across the country. This rapid growth and increased usage provides a wealth of data and information that can be quantitatively analyzed. Using mobile phone data from Kenya, we will use call patterns to analyze the complex social system of Kibera. Kibera, located in Nairobi, Kenya, is the largest slum in Kenya. There are an estimated 800,000 people living in an area roughly 75% that of Manhattan's Central Park, most lacking basic necessities. We hope to use methodologies and techniques from the study of complex networks to help better understand the dynamics of residents of Kibera. Using communication data, we hope to develop a model to better understand and predict human behavior that can be used to aid urban planning for NGO and governmental development projects in Kibera.