**Systems Architecture/Design – Business Requirements**

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|  | **Company/ Industry** | **Mission Statement**  (Market shortfall) | **Strategy/Value Proposition** | **Strategic Objectives Initiatives, Growth strategy** | **Product Model**  **(Solutions /Results)** | **Key Business Model Components**  **(KPIs/metrics)** |
| 1 | **Uber** | Developing technology to help move people all around the world. | Cheap/Fast/high Quality taxi & ride sharing service  Providing a source of income for entrepreneurs | Uber Town Car  Uber X  UberPOP  Uber SUV  Uber Helicopter | Primarily smartphone ride service app  and online web site | * Zero inventory**, high transaction, and high margin.** * Commission   20% to Uber   * Network Orchestrator * Online platform & Infrastructure |
| **1** |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |
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|  | Needs | requirements | utility | Efficiency | User experience | Value/price |
|  |  |  |  |  |  |  |
| **(Start-up)**  Business needs | **IT** | **Secure wireless, VPN**  **Virtualization – programs** |  |  |  |  |
|  | Security-physical | Server/card access |  |  |  |  |
|  | Security-data | Endpoint |  |  |  |  |
|  |  | Authorization |  |  |  |  |
|  |  | Perimeter |  |  |  |  |
|  |  | data |  |  |  |  |
|  | Website | Register name  business card |  |  |  |  |
|  | Needs | requirements | utility | Efficiency | User experience | Value/price |
| **Analytics** | **Compute** | **Self-service,** Tcp/I access |  |  |  |  |
|  |  | 2. GPU computing/ access |  |  |  | Kaggle $$$ |
|  |  | 3. Cluster computing/ access |  |  |  | Kaggle $$$ |
|  |  |  |  |  |  |  |
| **Big Data Analytics applications** | **Process/ Product** | Agile/ Erwin/Visio |  |  |  |  |
|  |  | (Shell/AWK/R/Python/Perl) |  |  |  |  |
|  |  | **Compute** | **Big data (hadoop,** Map-Reduce**)** |  |  |  |
|  |  |  | Progr model: Pub-Sub, Peer-to-Peer |  |  |  |
|  |  | **Parallel processing** | MPP databases, architectures and solutions |  |  |  |
|  |  | **User application** | Java/J2EE, SQL, Python, R |  |  |  |
|  |  | **Data access** | Oracle, DB2, Hadoop, Netezza and Composite |  |  |  |
|  |  | **Service oriented (SOA)** | **Web services** |  |  |  |
|  |  |  |  |  |  |  |
| **Engineering (Data, Algorithm)** | **IT** | **-Redundant storage** |  |  |  | Support job, mitigate fire loss |
|  |  | **Devops**  **-source control**  Auto re-set up software Collaboration, Version Control,  Kanban Dashboards, Continuous Integration |  |  |  |  |
|  |  | Backup OS image | Anywhere local | Auto | Auto |  |
|  |  | Archive files remotely | Anywhere local | Auto | Auto |  |
|  |  | Access files remotely | Anywhere local | Auto | Auto |  |
|  |  | Access files out of network (web - hybrid) | Anywhere global | auto | Map a drive |  |
|  |  | scan & back-up receipts |  |  |  |  |
|  |  | Archive backup | Bi-location/ redundant |  |  |  |
| **Personal** | **Backup** | **-Files**  **Music**  **-Redundant storage** |  |  |  | Support job, mitigate fire loss |
| **Application development** | **Research Databases** | **-on-prem/ cloud access & update** |  |  |  | Support job, mitigate fire loss |
| **Application Development** | **Mobile SaaS** | **Test** |  |  |  |  |
| Project management |  |  |  |  |  |  |
| Business analytics |  |  |  |  |  |  |
| Systems |  | Pbom, bom  analysis of alternatives  cognative discovery |  |  |  |  |
| **Technology Development** | **FlexS** | **CAD** |  |  |  |  |
|  |  |  |  |  |  |  |
| **Homekit** |  |  |  |  |  |  |
|  |  | Energy/water management |  |  |  | Save money |
|  |  | Outdoor temp |  |  |  | health |
|  |  | Indoor air-quality |  |  |  | health |
|  |  | Food inventory |  |  |  | Wasted food, money on dups. |
| **Lead user insights/ assets analysis** | Dsrg  Altisource  Universal | Detect object paths and, duration |  |  |  |  |

**Systems Architecture/Design – Business/User Requirements**

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|  | **Business/User Requirements**  **(Workflows/use-cases)** | **Operational Requirements and Functional Analysis** | **Performance Characteristics, Physical Characteristics, Regulatory Requirements** | **Effectiveness Requirements, Reliability, Maintainability, Usability (Human Factors)** |
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**Reference:**

 [IEEE Guide for Developing System Requirements Specifications (IEEE Std 1233, 1999 Edition)](http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=741940&userType=inst)