

MyDurhamLaw — 72-Hour Upgrade Plan + DeepAgent Implementation Blueprint (v1)

Last updated: 13 Sep 2025 (Asia/Singapore)

A. 72-Hour Critical Path (Now → T+72h)

A1. Day 0 (Next 6–12 hours)

- **Freeze + Branch:** Create `release/termstart-2025` from main. Feature flag framework enabled.
- **Observability baseline:** Add Netlify Analytics + PostHog (or Plausible) page events; capture `page_view`, `feature_click`, `api_error`.
- **Hotfix backend connectivity:** Replace failing fetches with resilient client: retries, timeouts, toast errors. Stub minimal APIs with Netlify Functions (see Section F) so UI stops showing “backend not connected”.
- **Ship MVP Durmah AI (text):** Wire `/api/chat` serverless function (OpenAI-compatible or local LLM) with guardrails + rate limits; light context (OSCOLA guide links) + safety banner.
- **Assignment Assistant placeholder:** Render empty-state with CTA to “Create first assignment” and seed sample so page isn’t blank.
- **Wellbeing page:** Add crisis cards (911/999/111 variants per locale) + immediate mood check (1-click).

A2. Day 1

- **Study Session Analytics v0:** Pomodoro timer, session log (local first, sync later), spaced-repetition queue stub.
- **Smart Assignment Scaffolding v0:** IRAC scaffold, OSCOLA citation checker (regex + linkouts), integrity checkpoints.
- **Premier Lounge v0:** Read-only bulletin + opt-in student profiles; peer-match register form.
- **Content seed:** Auto-populate `Study Materials` with 10 high-value links (BAILII, Bar Council, etc.).

A3. Day 2

- **Wellbeing v1:** Mood trends chart, mindfulness snippets, opt-in consent for data.
- **Study Analytics v1:** Spaced repetition scheduling (SM-2 light), retention curve per topic.
- **Peer Matching v1:** Simple cosine match on tags (interests, year, modules, time-zones).
- **Voice (optional flag):** Browser TTS for answers + mic input where supported.

A4. Day 3

- **Assignment v1:** Research hints, argument map, originality pre-check (client-side similarity estimator), OSCOLA structured fields.
 - **Lounge v1:** Real-time study rooms via Liveblocks or Supabase Realtime; whiteboard + notes.
 - **Go-live readiness:** Smoke tests, rollback plan, cut release `v1.0-termstart`.
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B. Workstreams, Owners, and RACI

Workstream	DRI	Support	Review
Platform reliability & API stubs	Eng Lead	DevOps	PM
Durmah AI (chat + guardrails)	ML Eng	Legal/Ethics	PM + Faculty
Study Session Analytics	Frontend	Data Eng	PM
Assignment Scaffolding	Frontend	Writing Center	Faculty
Wellbeing	UX	Student Services	PM
Premier Lounge	Full-stack	Community Mgr	PM
Telemetry & KPIs	Data Eng	PM	Exec

C. Feature Specs (concise)

C1. Durmah AI (Text First)

- **Goal:** Reliable Q&A with legal-study orientation; **no ghost features**.
- **Inputs:** User prompt, module context (optional), integrity mode {Light | Standard | Intensive}.
- **Outputs:** Answer, sources (links), reminder banner on academic integrity, OSCOLA hint.
- **Non-goals:** Automated drafting beyond declared mode; jurisdiction-specific legal advice.
- **Safety:** Rate limit 15 req/day/user; per-session token budget; profanity/PHI filter; academic integrity warnings when "Intensive".
- **UX:** Left column messages; right column "Cite & Check" with OSCOLA quick-fields.

C2. Study Session Analytics

- **Timer:** 25/5 Pomodoro, adjustable 15–50.
- **Events:** `session_start`, `session_pause`, `session_end`, `topic_tag[]`, `difficulty(1–5)`.
- **Spaced repetition:** SM-2 light; next interval stored per card; tag by module/case.
- **Charts:** Daily minutes, retention curve, streaks.

C3. Smart Assignment Scaffolding

- **Wizard:** 4 steps (Issue → Research → Analysis/IRAC → Drafting).
- **Integrity checkpoints:** "Describe your own contribution"; "List AI assistance used".
- **OSCOLA:** Inline fields for cases, statutes, journals + formatted preview.
- **Pre-submit checks:** Wordcount, headings, citations present, reading-list coverage.

C4. Premier Lounge

- **Profiles:** Year, modules, interests, time windows, goals (checklist).

- **Matching:** Jaccard on tags + cosine on embeddings (client first).
- **Rooms:** Realtime presence; voice optional; shared notes.

C5. Wellbeing

- **Mood:** 5-point quick tap + stressors checkboxes.
- **Prompts:** Contextual tips (pre-exam, case-load spikes).
- **Escalation:** Prominent emergency + campus contacts; opt-in referral link.

D. Data Model (initial)

```
User {
  id, email, year, modules[], interests[], timezone,
  consent_flags{wellbeing:boolean}
}
SessionLog { id, user_id, topic, duration_min, started_at, difficulty, notes }
Card { id, user_id, topic, prompt, answer, ef, interval, due_at }
Assignment { id, user_id, title, module, integrity_level, status,
  sections{issue,research,analysis,draft}, oscola_refs[] }
PeerProfile { user_id, tags[], availability[], goals[], score }
Mood { id, user_id, score(1-5), stressors[], note, created_at }
```

E. Feature Flags

- `ff_ai_chat`, `ff_voice`, `ff_peer_rooms`, `ff_spaced_rep`, `ff_wellbeing_trends`, `ff_assignment_oscola`.

F. Serverless API (Netlify Functions examples)

POST `/api/chat` → `{ messages[], mode, module }` → `{ answer, sources[] }` - Validates token, logs usage, filters prompts, calls provider, returns sources.

POST `/api/session` → Create session log. **GET** `/api/session` → List logs and aggregate stats.

POST `/api/card/review` → Record recall result; return next due.

POST `/api/assignment` → Create/update scaffold data. **POST** `/api/oscola/format` → Validate/format reference fields.

POST `/api/mood` → Save mood entry. **GET** `/api/mood/trend` → Return last 14 days.

G. Frontend Components (React)

- `DurmahChatPanel`, `CiteAndCheckSidebar`, `PomodoroWidget`, `SessionStatsCard`, `IRACWizard`, `OSCOLAForm`, `PeerProfileCard`, `StudyRoom`, `MoodQuickCheck`, `WellbeingTrends`.
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H. DeepAgent Execution Plan (file-level instructions)

General: Create PRs against `release/termstart-2025`; guard with feature flags; add telemetry events; unit tests per function.

- 1) **/dashboard** - Insert `SessionStatsCard`, recent assignments, mood quick check (if consented). - Add skeleton loaders; show empty states with action CTAs.
 - 2) **/assignments** - Replace static with `IRACWizard`; add `OSCOLAForm` drawer; show integrity checkpoint modal before export.
 - 3) **/wellbeing** - Add `MoodQuickCheck` + `WellbeingTrends`; add crisis link cards; consent gate.
 - 4) **/lounge & /community-network** - Add profile edit; matching list; gated access to `StudyRoom` (flagged).
 - 5) **/study-schedule** - Embed `PomodoroWidget`; allow tagging; export to ICS.
 - 6) **Global** - Top-bar "AI Assistant" button opens `DurmahChatPanel` with integrity banner; add page-level telemetry.
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I. Acceptance Criteria (V1)

- No page shows raw "backend not connected".
 - Chat answers render with sources and integrity banner; 95th-pct response < 6s.
 - Assignments page supports full IRAC flow with save/restore and OSCOLA preview.
 - Study analytics shows daily minutes chart and retention curve; sessions persist across refresh.
 - Wellbeing consent, mood capture, and last-14-days trend function.
 - Peer profiles list + match score renders; joining a room is feature-flagged and non-blocking if disabled.
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J. Telemetry & KPIs (instrument now)

- **Engagement:** DAU, session_minutes, pomodoro_count, chat_requests, lounge_profile_count.
- **Learning:** cards_reviewed, retention_score, assignments_created.
- **Reliability:** api_error_rate < 2%, p95 latency per endpoint.

- **Wellbeing:** mood_check_count (aggregate only), opt-in rate.
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K. QA Playbook (Smoke)

1. Load each route; confirm no error toasts.
 2. Start/finish a Pomodoro; refresh; session persists.
 3. Create an assignment; add three OSCOLA refs; export.
 4. Ask chat: "Explain IRAC for Donoghue v Stevenson" → answer + sources + banner.
 5. Submit mood; see trend point increase.
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L. Security, Privacy, Integrity

- Pseudonymise IDs in analytics; no wellbeing content leaves region without consent.
 - AI usage disclosure stored per assignment; export with submission.
 - Abuse limits: CAPTCHA after 20 chat calls/day; profanity and PHI filter.
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M. Future (post-termstart)

- Voice tutoring with Socratic scripts; research agent with case-law retrieval; alumni mentorship module; advanced originality checker.
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N. Cut Commands for DeepAgent (copy/paste)

```
DEEPAGENT.RUN plan "MyDurhamLaw Termstart v1" {
  branch: "release/termstart-2025",
  feature_flags:
["ff_ai_chat", "ff_spaced_rep", "ff_assignment_oscola", "ff_wellbeing_trends", "ff_peer_rooms"],
  tasks: [
    {id:1, path: "/netlify/functions/chat.js", action: "create",
template: "api_chat_guardrails_v1"},
    {id:2, path: "/netlify/functions/session.js", action: "create",
template: "api_session_v1"},
    {id:3, path: "/netlify/functions/oscola.js", action: "create",
template: "api_oscola_v1"},
    {id:4, path: "/src/components/PomodoroWidget.tsx", action: "create",
template: "pomodoro_v1"},
    {id:5, path: "/src/components/IRACWizard.tsx", action: "create",
template: "irac_v1"},
    {id:6, path: "/src/components/OSCOLAForm.tsx", action: "create",
template: "oscola_form_v1"},
  ],
}
```

```
    {id:7, path:"/src/components/DurmahChatPanel.tsx", action:"create",
template:"chat_panel_v1"},
    {id:8, path:"/src/pages/assignments.tsx", action:"modify",
insert:"<IRACWizard />"},
    {id:9, path:"/src/pages/wellbeing.tsx", action:"modify",
insert:"<MoodQuickCheck /><WellbeingTrends />"},
    {id:10, path:"/src/pages/lounge.tsx", action:"modify",
insert:"<PeerProfileCard /><StudyRoom flag=ff_peer_rooms />"},
    {id:11, path:"/src/state/schema.ts", action:"modify", insert:"Data models in
Section D"},
    {id:12, path:"/src/telemetry.ts", action:"create",
template:"telemetry_posthog_v1"}
  ]
}
```

O. Copy-Ready API & Component Stubs (summarised)

See templates referenced in Section N.

End of v1