



# LOCATION BASED SERVICES (LBS)

**Abdullah Alamodi (G201204280)**  
**Instructor : Dr. Baqer Al-Ramadan**

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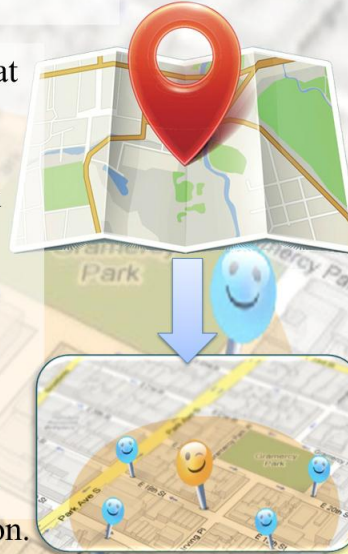
## OUTLINES

- Introduction
- LBS
- LBS Applications
- Case Studies
- Conclusion

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# INTRODUCTION

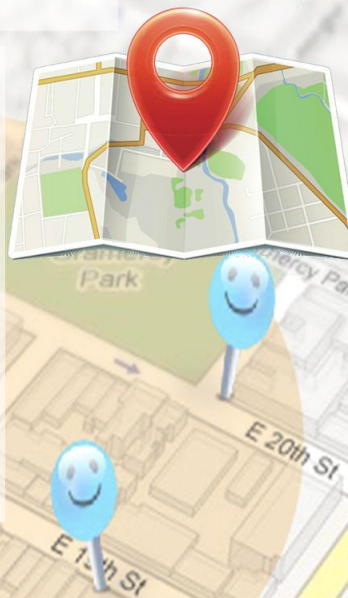
- Definition: Service or application that provides spatial information processing, or GIS capabilities, to users based on their location through Internet or wireless networks.
- **LBS levels** based on **location** and **time**:
  - position : **current** location.
  - Tracking : **current** and **past** location.
  - Planning: **current** and **future** location.



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# INTRODUCTION

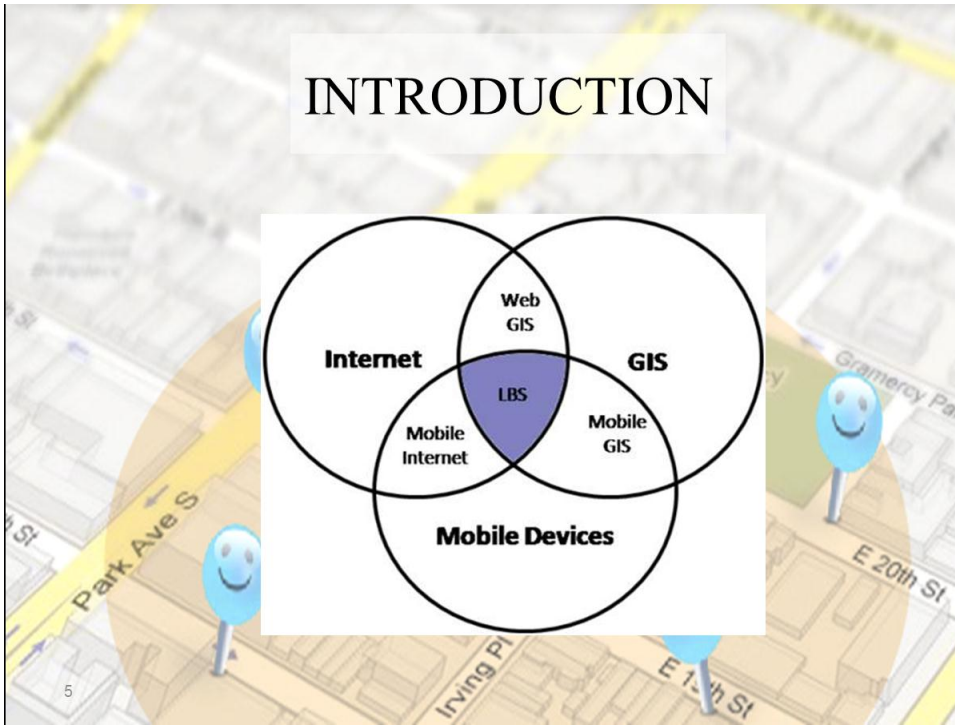
- Location Users/ Softwares
  - **74%** of smartphone owners (in US) use their phone to get real-time location-based information, up from **55%** in May 2011.
  - **18%** smartphone owners use geosocial or “check-in” services, up from **12%** in May 2011. [1]
  - **332 million** in 2011 **>2.2 billion** by 2017.[2]



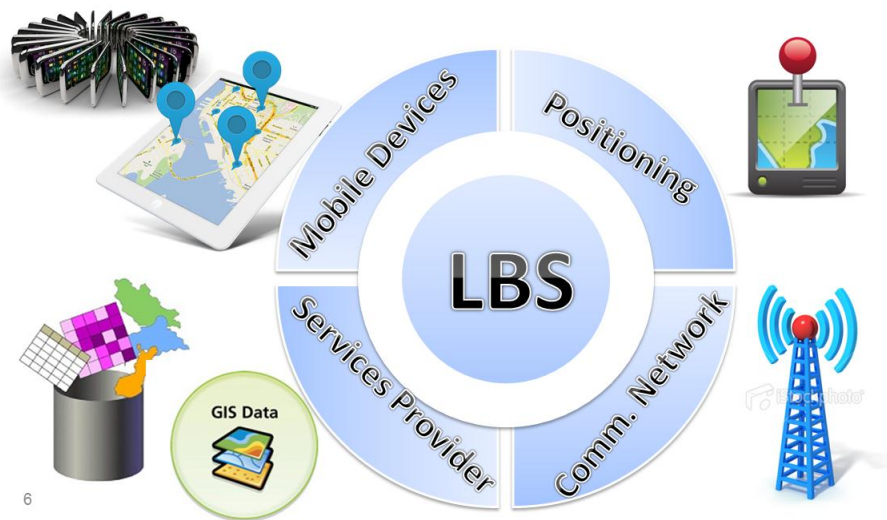
[1] Pew Research Center's  
[2] ABI Research.

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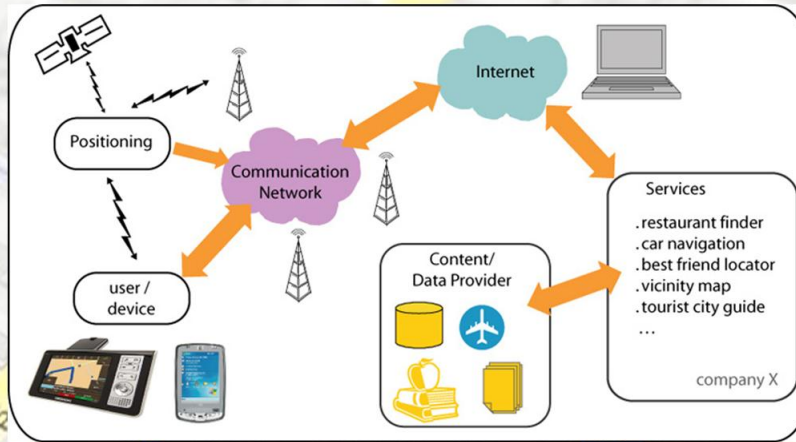
# INTRODUCTION



# LBS COMPONENTS



# LBS OPERATION



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# LBS APPLICATIONS

- Navigation (POI)
- Traffic Status
- Local News/Weather Forecasting
- Family/Friend finder (Social Networking)
- Assets and Vehicles Tracking (AVL)
- Emergency Services
- Advertising
- Gaming



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## Case Studies

1- According to GPS insight (AVL):

**Company:** Cal Building and Maintenance (CBM)

**Problem:** customers disputing the number of hours that their service technicians spent on the job.

**GPS Insight** installed to technicians vehicles.

“GPS Insight has saved us a minimum of 10% on our labor costs”

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## Limitations & Future Improvements

- User Privacy
- Quality of Positioning( Accuracy & Availability)
- Improving visualization.

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## Enhancing Visualization (Augmented Reality)



## Conclusion

- LBS has a rapid improvement and spread in both sectors:
  - Individuals.
  - Organizations.
- Paying more attention to LBS will improve quality of daily life activities and cause saving of money, time and even lives.

