

The Utility of Compound Wireless Services*

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* The ideas presented are protected by a patent application.



The Utility of Compound Wireless Services

Outline:

1. Introduction & background
2. Some terminology
3. Service categories
4. Examples
5. Build facilities & example
6. Conclusion



The Utility of Compound Wireless Services

1. Introduction & background

1.1. Programming Compound Wireless (Mobile Communication) Services (CWSs)

1.2. The wireless roller coaster ride

1.2.1. Data investment

1.2.2. Voice still the “killer ap”

1.3. Broadway show

1.4. Middletown, NJ



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2. Some terminology

2.1. What if I could create a sequence of services that includes –

2.1.1. Location service - determines present location of a wireless terminal

2.1.2. Traffic information retrieval - retrieves traffic information from state police and other sources for a specified region

2.1.3. Travel route computation - computes the fastest route, based on constraints, between the present wireless terminal location and a designated destination (e.g., airport)

2.2. Fundamental wireless service

2.3. Compound wireless service

2.4. Wireless terminal (for telecommunications)

2.5. Message services (SMS &MMS)

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3. Service categories

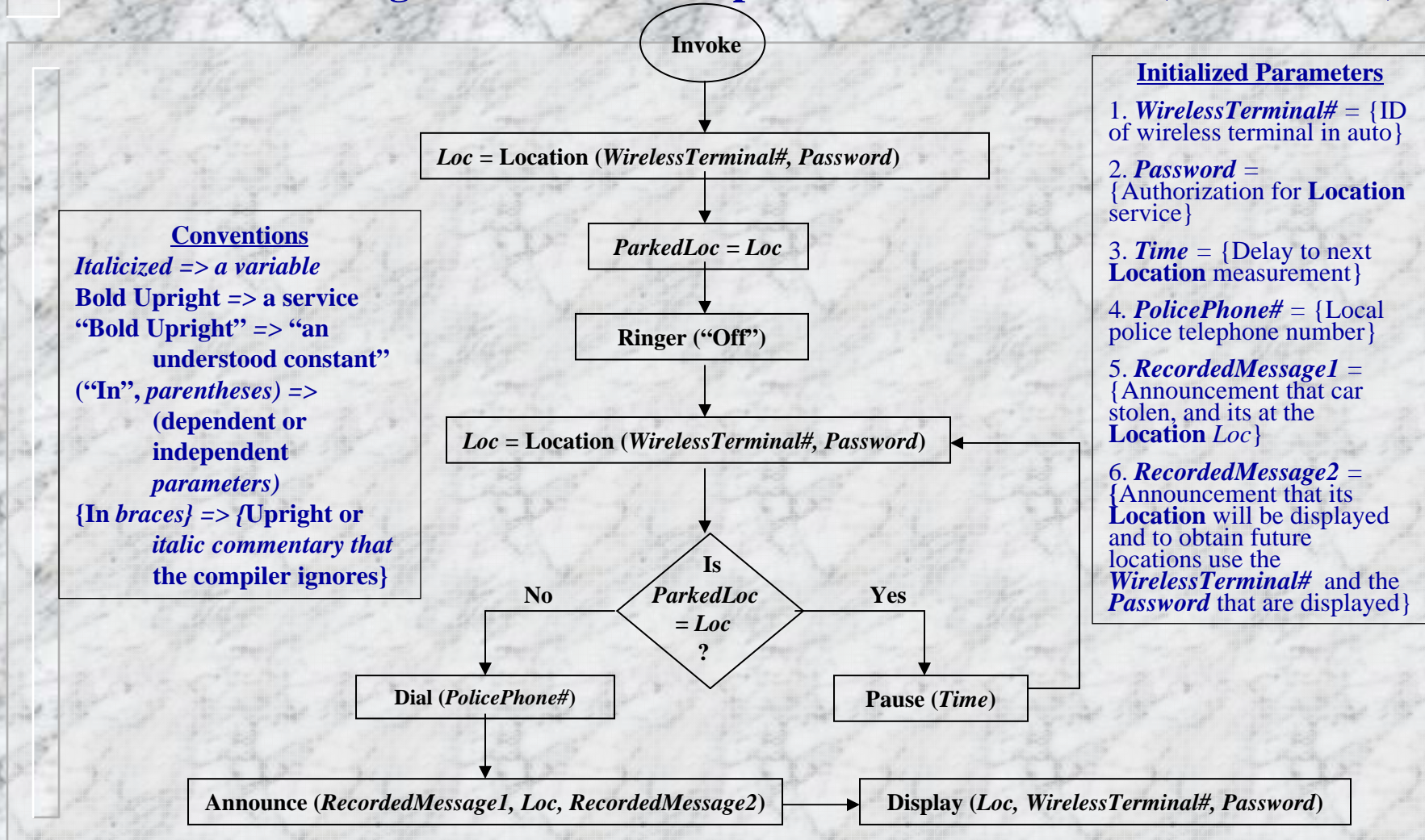
<u>FUNDAMENTAL WIRELESS SERVICES</u>	<u>UTILITY SERVICES</u>	<u>COMPOUND WIRELESS SERVICES</u>
<ol style="list-style-type: none"> 1. Receive the location of a wireless terminal/ telephone 2. Send/receive a still picture 3. Dial a recorded wireless terminal/ telephone number 4. Send/receive a recorded message; i.e., image, textual, or audible, etc. 5. Receive a traffic report for a region 6. Receive weather information for a region 7. Determine a best travel route according to selected criteria; i.e., fastest, shortest, etc. 8. Receive departure/arrival information for one or more flights; i.e., delay, gate #, terminal Id, etc. 9. Send/receive data to/from sensors for smoke alarms, cameras, etc. (image, textual, or audible) 10. Execute/invoke a service conditioned on a remote event 11. Connect to a prescribed IP service provider 12. Execute/invoke a transaction on the web; i.e., move to a web address, log into a web application, etc. 13. Perform data base activities in a remote computer; i.e., send/receive/edit data to/from a permitted data base 	<ol style="list-style-type: none"> 1. Invoke a service 2. Stop compound service 3. Determine if equality exists 4. Determine if inequality exists 5. Determine if greater than 6. Determine if less than 7. Determination of an event 8. Execute a pause 9. Create a parameter 10. Assign a value 11. Overwrite a value 12. Display a value 13. Announce a value 14. Create a data base 12. Store data into a data base 13. Delete data in a data base 12. Perform arithmetic operations (+, -, etc.) 	<div style="border: 1px solid black; padding: 10px; text-align: center; margin-bottom: 10px;"> <p>Compound Services</p> <p>Built by Subscribers/Users</p> </div> <div style="border: 1px solid black; padding: 10px; text-align: center; margin-bottom: 10px;"> <p>Compound Services</p> <p>Made Available By Wireless Service Providers</p> </div> <div style="border: 1px solid black; padding: 10px; text-align: center; margin-bottom: 10px;"> <p>Compound Services</p> <p>Made Available By Manufacturers/ Suppliers</p> </div> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Compound Services</p> <p>Made Available By Third Party Applications Providers</p> </div>

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4. Examples

4.1. Police tracking of stolen car compound wireless service (TrkStlnCar).

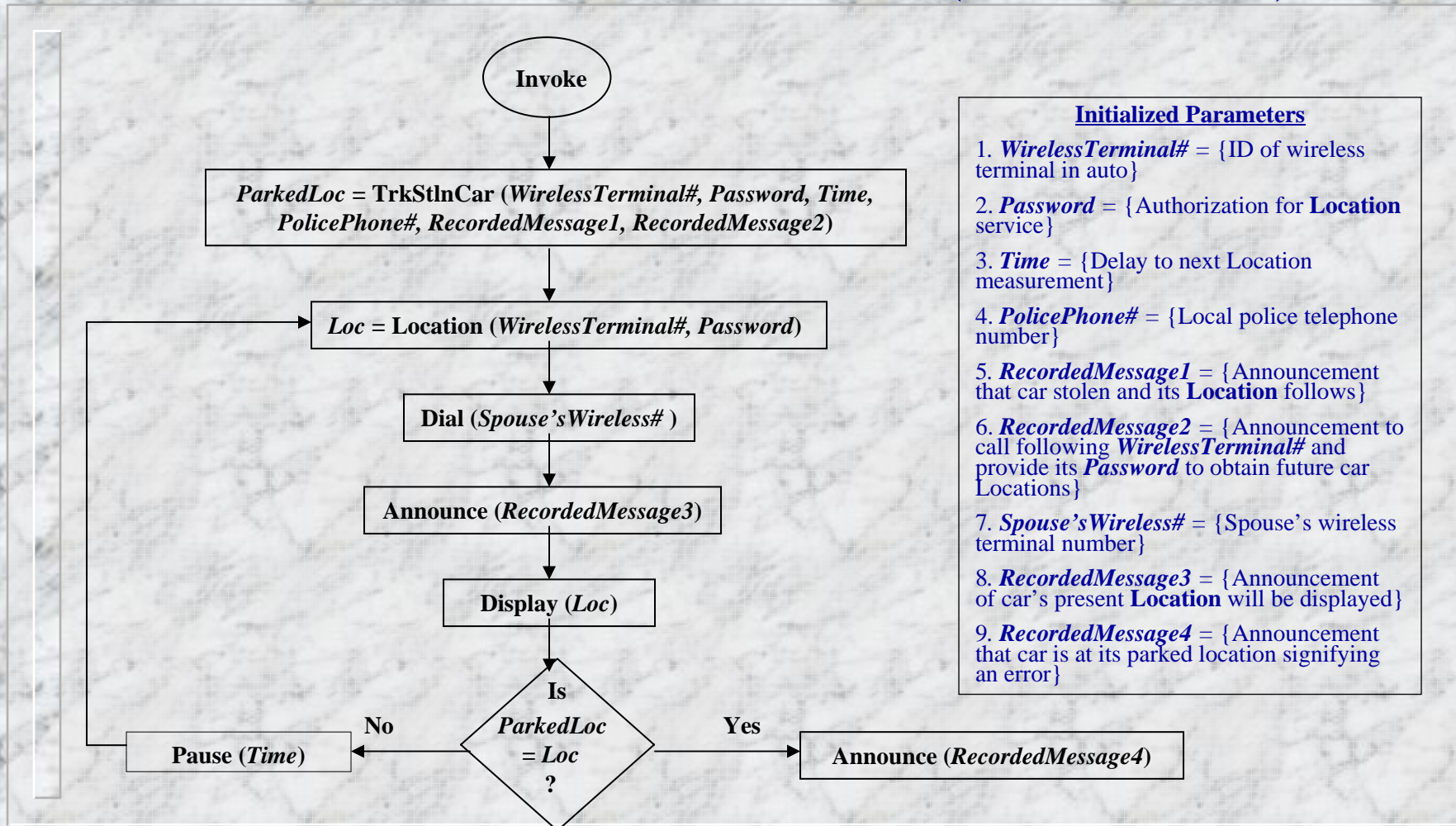


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4. Examples

4.2. Embellishments to TrkStlnCar CWS (EmbTrkStlnCar).

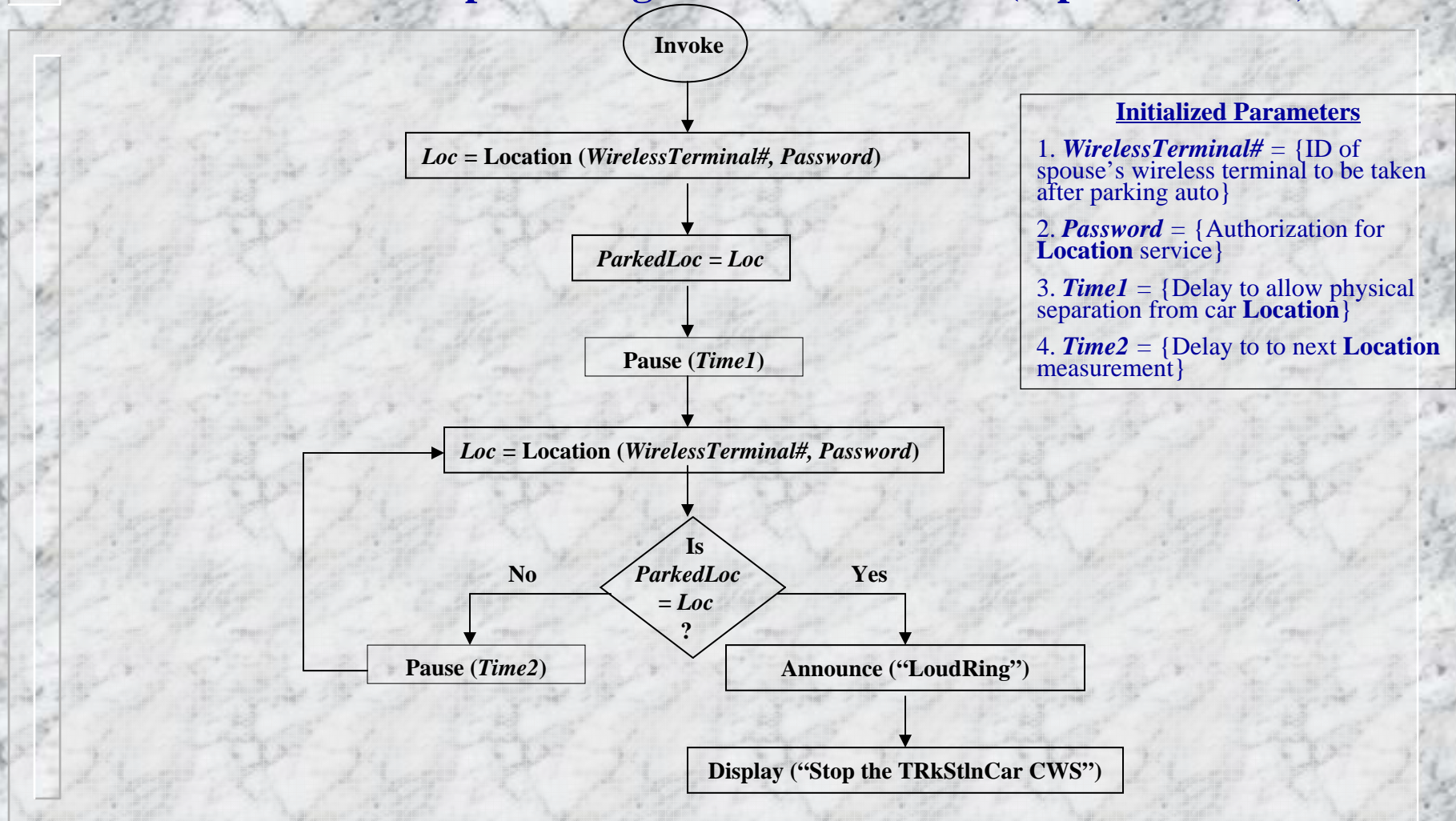


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4. Examples

4.3. Reminder to stop tracking of stolen car CWS (StpTrkStlnCar).





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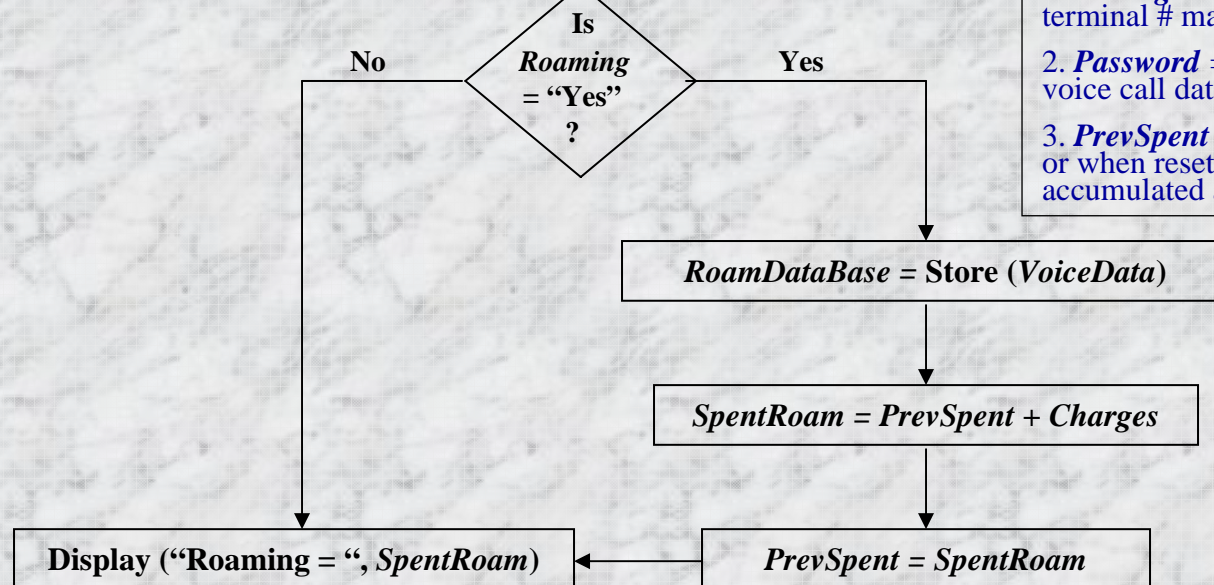
4. Examples

4.4. Roaming charges CWS.

VoiceData (*CalledTerminal#*, *StartTime*, *EndTime*, *CallDuration*, *Roaming*, *Charges*)
= *VoiceCallData* (*CallingTerminal#*, *Password*)

Initialized Parameters

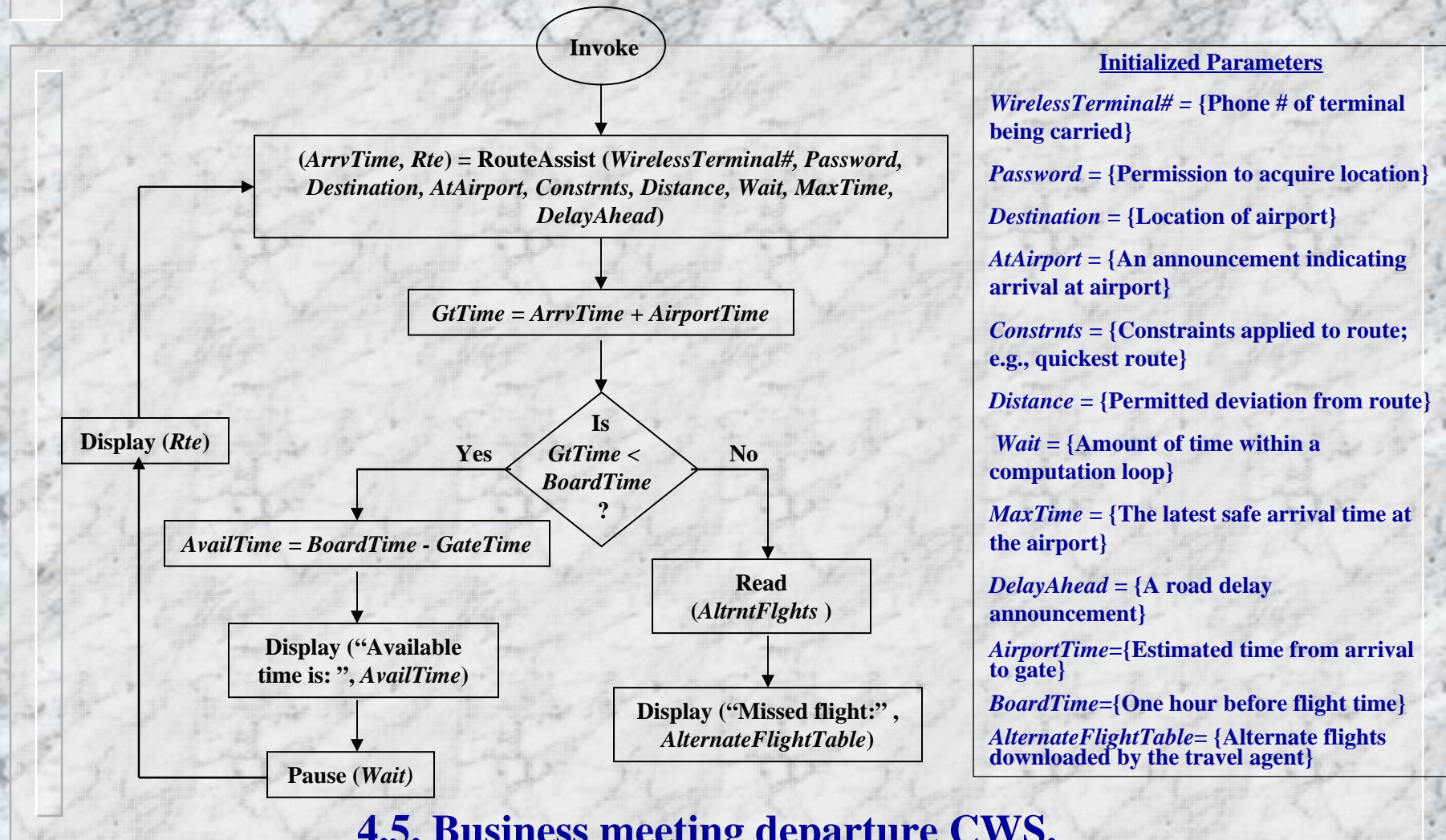
1. *CallingTerminal#* = {Wireless terminal # making the voice call}
2. *Password* = {Authorization for voice call data}
3. *PrevSpent* = {"0" at origination or when reset. Otherwise, the accumulated amount}



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4. Examples



Initialized Parameters

WirelessTerminal# = {Phone # of terminal being carried}

Password = {Permission to acquire location}

Destination = {Location of airport}

AtAirport = {An announcement indicating arrival at airport}

Constrnts = {Constraints applied to route; e.g., quickest route}

Distance = {Permitted deviation from route}

Wait = {Amount of time within a computation loop}

MaxTime = {The latest safe arrival time at the airport}

DelayAhead = {A road delay announcement}

AirportTime = {Estimated time from arrival to gate}

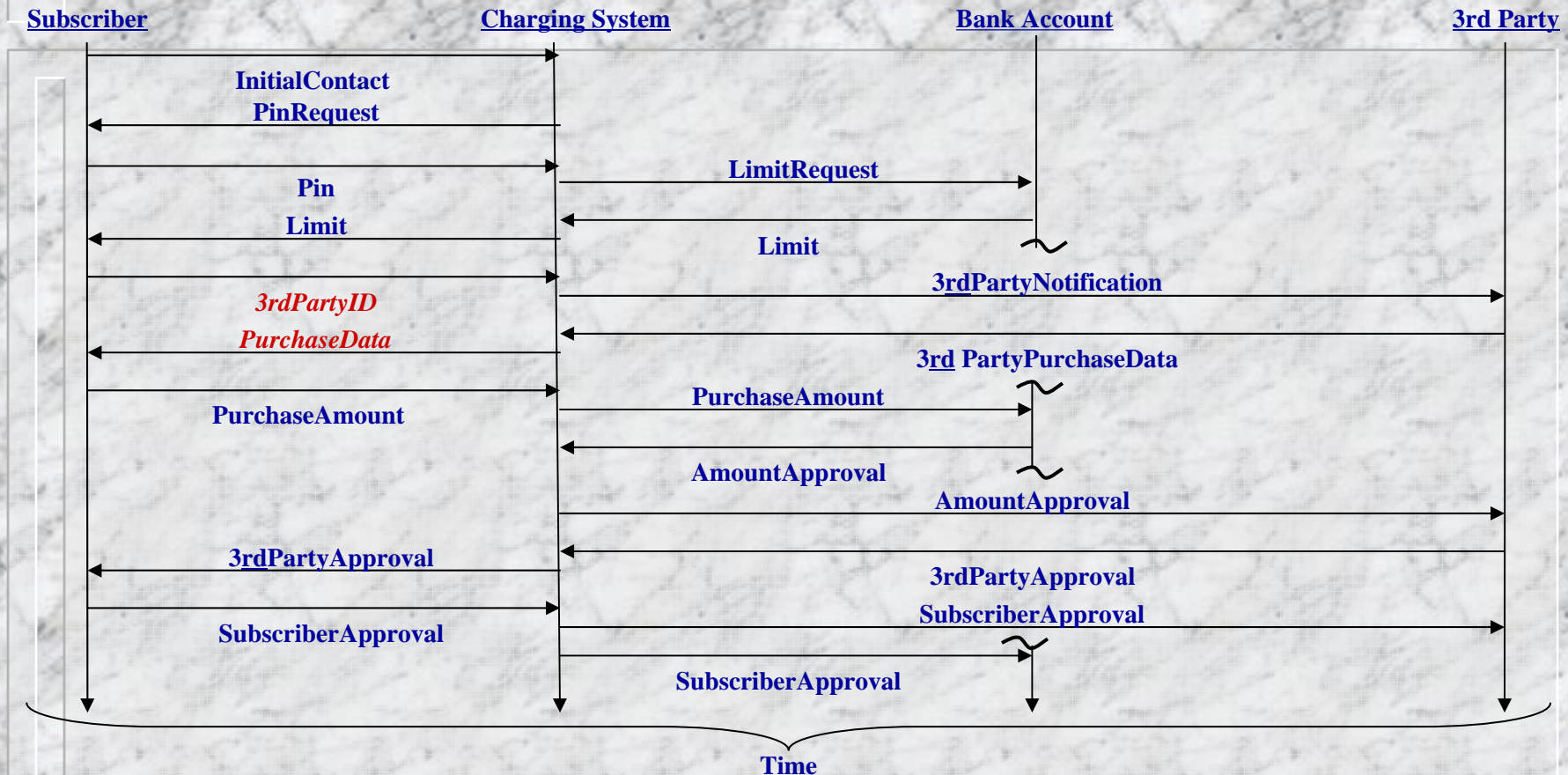
BoardTime = {One hour before flight time}

AlternateFlightTable = {Alternate flights downloaded by the travel agent}

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4. Examples



3rdPartyID = (EstablishmentID, Service#, ...)

PurchaseData = (VndrType, PurchaseTotal, Items, Prices, ...)

4.6.1. Wireless credit/debit card payment fundamental service (WrLssCrtCrd).

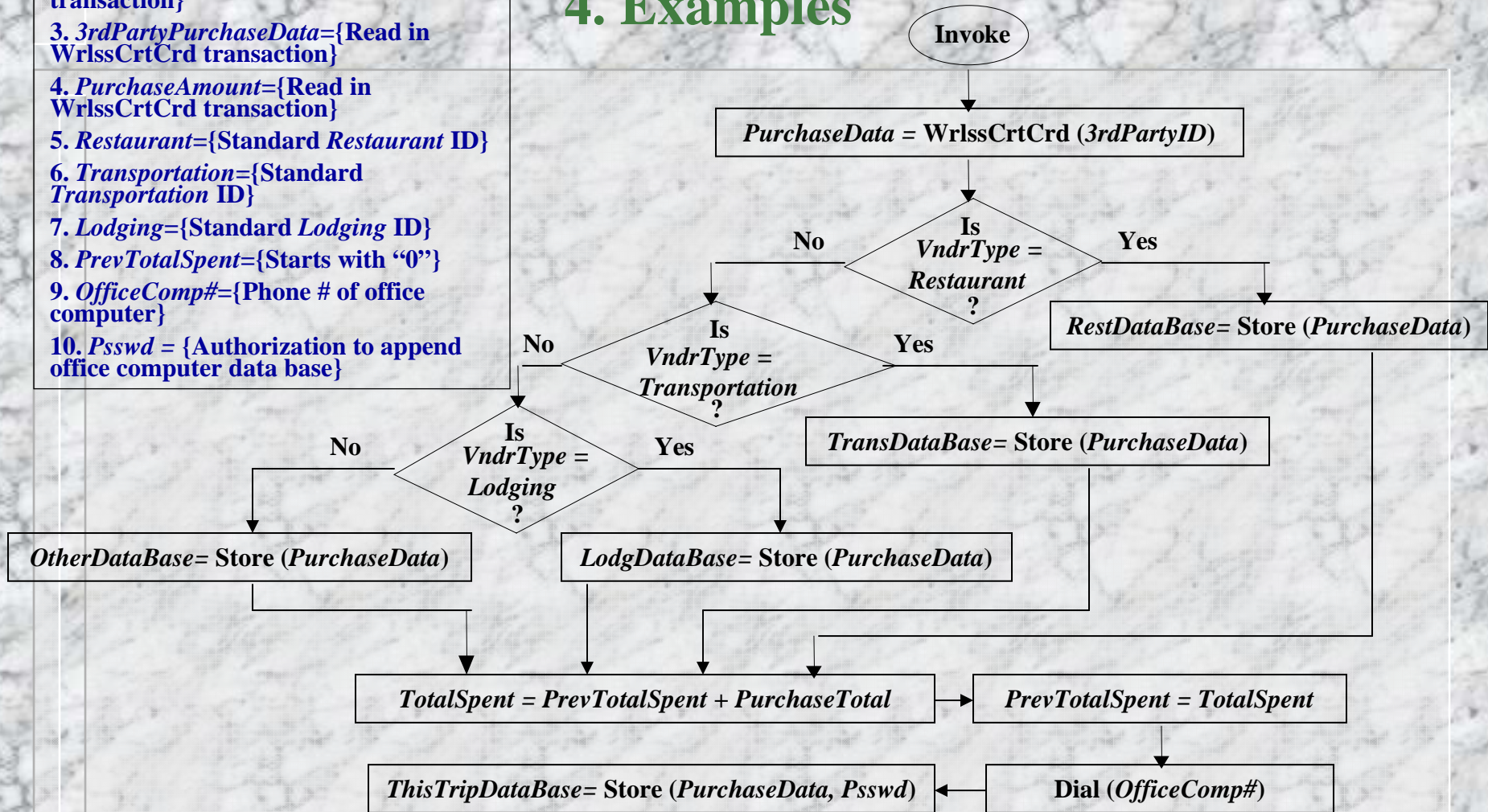
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4. Examples

Initialized Parameters

1. *3rdPartyID*={Read in *WrLssCrtCrd* transaction}
3. *3rdPartyPurchaseData*={Read in *WrLssCrtCrd* transaction}
4. *PurchaseAmount*={Read in *WrLssCrtCrd* transaction}
5. *Restaurant*={Standard *Restaurant ID*}
6. *Transportation*={Standard *Transportation ID*}
7. *Lodging*={Standard *Lodging ID*}
8. *PrevTotalSpent*={Starts with "0"}
9. *OfficeComp#*={Phone # of office computer}
10. *Psswd* = {Authorization to append office computer data base}



4.6.2. Expense account CWS.



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5. Build facilities & example

5.1. Facilities features (select & drag, services menu, special capabilities menu, tools menu)

5.2. PC versus wireless terminal

5.3. School bus compound wireless service



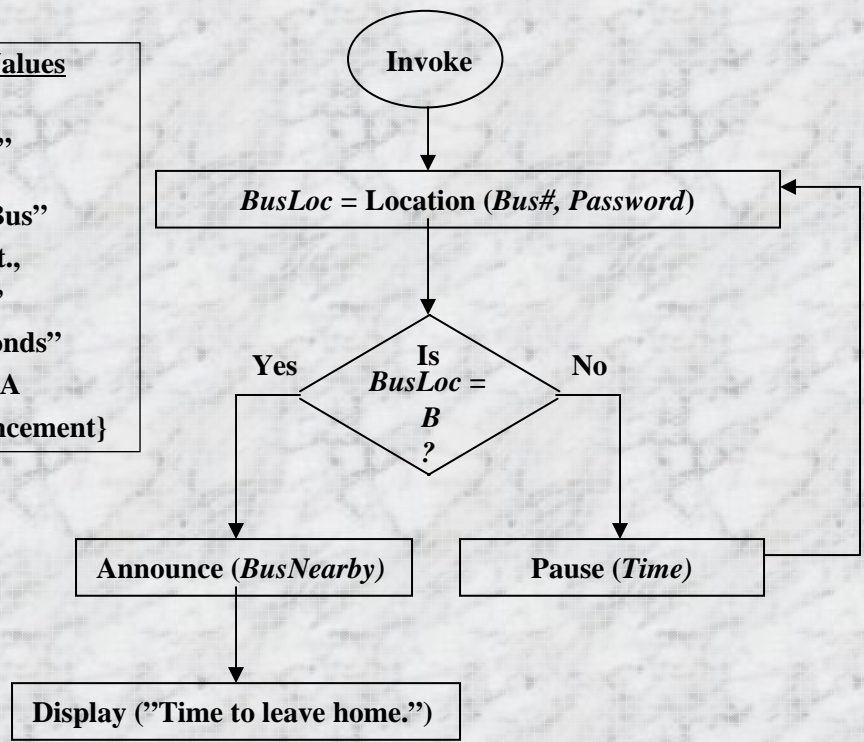
Build Tools Menu

- Test
- Save
- Open
- Copy
- Paste
- Undo
-
-
-

Build Area

WirelessServiceName = SchoolBus

- Initialized Values**
1. Bus# = "1.973.539.1236"
 2. Password = "SchoolBus"
 3. B = "Green St., Maplewood, NJ"
 4. Time = "5 seconds"
 5. BusNearby = {A recorded announcement}



Services Menu (1 of 5)

- Help
Announce (Comment)
Index
- BusinessMeeting (AltrntFlights, Location, Destination, CurrentTime, AirportTime, BoardTime, AlternateFlightTable)
Help
- CONotification (On, Room, Time) = COAlarm (WirelessTerminal#, Password, Alarm#, Notations)
Help
- Cons = Constraints (Rgn, Criteria, Loc)
Help
- Dte = Date (Format)
Help
- Dly = Delay (Rte, Rgn, Loc)
Help
- Dial (Spouse'sWireless#)
Help
- Display (Location)
Help
- DrvTme = DriveTime (Cons, Loc, Destination)
Help
- EmbTrkStlnCar (WirelessTerminal#, Password, Time, PolicePhone#, RecordedMessage1, RecordedMessage2, Spouse'sWireless#, RecordedMessage3, RecordedMessage4)
Help

Special Capabilities Menu

- ↓
- ≡
- A
-
-
-

5.4. Build layout for completed school bus CWS.



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6. Conclusions

- 6.1. Voice still the “killer ap”
- 6.2. Excess data capacity
- 6.3. Compound wireless services => data “killer aps”
- 6.4. Flat rate vs. per use
- 6.5. Problematic?
- 6.6. I’d like to hear your ideas --
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