# Mohammad Merajul Islam Molla

Email: meraj.enigma@gmail.com • Mobile: + (880) 177-682402 • Skype: mmm2177
LinkedIn: https://www.linkedin.com/in/merajenigma • Github:// **imeraj**
Plot-77, Block-C, Apt-A3, Banani, Dhaka, 1213, Bangladesh

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## Summary

*About 10 years of industry and academic experience working with diverse technologies ranging from low-level system software to mobile/web applications, project management, company strategy and policy making, along with new business development and introducing new technologies to meet dynamic nature of tech industry.*

*Have experience working in multiple countries - USA, Japan, India, South Korea and with clients from different countries - USA, South Korea, Japan, and Australia. Good verbal and written communication skills and comfortable working with colleagues and clients from diverse culture.*

**INTERESTS:** New Technology R&D, Software Architecture, Project Management, Mobile Application Development, Server-side Programming, Software Quality Assurance, Embedded Systems, Recruitment & Team Building

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## Experience

**CTO (Mobile Technology), Monstar Lab Bangladesh, Dhaka, BD** *Jan 2017 - Oct 2017*

- Supervised Mobile (iOS, Android), Infrastructure, and QA Teams
- Supervised projects: Earthcar (http://www.earthcar.co.jp) Taxi app (Android) - Uber like taxi booking app. R&D for iOS app.
- Conducted regular trainings, tech talks, and internal tech sessions for high performance team building
- Highly involved in recruitment, project estimation, employee evaluation, and company strategy determination

**Senior Architect (Mobile Technology), Monstar Lab Bangladesh, Dhaka, BD** *May 2016 - Dec 2016*

- Built and supervised Mobile (iOS, Android) teams from scratch
- Worked as Tech Lead and Project Manager for mobile projects (iOS, Android)
- Supervised projects: A2MILKBAR departmental store management app (iOS, Android, PHP/Node.js), Askul (http://www.askul.co.jp) - E-commerce App (iOS, Android)

**Chief Engineer (Mobile SW), Samsung R&D Institute Bangladesh, Dhaka, BD** *Mar 2014 - May 2016*

- Worked as Tech Lead of Samsung Gear S and Gear Fit Manager applications and managed 20+ team members
- Supervised multiple internal projects for iOS, Android and Tizen platforms - Log Analyzer, Emergency Service, TizenFlip, Samsung Guardian App, etc
- Managed small team of 3 members to contribution to open source project Linaro

**Lead Engineer (Mobile SW), Samsung R&D Institute Bangladesh, Dhaka, BD** *May 2012 - Mar 2014*

- Worked as Team Lead of Call and Driver Teams of Feature Phone Mobile Commercilisation division and managed around 10+ team members
- Worked as Tech Lead of Qshare (Quick Share) project on Android platform

**System SW Engineer (MAC OS Graphics Driver Team, NVIDIA, CA, USA** *Jan 2008 - Aug 2011*

- Worked on various components of Display Drivers and core RM Software (Hotplug Architecture, Display Port, Mobile PCI Express Module (MXM), Interrupt Handling, DVI Port, HDCP Protocol, VBIOS, etc).
- Implemented in C and x86 assembly

**MTS Intern (CPD, VMware ESX Server Team), VMware, CA, USA** *May 2007 - Aug 2007*

- Developed Kernel Crash Dump tool for VMware ESX Server.
- Implemented in C and bash script

**MTS Intern (CPD, VMware ESX Server Team), VMware Inc, CA, USA** *May 2006 - Aug 2006*

- Developed Filesystem Debugger for VMware ESX Server.
- Implemented in C and bash script

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## Education

**Marquette University, MS in Computing** *Dec 2007*
- CGPA: 4.00/4.00
- Final Project: Implementation of device driver for Broadcom?s BCM4713 Ethernet card on Linksys WRT54GL router and integrating it with Xinu Kernel

**BUET, BS in CSE** *Nov 2004*
- CGPA: 3.92/4.00
- Thesis: Study of Various Popular Network Simulators and Case Studies using NS-2, Commonly Used Open Source Network Research Simulator, to Simulate Wired and Wireless Networks

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## Technical Skills

**Programming Languages:** Swift • Java • Kotlin • Ruby • Elixir • Objective-C • C • C++ Assembly(x86, MIPS)

**Mobile Platforms:** iOS • Android

**Mobile Architecture Patterns:** MVC • MVP • VIP • RxVIP

**Mobile Frameworks/Tools:** RxSwift • RxJava • Alamofire • Retrofit 2 • Gilde • Picasso • AlamofireImage • KingFisher • Firebase • Dagger 2 • ARKit • CoreML

**Web Frameworks:** Phoenix • Ruby on Rails • Vapor

**Quality Assurance:** Cucumber • Calabash • XCTest • ExUnit • MiniTest

**Infrastructure:** Docker • Nanobox • Heroku

**Database:** Mysql • Sqlite • Realm • MongoDB • Redis

**Project Management:** JIRA • Redmine • Trello

**Version Control:** Git • Perforce • Subversion

**Real-time Services:** Pusher • PubNub

**Miscelleneous:** GraphQL • Protobuf • Blockchain

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## Professional Projects

**Earthcar Taxi App (iOS, Android)** *2017 (Ongoing)*
Uber like Taxi app for Earthcar (http://www.earthcar.co.jp) Japan. Three different applications - User App (Android, Smartphone), User App (iOS, Smartphone) and Driver App (Android, Tab) along with backend APIs/services and front-end Admin panel.
- Worked as Tech Lead and Project Manager for mobile apps
- Conducted R&D, designed app architecture, and guided engineers to implement features
- Derived project estimation from client requirements, broke down features into sprints, worked with QA Engineers to define test specifications
- Conducted code review and managed branch/release policies
- Collaborated with backend engineers for smooth integration of APIs/services with mobile apps

**Askul E-commerce App (iOS, Android)** *2017*
E-commerce applications developed for Askul (http://www.askul.co.jp) Japan. Two different applications - one for iOS and another for Android
- Worked as Tech Lead and Project Manager for the project
- Conducted R&D, designed app architecture, and guided developers to implement features
- Conducted code review and managed branch/release policies
- Backend APIs/services developed using Java (Spring Boot) by 3rd party in Japan
- Conducted regular meeting and status reporting with Japan side project stakeholders

**A2MILKBAR App (iOS, Android)** *2016*
Departmental store management app developed for Australian client. Two different applications - one for iOS and another for Android platform along with backend APIs/services and front-end Admin panel.
- Worked as Tech Lead and Project Manager for the project
- Conducted R&D, designed app architecture, and guided developers to implement features
- Conducted code review and managed branch/release policies
- Backend APIs/services developed using PHP and Node.js

**Samsung Gear S and Samsung Gear Fit Apps (iOS)** *2015-2016*

Developed commercial versions of Samsung Gear S and Gear Fit Apps to work with Tizen powered Gear S2 and Gear Fit 2.

- Developed in collaboration with Samsung HQ (South Korea)
- Conducted R&D, designed and developed Basic Accessory Protocol (BAP) on top of Bluetooth Low Energy (BLE). The protocol supports - file transfer with pause/resume/cancel, CRC and retransmission, QoS
- Designed and developed Webproxy module to support multiple Gear apps, such as - Weather, S-Voice, Voice Memo, etc
- Notifications using Apple Notification Center Service, along with notification settings, block notifications
- Samsung Gear S - https://itunes.apple.com/us/app/samsung-gear-s/id1117310635?mt=8
- Samsung Gear Fit - https://itunes.apple.com/us/app/samsung-gear-fit/id1117312500?mt=8

## Academic Projects

**Porting (Xinu) Operating System on Linksys WRT54GL Router** *2006-2007*

The purpose of the project is to port Xinu OS, developed at Purdue University, on a modified version of Linksys WRT54GL router. Linksys WRT54GL has BCM947XX chipset with MIPS processor (Broadcom's BCM3302) and comes with OpenWrt Linux distribution.

- Cisco & Intel Funded
- Implemented exception and interrupt handler for the chipset and integrated it with Xinu
- Programmed timer interrupt and integrated it with Xinu's context switch code to enable kernel pre-emption and support process scheduling
- Implemented lower-half of interrupt driven asynchronous serial driver (UART 16550) for the router platform
- Implemented Ethernet device driver for Broadcom's BCM4713 card on this platform
- Implemented in C and MIPS assembly programming languages
- Github link - https://github.com/xinu-os/xinu

**Integrating Speex Codec in Columbia InterNet Extensible Multimedia Architecture (CINEMA)** *2005*

CINEMA is a set of SIP-based Internet Multimedia Servers for creating an Enterprise Telephony and Multimedia system. CINEMA consists of sipd (SIP redirect, proxy, and registrar server), sipconf (SIP Audio Conference Server), sipum (SIP/RTSP unified messaging system), sip323 (SIP-H.323 signaling gateway), rtspd (RTSP streaming media server).

- Integrated open source speex codec in sipconf conferencing server of CINEMA
- Supported two modes of speex codec - narrow-band (8KHz sampling rate) and wide-band (16KHz sampling rate)
- Fixed several bugs in existing conference server to make the codec work properly within CINEMA architecture
- Tested integration of speex codec using Linphone
- Implemented in C++ programming language

## Open Source Contribution

**Linaro Project -** http://www.linaro.org *2015*

Led a team of 3 engineers for making contribution to Open Source project (Linaro) - open source software for ARM SoCs and made decent contribution to their power management tools - powertop, powerdebug, idlestat, and pm-qa.

## Achievement/Awards

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| 2017 | Ranked 2nd in Monstar Lab ISUCON Tech Olympics (Web App Performance Tuning contest) |
| 2017 | Promoted as CTO of Mobile Technology Division |
| 2015 | Won Employee of the Year Award (SRBD) |
| 2015 | Won Iconic Team award for iOS Gear Manager Team for 2H of Y2015 (SRBD) |

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| 2014 | Nominated as Employee of the Year (SRBD) |
| 2014 | Iconic Team award for Android Development Team for 2H of Y2014 (SRBD) |
| 2013 | Achived Double promotion (promoted from Lead Engineer to Chief Engineer, SRBD) |
| 2006-2007 | Won Graduate Assistantship (Marquette University) |
| 1999-2003 | Won Dean's List Award (BUET) |
| 1999-2003 | Won University Merit Scholarship (BUET) |
| 1996-2003 | Won Board Merit Scholarship (Bangladesh Government) |

## Hobbies

Reading novels, music, movies, travelling