

```
{
  "meta": {
    "project": "SaaS Chatbot - UI & Feature Spec",
    "theme": "Light only (desktop 1440px)",
    "style": "Tailwind-style SaaS dashboard (clean cards, rounded corners, subtle shadows)",
    "purpose": "Precise UI + visible features spec for Client UI and Admin UI — no implementation details. Ready to feed to a coding/design agent.",
    "notes": "All pages assume a global TopBar and Left Sidebar navigation unless otherwise specified. Routes are included for each page."
  },
  "common": {
    "viewport": {
      "width": 1440,
      "baseSpacing": 4,
      "grid": {
        "columns": 12,
        "gutter": 24,
        "outerMargin": 24
      }
    },
    "typography": {
      "font": "Inter",
      "h1": "32px / 40px / 700",
      "h2": "24px / 32px / 600",
      "h3": "18px / 24px / 600",
      "body-lg": "16px / 24px / 400",
      "body": "14px / 20px / 400",
      "caption": "12px / 16px / 400"
    },
    "colors": {
      "background": "#F8FAFC",
      "surface": "FFFFFF",
      "textPrimary": "#0F172A",
      "textMuted": "#6B7280",
      "primary": "#2563EB",
      "success": "#10B981",
      "warning": "#F59E0B",
      "danger": "#EF4444",
      "whatsapp": "#075E54",
      "facebook": "#1877F2",
      "neutral": "#334155"
    },
    "components": {
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"TopBar": {
  "height": 64,
  "left": ["logo", "appName"],
  "center": ["pageTitle / breadcrumb"],
  "right": ["globalSearch", "notificationsIcon", "userAvatarDropdown"]
},
"LeftSidebar": {
  "width": 260,
  "itemsStyle": "icon + label, active state with left indicator bar",
  "collapsible": true
},
"Card": {
  "padding": 20,
  "radius": 8,
  "shadow": "subtle"
},
"PrimaryButton": "bg-primary text-white rounded-md px-4 py-2",
"SecondaryButton": "border rounded-md px-3 py-1.5",
"Table": "row hover, subtle separators, actions column with icon buttons",
"ModalPlaceholder": "centered modal with overlay; used only when necessary (but not
enumerated as modal flows per user request)"
}
},
"client_ui": {
  "global_layout": {
    "routePrefix": "client-UI",
    "topBar": "TopBar (shows active bot name, breadcrumb, notifications, user avatar)",
    "sidebar": {
      "routePrefix": "client-UI",
      "items": [
        { "label": "Dashboard", "route": "client-UI/dashboard", "icon": "home" },
        { "label": "Messages", "route": "client-UI/messages", "icon": "message", "children": [
        { "label": "WhatsApp", "route": "client-UI/messages/whatsapp" },
        { "label": "Facebook", "route": "client-UI/messages/facebook" },
        { "label": "Website", "route": "client-UI/messages/website" }
        ] },
        { "label": "Analytics", "route": "client-UI/analytics", "icon": "chart" },
        { "label": "Knowledge Base", "route": "client-UI/kb", "icon": "book" },
        { "label": "Contacts (CRM)", "route": "client-UI/contacts", "icon": "users" },
        { "label": "Bot Settings", "route": "client-UI/settings/bot", "icon": "settings" },
        { "label": "Help & Notifications", "route": "client-UI/help", "icon": "help-circle" },
        { "label": "Payments & Subscription", "route": "client-UI/payments", "icon": "credit-card" },
        { "label": "Account", "route": "client-UI/account", "icon": "user" }
      ]
    }
  }
}

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},
"globalSearch": "search across messages, contacts, KB (topbar)",
"defaultBotIndicator": "Bot name + status chip visible in TopBar"
},
"pages": {
"dashboard": {
"route": "client-UI/dashboard",
"ui": {
"layout": "Left Sidebar + TopBar + main content",
"mainSections": [
{
"type": "KPI Row",
"cards": [
{"title": "Total messages (period)", "metric": "big number", "sub": "period selector (7/30/90/custom)"},
{"title": "Active users", "metric": "big number", "sub": "within period"},
{"title": "Avg response time", "metric": "ms or s", "sub": "averaged over period"},
{"title": "KB documents", "metric": "count", "sub": "processing/ready split"}
]
},
{
"type": "Charts Row",
"left": {"chart": "Messages over time (area chart)", "size": "~720x320", "controls": ["dateRange"]},
"right": [
{"chart": "Channel distribution (donut)", "labels": ["WhatsApp", "Facebook", "Website"]},
{"list": "Top intents / top queries (small list card)"}
]
},
{
"type": "Recent Activity",
"card": "list of last 10 events (message in/out, KB processed, payments) with timestamp and quick link to conversation or KB doc"
},
{
"type": "Quick Actions",
"buttons": ["Upload KB", "Open Messages", "Pay Due"]
}
]
},
"features": [
"View KPIs for selected date range",
"Quick navigation to messages and KB",
"See recent activity and jump to items",
"View channel-wise distribution and top intents"
]

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],
"acceptanceNotes": [
  "KPI cards should update when dateRange changes",
  "Each KPI card clickable to deep-dive pages"
]
},
"messages_overview": {
  "route": "client-UI/messages",
  "ui": {
    "layout": "Left: Conversations list (360px). Right: Placeholder (select a conversation) or aggregated view.",
    "leftPane": {
      "search": "Search contacts/messages",
      "filters": ["All/Unread/Tagged", "Channel filter"],
      "listItem": {
        "avatar": "40px circle (initials)",
        "name": "contact display name",
        "snippet": "last message short",
        "timestamp": "relative",
        "unreadBadge": "count",
        "tags": "optional"
      }
    },
    "rightPane": {
      "emptyState": "When no conversation selected: show CTA to start new message or open specific channel view"
    }
  },
  "features": [
    "Search & filter conversation list",
    "Select conversation to open message thread",
    "Switch between channels via child routes"
  ]
},
"messages_channel": {
  "routePattern": "client-UI/messages/:channel",
  "ui": {
    "layout": "Left: Conversations for channel. Right: Conversation thread.",
    "threadHeader": {
      "contactName": "display name",
      "channelBadge": "small colored badge (channel color)",
      "lastSeenOrStatus": "text",
      "actions": ["View contact", "Export chat (CSV/JSON)", "More"]
    }
  },

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"messageArea": {
  "scrollable": true,
  "messageBubbleStyles": {
    "incoming": {"align": "left", "bg": "#F3F4F6", "text": "#0F172A"},
    "outgoing": {"align": "right", "bg": "primary", "#text": "#FFFFFF"}
  },
  "messageElements": ["text", "attachments(thumbnail)", "timestamp", "deliveryStatus(optional)"]
},
"composer": {
  "inputType": "multiline textarea",
  "buttons": ["attach file", "emoji", "send"],
  "helperText": "Enter sends, Shift+Enter new line (microcopy visible)"
},
"features": [
  "Read full conversation history (infinite scroll older messages)",
  "Send message (UI composer) — visible to client",
  "Preview attachments inline (images) and download other files",
  "Export conversation",
  "Channel-specific theme (WhatsApp uses whatsapp color accents, Facebook uses facebook color)"
],
"notes": [
  "If user scrolled up and new messages arrive, show a persistent 'New messages' button rather than auto-scroll"
],
"analytics": {
  "route": "client-UI/analytics",
  "ui": {
    "layout": "Top KPI row + charts grid + table of detailed metrics",
    "KPIs": [
      "Total messages (selected period)",
      "Messages per channel (count)",
      "Active contacts (unique users)",
      "Avg response time",
      "KB usage (documents & chunk count)"
    ],
    "charts": [
      {"name": "Messages over time (area)", "controls": ["dateRange"]},
      {"name": "Channel share (donut)", "labels": ["WhatsApp", "Facebook", "Website"]},
      {"name": "Top intents (bar)", "limit": 10},
      {"name": "Message volume by hour (heatmap)", "optional": true}
    ]
  }
}

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"table": {"columns":["metric","value","change (%)","notes"]}
},
"features": [
"Change period (quick: 7d/30d/90d or custom)",
"Download report (CSV/PDF)",
"View top intents and sample queries"
],
"priorityMetrics": [
"Total messages",
"Messages by channel",
"Avg response time",
"Active users",
"KB size and number of vectors",
"Monthly message trend"
]
},
"kb_documents": {
"route": "client-UI/kb",
"ui": {
"layout": "Left: Documents list. Right: Document detail/preview.",
"uploadArea": "Prominent 'Upload document' button & drag area with accepted formats (pdf, txt, md, docx).",
"documentsListItem": {
"title": "document title",
"status": ["processing","ready","failed"],
"uploadedAt": "timestamp",
"chunkCount": "number",
"actionButtons": ["view","delete","export chunks"]
},
"detailPane": {
"preview": "text excerpt",
"statistics": ["chunks","vectors","lastIndexedAt"],
"actions": ["reindex","delete"]
}
},
"features": [
"Upload documents to KB",
"See processing status and progress for chunking/embedding",
"View document metadata (chunk count, vector count)",
>Delete document (with clear warning that vectors will be removed)",
"Export chunk list or document id for reference"
],
"uxNotes": [
"Upload returns to UI with processing state; show progress bar and estimated remaining time

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(rough estimate acceptable)"
]
},
"contacts_crm": {
  "route": "client-UI/contacts",
  "ui": {
    "layout": "Search + filters bar at top; contacts table below",
    "tableColumns": [
      "avatar",
      "name",
      "channel",
      "external_id",
      "phone/email",
      "last_message_at",
      "tags",
      "actions"
    ],
    "contactProfilePanel": "Slide-over or detail card containing notes, conversation link, tags, and quick actions"
  },
  "features": [
    "Search and filter contacts by channel, tag",
    "View contact profile and jump to conversation",
    "Add notes and tags to contacts",
    "Export filtered contacts to CSV"
  ],
  "bot_settings": {
    "route": "client-UI/settings/bot",
    "ui": {
      "layout": "Header (bot name + status) + tabbed content: General | Channels | Behavior | HITL",
      "generalTab": ["bot name", "description", "language", "timezone", "timezone display"],
      "channelsTab": {
        "items": [
          {"channel": "Website Widget", "toggle": true, "credentialSummary": "if active show 'configured' or 'not configured'"},
          {"channel": "WhatsApp", "toggle": true, "credentialSummary": ""},
          {"channel": "Facebook", "toggle": true, "credentialSummary": ""}
        ],
        "channelCard": "Each channel card shows toggle, small help text, and 'configure' form link"
      },
      "behaviorTab": ["responseTimeout ms", "fallbackMessage", "smallTalk toggle", "safety filters"],
      "hitlTab": ["HITL toggle", "handover threshold (confidence %)", "human agents list"]
    },
  },

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"features": [
  "View and toggle channel activation",
  "Enter or update channel credentials (UI to accept and save)",
  "Configure behavior settings (fallback, filters)",
  "Enable/disable Human-in-the-loop and configure handover"
],
"permissionsNote": "Some fields may be read-only based on chosen development plan (display badges explaining unavailable features)"
},
"help_notifications": {
  "route": "client-UI/help",
  "ui": {
    "layout": "Two tabs: Notifications | Help Chat",
    "notificationsTab": {
      "listItem": {"icon", "title", "snippet", "time", "read/unread state"},
      "filters": ["all/unread/type (payment/KB/system)"]
    },
    "helpTab": {
      "threadList": "left small list of support threads",
      "threadView": "right full chat UI between client and admin (similar to Messages style)"
    }
  },
  "features": [
    "See system notifications (payment success, KB ready, overdue notices)",
    "Open help chat to message admin and exchange files",
    "Mark notifications read/unread and filter by type"
  ]
},
"payments_subscription": {
  "route": "client-UI/payments",
  "ui": {
    "layout": "Top: Active plan card. Middle: billing summary & usage. Bottom: billing history table",
    "activePlanCard": ["plan name", "messages included", "nextDueDate", "payNow button"],
    "usageBar": "progress bar showing used vs included messages",
    "billingHistory": {"columns": ["date", "invoiceNo", "amount", "gateway", "status", "actions"]}
  },
  "features": [
    "View current subscription plan and usage",
    "Pay due invoice (gateway selection visible: Khalti, eSewa — show 'test mode' label)",
    "Change plan (show available plans and message allowances)",
    "Download invoices"
  ],
  "billingNotes": [
    "Show penalty countdown if invoice overdue and show penalty percent (informational)"
  ]
}

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]
},
"account": {
  "route": "client-UI/account",
  "ui": {
    "sections": [
      {"profile": ["name", "email (read-only until verified)", "phone", "company"]},
      {"security": ["change password UI", "2FA placeholder (optional)"]},
      {"legal": ["export account data button", "privacy policy link"]}
    ]
  },
  "features": [
    "Update profile fields (name, phone)",
    "Request data export",
    "Change password"
  ]
},
"admin_ui": {
  "global_layout": {
    "routePrefix": "admin-UI",
    "topBar": "TopBar (global search across tenants, notifications, admin avatar)",
    "sidebar": {
      "routePrefix": "admin-UI",
      "items": [
        {"label": "Dashboard", "route": "admin-UI/dashboard", "icon": "home" },
        {"label": "Analytics", "route": "admin-UI/analytics", "icon": "chart" },
        {"label": "Clients", "route": "admin-UI/client-UIs", "icon": "users" },
        {"label": "Running Projects", "route": "admin-UI/projects", "icon": "play-circle" },
        {"label": "Payments", "route": "admin-UI/payments", "icon": "credit-card" },
        {"label": "Plans & System", "route": "admin-UI/plans", "icon": "settings" },
        {"label": "Customer Service", "route": "admin-UI/support", "icon": "headset" },
        {"label": "Audit Logs", "route": "admin-UI/audit", "icon": "clipboard" },
        {"label": "Account", "route": "admin-UI/account", "icon": "user" }
      ]
    },
    "globalSearch": "search tenants, clients, invoices, message text (topbar)"
  },
  "pages": {
    "dashboard": {
      "route": "admin-UI/dashboard",
      "ui": {
        "layout": "KPI Row + charts + recent events",

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"KPIs": [
  "Total registered clients",
  "Running projects",
  "Monthly recurring revenue (MRR)",
  "Messages processed (period)",
  "Open support tickets"
],
"charts": [
  "New clients over time (area)",
  "Revenue trend (line)",
  "Top consuming clients (bar)"
],
"recentEvents": "activity stream (client signup, payment, KB updated)"
},
"features": [
  "Quick create client action",
  "Drill into client details from KPI/charts",
  "View recent important events"
]
},
"analytics": {
  "route": "admin-UI/analytics",
  "ui": {
    "layout": "Filters row (dateRange, tenant, channel) + charts grid + table",
    "chartsAndMetrics": [
      "Total messages across platform",
      "Messages by channel / tenant",
      "Top 20 clients by consumption",
      "Failed payments over time",
      "KB ingestion throughput (docs/day)"
    ],
    "table": {"columns":["tenant","messages","revenue","status","actions"]}
  },
  "features": [
    "Filter analytics by date range and tenant",
    "Export analytics report (CSV/PDF)",
    "Inspect top-client usage and drill into client pages"
  ]
},
"clients_list": {
  "route": "admin-UI/client-UIs",
  "ui": {
    "layout": "Search + filters (status, plan) + clients table",
    "tableColumns": [
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"tenantName",
"contactPerson",
"email",
"plan",
"status (registered/devclient-UI/suspended)",
"lastActivity",
"dueAmount",
"actions"
],
"rowActions": ["View details", "Message (open support thread)", "Suspend", "Promote to client"]
},
"features": [
"Search and filter clients",
"Bulk actions (export, send notification)",
"Quick-suspend or mark paid"
]
},
"client_detail": {
"routePattern": "admin-UI/client-UIs/:clientId",
"ui": {
"layout": "Header (tenant name + status + quick actions) + tabs: Profile | Projects | Messages
(read-only) | Payments | KB | Logs",
"profileTab": ["company info", "contact details", "plan summary", "dev notes"],
"projectsTab": "list of projects, progress status, files exchanged",
"paymentsTab": "invoices list + quick create invoice",
"kbTab": "list of KB documents uploaded for this tenant with status"
},
"features": [
"View full client profile and recent activity",
"Promote running project to client (trigger billing action)",
"Suspend / resume client account",
"Impersonation (only in dev-mode) — display 'Impersonation log' entry when used"
],
"securityNote": "Impersonation allowed only in 'running project' dev state and must be
auditable"
},
"running_projects": {
"route": "admin-UI/projects",
"ui": {
"layout": "filterable list of projects with progress bar and owner",
"columns": ["projectName", "tenant", "owner", "progress", "lastUpdate", "actions"],
"projectDetail": "timeline of milestones, payments, files, admin-client messages"
},
"features": [

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"Assign owner, update project status",
"Send messages to client via built-in support channel",
"Mark milestones complete and trigger invoices"
],
},
"payments": {
"route": "admin-UI/payments",
"ui": {
"layout": "Top finance KPIs + payments table + filters",
"kpls": ["Total revenue (period)", "Failed payments", "Pending invoices", "Gateway breakdown"],
"paymentsTable": {"columns": ["date", "tenant", "invoice", "amount", "gateway", "status", "action"]}
},
"features": [
"Search and filter payments",
"Export financial report",
"Manual mark-as-paid or refund",
"View gateway-specific transaction details"
]
},
"plans_system": {
"route": "admin-UI/plans",
"ui": {
"layout": "List of plans (development & subscription) with CRUD controls",
"planCard": ["planName", "type
(dev/subscription)", "price", "messageAllowance", "description", "edit"]
},
"features": [
"Create / edit / deactivate plans",
"Set penalty rules (grace period, percent/day)",
"Define trial lengths and default plan"
]
},
"customer_service": {
"route": "admin-UI/support",
"ui": {
"layout": "Left: open support threads. Right: thread view with reply composer and ability to
escalate",
"threadListItem": ["tenantName", "lastMessage", "unreadCount", "priority"]
},
"features": [
"View and respond to all client support threads",
"Assign thread to support agent",
"Escalate issues to senior team (flagging)"
]
}

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,
"audit_logs": {
  "route": "admin-UI/audit",
  "ui": {
    "layout": "Filters (date, action type, user) + logs table",
    "columns": ["time", "actor", "action", "target", "details"]
  },
  "features": [
    "Search and filter audit logs",
    "Export logs for compliance"
  ]
},
"admin_account": {
  "route": "admin-UI/account",
  "ui": {
    "sections": ["profile", "security", "API keys (read-only/rotatable)", "system notifications preferences"]
  },
  "features": [
    "Update admin profile",
    "Rotate API keys (show instructions)",
    "Download audit report (admin-only)"
  ]
}
},
"navigation_routes_summary": {
  "client_routes": [
    "client-UI/dashboard",
    "client-UI/messages",
    "client-UI/messages/whatsapp",
    "client-UI/messages/facebook",
    "client-UI/messages/website",
    "client-UI/analytics",
    "client-UI/kb",
    "client-UI/contacts",
    "client-UI/settings/bot",
    "client-UI/help",
    "client-UI/payments",
    "client-UI/account"
  ],
  "admin_routes": [
    "admin-UI/dashboard",
    "admin-UI/analytics",
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```
"admin-UI/clients",
"admin-UI/client-UIs/:clientId",
"admin-UI/projects",
"admin-UI/payments",
"admin-UI/plans",
"admin-UI/support",
"admin-UI/audit",
"admin-UI/account"
]
},
"delivery_guidelines_for_agent": {
  "formatExpectations": "Build UI pages exactly matching the layout structure above. Each page must show the listed features and KPIs. Do not include backend or implementation specifics.",
  "uxConsistency": "Use consistent spacing, card sizes, and typographic scale. Use channel color accents only in messages pages.",
  "icons": "Use simple line icons; small colored badges for channels.",
  "statesToInclude": [
    "empty state (no data) for lists and messages",
    "loading state placeholders for KPI and charts",
    "error state (inline) when data cannot be loaded"
  ],
  "visualNotes": "Buttons: primary (solid), secondary (outline). Use subtle drop shadows for cards. Keep overall contrast friendly and clean."
},
"final_notes": {
  "scopeReminder": "This JSON focuses only on UI layouts and visible features for Client and Admin interfaces (light desktop). It purposely omits implementation, API, and server-side details per request."
}
}
```