Test Project

Session 3 – API Specifictaions

IT Software Solutions for Business

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Conventions

Base URL and format

- Requests and responses use application/json.
- Timestamps are date-time strings in format 2026-09-21T10:15:30.000Z

Polling and live state

- Poll GET /api/state and GET /api/calls every 2000 ms.
- serverTime in each response is the single source of truth for elapsed-time and live-timer displays.
- The server is authoritative; render exactly what the API reports and never simulate progression on the client.

Coordinate system

All positions (x, y) are pixels on images/map.jpg, whose original size is 1408 × 768. x is measured from the left edge (0–1408) and y from the top edge (0–768).

Error handling

When the server rejects an action it returns an appropriate 4xx status with an Error body. The human-readable message is meant to be shown to the operator unaltered.

STATUS	MEANING
400	Bad Request — validation or business-rule rejection; show message unaltered.
404	Not Found — the resource does not exist.
409	Conflict — the action is invalid for the resource's current state (e.g. resolving an unacknowledged incident, or accepting a call while another is active).

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Endpoints

Summary of all operations. Each endpoint is detailed in the sections that follow.

METHOD	ENDPOINT	PURPOSE
GET	/api/state	Full authoritative world state (server clock, incidents, stations, units).
GET	/api/health	Lightweight liveness probe for the connection indicator and outage recovery.
GET	/api/incidents	Convenience listing that mirrors the incident grid's property filters.
POST	/api/incidents	Manually create a new unacknowledged incident.
GET	/api/incidents/{incidentId}	Full incident data for the detail window; poll to keep it live.
PATCH	/api/incidents/{incidentId}	The detail window's "Save" action while acknowledged: persists the edited fields and the full assigned-unit set in one call.
POST	/api/incidents/{incidentId}/acknowledge	The single action while an incident is unacknowledged; transitions it to acknowledged, enabling unit assignment.
POST	/api/incidents/{incidentId}/resolve	Available while assigned, en_route or on_scene.
GET	/api/incidents/{incidentId}/recommendation	Recommended unit composition for the incident's subtype; backs the "Apply recommendation" button.
GET	/api/stations	All stations, each carrying its type and available-unit count for the map.
GET	/api/units	All units across all stations.
GET	/api/calls	Telephone-console queue: ringing (incoming), the active call (if any) and recent calls (ended, declined, missed).
GET	/api/calls/{callId}	Full call data for the call screen (caller info, mini-map location, timers).
POST	/api/calls/{callId}/accept	Accept a ringing call and make it the single active call.
POST	/api/calls/{callId}/decline	Decline a ringing call (allowed even while another call is active).
POST	/api/calls/{callId}/end	End the currently active call, transitioning it to ended.
POST	/api/calls/{callId}/link	Link an active call to an existing incident (instead of the incident auto-created on accept).

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State

GET /api/state

Description	Full authoritative world state (server clock, incidents, stations, units). Poll every 2000 ms and render exactly what is reported.
Responses	200 → State

GET /api/health

Description	Lightweight liveness probe for the connection indicator and outage recovery.
Responses	200 → { status: "ok", serverTime }

Incidents

GET /api/incidents

Description	Convenience listing that mirrors the incident grid's property filters. Resolved incidents are included only when includeResolved=true.
Query parameters	q (free-text over id, type, status, description); id; type; status; severity; description; includeResolved (boolean, default false). Grid property filters map to: --id, --type, --status, --description.
Responses	200 → Incident[]

POST /api/incidents

Description	Manually create a new unacknowledged incident. (Accepting a call also creates one automatically.)
Request body	IncidentCreate: type*, location*, subtype, severity, description, callId
Responses	201 → Incident 400 → Error

GET /api/incidents/{incidentId}

Description	Full incident data for the detail window; poll to keep it live.
Path parameters	incidentId — incident identifier
Responses	200 → Incident 404 → Error

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PATCH /api/incidents/{incidentId}

Description	The detail window's "Save" action while acknowledged: persists the edited fields and the full assigned-unit set in one call.
Path parameters	incidentId — incident identifier
Request body	IncidentUpdate (all optional, at least one): type, subtype, severity, location, description, assignedUnitIds
Rules	Allowed only while status is acknowledged. Every assigned unit must exist and be available (or already assigned to this incident); otherwise 400 with a message to show unaltered. Assigning one or more units transitions the incident to assigned; the server then advances it through en_route → on_scene and moves the units across the map.
Responses	200 → Incident 400, 404, 409 → Error

POST /api/incidents/{incidentId}/acknowledge

Description	The single action while an incident is unacknowledged; transitions it to acknowledged, enabling unit assignment.
Path parameters	incidentId — incident identifier
Responses	200 → Incident 404, 409 → Error

POST /api/incidents/{incidentId}/resolve

Description	Available while assigned, en_route or on_scene. Marks the incident resolved (read-only), records attendingUnitIds and releases the units to return to their station.
Path parameters	incidentId — incident identifier
Responses	200 → Incident 404, 409 → Error

GET /api/incidents/{incidentId}/recommendation

Description	Recommended unit composition for the incident's subtype; backs the "Apply recommendation" button.
Path parameters	incidentId — incident identifier
Responses	200 → Recommendation 404 → Error

Stations and Units

GET /api/stations

Description	All stations, each carrying its type and available-unit count for the map.
Responses	200 → Station[]

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GET /api/units

Description	All units across all stations. Backs the detail window's unit list; non-available units are shown but cannot be selected.
Query parameters	stationId; status (UnitStatus)
Responses	200 → Unit[]

Calls

GET /api/calls

Description	Telephone-console queue: ringing (incoming), the active call (if any) and recent calls (ended, declined, missed). Poll every 2000 ms alongside GET /api/state.
Query parameters	status (restrict to one CallStatus)
Responses	200 → { serverTime, ringingCount, calls: Call[] } — ringingCount backs the always-visible queue badge

GET /api/calls/{callId}

Description	Full call data for the call screen (caller info, mini-map location, timers).
Path parameters	callId — call identifier
Responses	200 → Call 404 → Error

POST /api/calls/{callId}/accept

Description	Accept a ringing call and make it the single active call. Automatically creates a new unacknowledged incident from the report (type taken from the call, a sensible default when unknown) and links the call to it, so the incident appears on the map and in the grid.
Path parameters	callId — call identifier
Rules	Only one call may be active at a time. If another call is already active, this is rejected with 409 and the ringing call stays ringing (it may still be declined).
Responses	200 → { call, incident } 404, 409 → Error

POST /api/calls/{callId}/decline

Description	Decline a ringing call (allowed even while another call is active). Transitions the call to declined.
Path parameters	callId — call identifier
Responses	200 → Call 404, 409 → Error

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POST /api/calls/{callId}/end

Description	End the currently active call, transitioning it to ended.
Path parameters	callId — call identifier
Responses	200 → Call 404, 409 → Error

POST /api/calls/{callId}/link

Description	Link an active call to an existing incident (instead of the incident auto-created on accept). Sets the call's linkedIncidentId.
Path parameters	callId — call identifier
Request body	{ incidentId* }
Responses	200 → Call 400, 404, 409 → Error

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Data Model

Enumerations

ENUMERATION	VALUES
IncidentType	fire, crime, medical — marker colour: fire = red, crime = blue, medical = orange
IncidentStatus	unacknowledged, acknowledged, assigned, en_route, on_scene, resolved
Severity	low, medium, high, critical
IncidentSubtype	fire: structure_fire, vehicle_fire, wildfire, gas_leak, fire_alarm crime: robbery, assault, burglary, vandalism, disturbance, traffic_incident medical: cardiac_arrest, trauma, respiratory, overdose, fall, maternity plus unknown
UnitType	fire, police, medical
UnitStatus	available, assigned, en_route, on_scene, returning, out_of_service — only available units may be assigned
CallStatus	ringing (incoming), active (answered; one at a time), ended, declined, missed
reportedType	fire, crime, medical, unknown

Objects

State

Complete authoritative world state returned by GET /api/state.

FIELD	TYPE	DESCRIPTION
serverTime	date-time*	Authoritative server clock.
incidents	Incident[]*	Every incident.
stations	Station[]*	Every station.
units	Unit[]*	Every unit across all stations.

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Incident

FIELD	TYPE	DESCRIPTION
id	string*	Unique incident identifier.
type	IncidentType*	Category; drives marker colour.
subtype	IncidentSubtype*	Specific subtype; drives the recommendation.
severity	Severity*	Incident severity.
status	IncidentStatus*	Lifecycle status. unacknowledged blinks type-colour/white; other statuses render flat at reduced opacity with a status badge; resolved is hidden by default.
reportedAt	date-time*	When reported (grid "reported time").
location	Coordinate*	Map-pixel position.
description	string	Free-text description.
assignedUnitIds	string[]*	Units currently assigned.
attendingUnitIds	string[]	Units that attended, recorded on resolve (read-only view).
callId	string?	Call this incident was created from / linked to.
resolvedAt	date-time?	When resolved, if applicable.

Station

FIELD	TYPE	DESCRIPTION
id	string*	Unique station identifier.
type	UnitType*	Station discipline.
name	string*	Display name.
location	Coordinate*	Map-pixel position.
availableUnitCount	integer	Convenience count of available units (shown per station on the map).

Unit

FIELD	TYPE	DESCRIPTION
id	string*	Unique unit identifier.
stationId	string*	Owning station.
type	UnitType*	Unit discipline.
callSign	string	e.g. "Engine 1".
status	UnitStatus*	Non-available units are shown but cannot be selected.
position	Coordinate*	Current position; the server moves units across the map.
assignedIncidentId	string?	Incident this unit is assigned to, if any.

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Call

FIELD	TYPE	DESCRIPTION
id	string*	Unique call identifier.
status	CallStatus*	Call lifecycle.
callerName	string?	Caller name.
callerNumber	string?	Caller number.
reportedType	enum*	fire | crime | medical | unknown.
description	string?	Short report.
location	Coordinate?	Reported location for the call-screen mini-map.
startedAt	date-time*	When the call started ringing; drive the live timer from this.
answeredAt	date-time?	When accepted (present once active).
endedAt	date-time?	When ended / declined / missed.
linkedIncidentId	string?	Incident created on accept, or linked afterwards.

Coordinate

FIELD	TYPE	DESCRIPTION
x	number*	Pixels from the left edge of map.jpg (0–1408).
y	number*	Pixels from the top edge of map.jpg (0–768).

Recommendation

Suggested unit composition for an incident's subtype (backs "Apply recommendation").

FIELD	TYPE	DESCRIPTION
subtype	IncidentSubtype*	Subtype the recommendation is for.
composition	array*	Recommended count per unit type: { type: UnitType, count: integer ≥ 1 }.
suggestedUnitIds	string[]	Concrete currently-available unit ids for one-click pre-selection.

Error

FIELD	TYPE	DESCRIPTION
message	string*	Human-readable; surface to the operator unaltered.
code	string	Stable machine-readable error code.
fields	object	Optional per-field validation messages for form display.

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