

CSF Software - 6-Week Milestones

Complete Web Application (Mobile Responsive Design)

■ IMPORTANT PROJECT SCOPE

■ *What's Included*

- **Web Application Only** (responsive design for mobile/tablet/desktop)
- **NO Native Mobile App** (no iOS/Android app development)
- **Mobile-Friendly Web Interface** (works on all devices through browser)
- **Responsive Design** (adapts to all screen sizes)
- **Flexible Payment Options** (single payment, subscription, AND installment plans)
- **Customizable Waivers** (per location, program, or organization needs)
- **Basic reporting** (essential metrics only)
- **English language only**

■ *Budget & Timeline*

- **Total Budget:** \$7,000 USD
- **Timeline:** 6 weeks (42 days)
- **Working Hours:** 50-60 hours/week
- **UI/UX:** Already designed in Figma ■

■ BUDGET BREAKDOWN BY MILESTONE

Milestone	Week	Hours	Budget Allocation	% of Total
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Milestone 1	Week 1	50-55h	\$1,000	14.3%
Milestone 2	Week 2	55-60h	\$1,200	17.1%
Milestone 3	Week 3	60-65h	\$1,500	21.4%
Milestone 4	Week 4	55-60h	\$1,300	18.6%
Milestone 5	Week 5	50-55h	\$1,200	17.1%
Milestone 6	Week 6	45-50h	\$800	11.4%
TOTAL	**6 weeks**	**315-345h**	**\$7,000**	**100%**

■ MILESTONE 1: Foundation, Auth & Class Browsing

Duration: Week 1 (Days 1-7)

Hours: 50-55 hours

Budget: \$1,000 USD (14.3%)

Status: ■ Not Started

Deliverables

Backend (25-30 hours):

- [] FastAPI project setup with PostgreSQL database
- [] Database schema design (Users, Roles, Children, Classes, Waivers, Payments)
- [] SQLAlchemy models created
- [] Database migrations (Alembic)
- [] User authentication APIs (email/password + Google OAuth)
- [] JWT token system
- [] Program, Area, School, Class models
- [] Class CRUD APIs with filtering & sorting
- [] Waitlist tracking logic
- [] Basic unit tests (pytest)

Frontend (20-25 hours):

- [] Next.js 14 project with TypeScript
- [] Tailwind CSS + shadcn/ui setup
- [] Authentication pages (Login, Signup) from Figma
- [] Google OAuth integration
- [] Protected routes implementation
- [] Programs & Areas landing page
- [] Class cards component (responsive)
- [] Filtering UI (school, weekday, time, age, capacity)
- [] Class Detail page
- [] **Mobile responsive design** (works on phones, tablets, desktop)

Testing (5 hours):

- [] Auth flow E2E tests
- [] Class browsing tests
- [] Mobile responsiveness testing

Success Criteria

- User can register/login (email + Google)
- Public can browse classes with filters
- **Mobile responsive** - works perfectly on phones
- Database migrations working
- GitHub repo with CI/CD

Payment: \$1,000 upon milestone completion

■ MILESTONE 2: Child Registration & Customizable Waivers

Duration: Week 2 (Days 8-14)

Hours: 55-60 hours

Budget: \$1,200 USD (17.1%)

Status: ■ Not Started

Deliverables

Backend (30-35 hours):

- [] Child model with all fields (encrypted sensitive data)
 - [] Child CRUD APIs
 - [] Emergency contact handling
 - [] Health insurance field (encrypted, masked)
- [] Waiver Template System:**
- [] WaiverTemplate model (title, content, version, location-specific)
 - [] Waiver template CRUD APIs
 - [] Rich text editor support for waiver content
 - [] Waiver template versioning system
 - [] Location/Program-specific waiver assignment
 - [] Default waiver templates (4 types)
 - [] Custom waiver creation per location
 - [] Waiver acceptance tracking (IP, UA, timestamp)
 - [] Waiver acceptance API
 - [] Schedule builder logic (recurrence patterns)
 - [] Calendar instance generation (start to end date)
 - [] "No-class" date handling
 - [] Unit tests for child & waiver management

Frontend (20-25 hours):

- [] Add Child form (all fields from spec)
 - [] DOB picker with age calculation
 - [] Jersey size & grade dropdowns
 - [] Medical conditions UI
 - [] Emergency contact form section
 - [] Multi-step form navigation
- [] Dynamic waiver display** (renders custom waivers)
- [] Waiver acceptance UI (scrollable + checkboxes)
 - [] All applicable waivers acceptance flow
 - [] Form validation (React Hook Form + Zod)
 - [] Schedule builder UI
 - [] Calendar view for date selection
- [] Admin: Waiver Template Management**
- [] Waiver template list page
 - [] Waiver template editor (rich text)
 - [] Version history viewer
 - [] Location/Program assignment UI
- [] Mobile-optimized forms** (touch-friendly, easy input)

Testing (5 hours):

- [] Child registration E2E tests
- [] Waiver acceptance tests (default + custom)
- [] Waiver template CRUD tests
- [] Form validation tests
- [] Mobile form usability testing

Success Criteria

- Parent can add child with all required info
- Sensitive data encrypted (medical, insurance)
- **Custom waivers can be created per location/program**
- Dynamic waiver rendering working
- Waiver versioning functional
- Schedule builder creates class instances
- **Forms work smoothly on mobile devices**

Payment: \$1,200 upon milestone completion

■ MILESTONE 3: Payment Integration (Stripe) + Installment Plans ■ CRITICAL

Duration: Week 3 (Days 15-21)

Hours: 60-65 hours

Budget: \$1,500 USD (21.4%)

Status: ■ Not Started

Deliverables**Backend (40-45 hours):**

- [] Stripe account setup (test mode)
- [] Stripe Customer creation on user registration
- [] PaymentMethod storage
- [] **Payment Types Implementation:**
 - [] SetupIntent for memberships (save card)
 - [] PaymentIntent for one-time payments
 - [] Subscription creation for memberships
- [] **Installment plan system**
- [] **Installment Plan Features:**
 - [] InstallmentPlan model (number of payments, frequency, amount)
 - [] Installment schedule generation
 - [] InstallmentPayment model (schedule tracking)
 - [] Automatic installment payment processing (Stripe scheduled payments)
 - [] Installment payment reminders (email notifications)
 - [] Failed installment handling & retry logic
 - [] Manual installment payment triggering
 - [] Installment status tracking (paid, pending, failed, refunded)
 - [] Configurable installment options per class/membership

- [] Stripe webhook endpoint
- [] Handle 8 key Stripe events:
 - [] invoice.payment_succeeded
 - [] invoice.payment_failed
 - [] customer.subscription.updated
 - [] payment_intent.succeeded
 - [] payment_intent.failed
 - [] charge.refunded
 - [] invoice.upcoming (installment reminder)
 - [] payment_intent.payment_failed (installment failure)
- [] Order & Enrollment models
 - [] Proration calculation (short-term classes)
 - [] Proration calculation (memberships)
 - [] Discount code validation logic
 - [] Sibling auto-discount logic (25%, 35%, 45%)
- [] Order calculation API (line items, discounts, installments, total)
- [] Enrollment creation on successful payment
- [] Comprehensive payment unit tests

Frontend (15-20 hours):

- [] Stripe Elements integration
- [] Checkout page (order summary + payment options)
- [] **Payment method selection:**
 - [] Pay in full (one-time)
 - [] Subscribe (recurring)
- [] **Pay in installments (2, 3, 4, or custom options)**
- [] **Installment plan selector:**
 - [] Display installment breakdown
 - [] Show payment schedule
 - [] Calculate and display per-installment amount
 - [] Show total with installment fees (if any)
 - [] Display line items (per child, per class)
 - [] Discount code input field
 - [] Sibling discount auto-display
 - [] Payment form (card input)
 - [] Loading states during payment
 - [] Error handling (payment failures)
 - [] Order confirmation page (with installment schedule if applicable)
 - [] "Join Waitlist" flow
- [] **Parent Dashboard: Installment Tracker**
 - [] View upcoming installments
 - [] Payment history
 - [] Failed payment alerts
- [] **Mobile-optimized checkout** (easy payment on phones)

Testing (5 hours):

- [] Payment success scenarios (Stripe test cards)
- [] Payment failure scenarios
- [] **Installment plan creation tests**
- [] **Installment payment processing tests**
- [] **Failed installment handling tests**
- [] Proration calculation tests
- [] Sibling discount tests

- [] Webhook testing (Stripe CLI)
- [] Mobile checkout testing

Success Criteria

- One-time payments working (short-term classes)
- Subscriptions working (memberships)
- **Installment plans fully functional**
- **Automatic installment processing working**
- **Installment reminders sent**
- **Failed installment handling robust**
- Proration calculations accurate
- Sibling discounts auto-apply correctly
- Enrollment created on successful payment
- Stripe webhooks handling all events
- **Payment works smoothly on mobile devices**

Payment: \$1,500 upon milestone completion

■ MILESTONE 4: Email Automation & Admin Portal Core

Duration: Week 4 (Days 22-28)

Hours: 55-60 hours

Budget: \$1,300 USD (18.6%)

Status: ■ Not Started

Deliverables

Backend (30-35 hours):

- [] Mailchimp account setup
- [] Mailchimp Audience creation
- [] Custom merge fields & tags definition
- [] Mailchimp API integration
- [] Audience member upsert on enrollment
- [] Tag application (Program, Area, Class, Membership/ShortTerm/Installment)
- [] Tag updates on class transfer
- [] Tag retirement on cancellation
- [] Transactional email setup (SendGrid/AWS SES)
- [] Email templates:
 - [] Order confirmation
 - [] Welcome email
- [] **Installment reminder (3 days before)**
- [] **Installment payment success**
- [] **Installment payment failed**
- [] **Final installment confirmation**
- [] Email sending on enrollment
- [] **Installment reminder scheduler**
- [] Dashboard metrics APIs:

- [] Active members count
- [] Short-term vs Membership vs Installment split
- [] Registrations (24h, 7d, 30d)
- [] Cancellations
- [] **Outstanding installments**
- [] **Failed payments**
- [] Today's practices
- [] CSV export APIs
- [] Role-based access control (RBAC)
- [] Class management APIs (create, edit, delete, clone)
- [] **Installment plan configuration APIs**
- [] Roster API (child + parent info, NO medical)

Frontend (20-25 hours):

- [] Admin layout from Figma (sidebar navigation)
- [] Role-based route protection
- [] Dashboard page with widgets:
 - [] Active members card
 - [] Registration/cancellation graphs (Recharts)
 - [] **Payment type distribution (pie chart)**
 - [] **Outstanding installments alert widget**
 - [] **Failed payments widget**
- [] Today's practices table
- [] CSV/PNG download functionality
- [] Classes page (list with filters)
- [] Class creation form
- [] Class edit form
- [] Pricing configuration UI
- [] **Installment plan configuration UI**
- [] Enable/disable installments per class
- [] Set installment options (2, 3, 4 payments)
- [] Set installment fees (if any)
- [] Class cloning modal
- [] Roster view page
- [] **Mobile-responsive admin panel** (tablet/phone friendly)

Testing (5 hours):

- [] Email delivery tests (including installment emails)
- [] Mailchimp tag verification
- [] Dashboard metrics accuracy
- [] **Installment configuration tests**
- [] Admin authentication tests
- [] Mobile admin panel testing

Success Criteria

- Confirmation emails sent automatically
- **Installment reminder emails working**
- Mailchimp tags applied correctly (including installment status)
- Admin dashboard displaying all metrics
- **Installment tracking visible on dashboard**
- Admin can create/edit classes with installment options

- Roster viewing working
- Admin panel usable on tablets and phones

Payment: \$1,300 upon milestone completion

■ MILESTONE 5: Client Management & Advanced Admin Features

Duration: Week 5 (Days 29-35)

Hours: 50-55 hours

Budget: \$1,200 USD (17.1%)

Status: ■ Not Started

Deliverables

Backend (30-35 hours):

- [] Client/member list APIs (pagination, filters)
- [] Client profile API (full details + payment history)
- [] Client edit API
- [] **Payment & Installment Management:**
 - [] View installment schedule per client
 - [] Retry failed installment payment
 - [] Mark installment as paid (manual override)
 - [] Cancel installment plan
 - [] Adjust installment schedule
 - [] Refund installment payment
- [] Enrollment management APIs:
 - [] Add enrollment
 - [] Transfer enrollment (with installment handling)
 - [] Cancel enrollment (15-day policy + installment prorating)
 - [] Reactivate enrollment
 - [] 15-day cancellation policy logic (with installment adjustments)
 - [] Cancellation effective date calculation
- [] **Installment refund calculation**
 - [] Bulk email/SMS trigger API
 - [] Bulk export API (CSV/Excel)
- [] Finance/revenue APIs:
 - [] Revenue by time, program, area, class
 - [] **Revenue by payment type (one-time, subscription, installment)**
- [] **Installment payment collection rate**
- [] **Outstanding installment balance**
 - [] Stripe KPIs (successful, failed, refunds)
 - [] Past-due balance calculation
- [] **Installment past-due tracking**
 - [] Discount code CRUD APIs
 - [] Scholarship APIs
 - [] Calendar view APIs (month/week/day)
 - [] Communication log APIs

Frontend (15-20 hours):

- [] Clients page (Accounts + Members tabs)
- [] Search and filter UI
- [] Client profile page with:
 - [] Basic info
 - [] Children
 - [] Enrollments
- [] **Payment history (all types)**
- [] **Installment schedule viewer**
- [] **Outstanding balance indicator**
- [] **Installment management modals:**
 - [] Retry failed payment
 - [] Cancel installment plan
 - [] Adjust schedule
 - [] Manual payment recording
- [] Enrollment management modals:
 - [] Add enrollment
 - [] Transfer enrollment (with installment handling)
 - [] Cancel enrollment (with policy explanation + installment impact)
 - [] Reactivate enrollment
 - [] Bulk action UI (select multiple)
- [] Finance page (Owner only) with:
 - [] Revenue widgets and graphs
 - [] **Payment type breakdown**
 - [] **Installment collection metrics**
 - [] **Past-due installments report**
 - [] Time range toggles
 - [] Export CSV button
 - [] Discount management page
 - [] Calendar component (month/week/day views)
 - [] Communication Center
- [] **All admin features mobile-responsive**

Testing (5 hours):

- [] Client management tests
- [] Enrollment add/transfer/cancel tests (with installments)
- [] **Installment management tests**
- [] **Installment refund calculation tests**
- [] 15-day policy calculation tests
- [] Finance calculations verification (all payment types)
- [] Mobile admin features testing

Success Criteria

- Admin can search/filter clients
- Client profile shows complete payment history (all types)
- **Installment schedules visible and manageable**
- **Failed installments can be retried**
- Enrollment management working (add, transfer, cancel)
- 15-day cancellation policy enforced (with installment handling)
- Finance module showing accurate revenue (all payment types)
- **Installment collection metrics accurate**

- Discount codes can be created
- Calendar displaying class sessions
- All features work on mobile/tablet

Payment: \$1,200 upon milestone completion

■ MILESTONE 6: Testing, Security, Polish & Documentation

Duration: Week 6 (Days 36-42)

Hours: 45-50 hours

Budget: \$800 USD (11.4%)

Status: ■ Not Started

Deliverables

Security Hardening (15 hours):

- [] PII encryption at rest (medical, insurance, payment data)
- [] Role-based data access restrictions
- [] Rate limiting on all endpoints (especially payment/installment)
- [] CSRF protection
- [] Security headers (CORS, CSP, X-Frame-Options)
- [] SQL injection prevention audit
- [] XSS prevention audit
- [] **PCI DSS compliance verification** (Stripe handles card data)
- [] **Installment payment security audit**
- [] Daily database backup automation
- [] Security scan (Bandit, npm audit)

Testing (15 hours):

- [] Achieve 75%+ backend test coverage
- [] Integration tests for critical flows:
- [] Registration → Payment → Enrollment (all payment types)
- [] Subscription lifecycle
- [] **Installment plan lifecycle (creation → payments → completion)**
- [] **Failed installment handling → retry → success**
- [] Cancellation with 15-day policy (all payment types)
- [] Class transfer (with installment handling)
- [] Discount application
- [] **Installment refund calculation**
- [] E2E tests (Cypress/Playwright):
- [] Complete registration flow (all payment methods)
- [] **Installment payment selection and confirmation**
- [] Admin workflows (including installment management)
- [] Payment flows (all types)
- [] **Custom waiver creation and assignment**
- [] Cross-browser testing (Chrome, Firefox, Safari, Edge)
- [] **Comprehensive mobile testing** (iOS Safari, Chrome Android)
- [] Load testing (100 concurrent users)
- [] **Stripe webhook reliability testing**

- [] Fix all critical bugs

Performance Optimization (5-7 hours):

- [] Database indexing (especially payment/installment tables)
- [] Query optimization
- [] Frontend code splitting
- [] Image optimization
- [] Bundle size optimization
- [] Core Web Vitals optimization (LCP, FID, CLS)
- [] **Mobile performance optimization**
- [] **Payment processing optimization**

Accessibility & Polish (5 hours):

- [] WCAG 2.1 AA compliance
- [] ARIA labels on interactive elements
- [] Keyboard navigation
- [] Screen reader testing
- [] Color contrast verification
- [] Focus indicators
- [] Final UI polish (spacing, typography)
- [] User-friendly error messages (especially payment/installment failures)
- [] Loading states everywhere
- [] **Payment confirmation messaging clarity**

Documentation (5-8 hours):

- [] API documentation (Swagger/OpenAPI)
- [] Database schema documentation
- [] Environment setup guide
- [] Deployment guide
- [] **Stripe integration guide (including installment setup)**
- [] Mailchimp integration guide
- [] User guide (parent):
 - [] How to register
 - [] **How to select payment method (installments)**
 - [] **How to manage installments**
 - [] How to view payment history
 - [] Admin manual:
 - [] System management
 - [] **Installment plan configuration**
 - [] **Managing failed installments**
 - [] **Custom waiver creation**
 - [] Financial reporting
 - [] **Waiver template management guide**
 - [] **Installment troubleshooting guide**
 - [] README files
 - [] General troubleshooting guide

Success Criteria

- Security hardened (PII encrypted, rate limiting, PCI compliant)
- 75%+ test coverage
- **All installment flows thoroughly tested**

■ Custom waiver functionality validated

- All critical bugs fixed
- Performance optimized (API <200ms, page load <3s)
- WCAG 2.1 AA compliant
- **Mobile experience excellent** (tested on real devices)
- Complete documentation ready (including installment & waiver guides)
- System production-ready

Final Payment: \$800 upon milestone completion

■ What You Get for \$7,000

Complete Web Application

- Public registration flow (browse classes, add child, accept waivers)

■ Flexible payment options:

- One-time payments
- Recurring subscriptions

■ Installment plans (2, 3, 4+ payments)

■ Customizable waiver system:

- Create custom waivers per location/program
- Rich text waiver editor
- Version tracking
- Dynamic waiver assignment

- Secure payment processing (Stripe - all payment types)

■ Automatic installment payment processing

■ Installment reminder system

■ Failed installment handling & retry

- Admin dashboard (metrics, graphs, installment tracking)
- Class management (CRUD, schedule builder, cloning, installment configuration)
- Client management (search, filter, enrollment + installment management)
- Finance module (revenue tracking by payment type, installment metrics)
- Discount/scholarship system
- Calendar views
- Communication logging
- Roster sharing (tokenized links)

■ Full mobile responsiveness (works perfectly on phones/tablets)

■ Tech Stack

Backend

- FastAPI (Python 3.11+)

- PostgreSQL 15
- SQLAlchemy 2.0
- Stripe Python SDK (with installment support)
- Mailchimp API
- SendGrid/AWS SES
- Celery (for scheduled installment processing)
- Redis (for task queue)

Frontend

- Next.js 14 (App Router)
- TypeScript 5
- Tailwind CSS 3
- shadcn/ui (components)
- React Query
- React Hook Form + Zod
- Recharts (graphs)
- TipTap/Slate (rich text editor for waivers)

■ Key Enhancements Summary

■ Installment Plan Features

- 1. Flexible payment scheduling** - 2, 3, 4, or custom installment options
- 2. Automatic processing** - Stripe handles scheduled payments
- 3. Smart reminders** - 3-day advance email notifications
- 4. Failure handling** - Automatic retry logic + manual override
- 5. Admin controls** - Full installment management dashboard
- 6. Financial tracking** - Dedicated installment metrics and reporting
- 7. Proration support** - Handles cancellations and transfers
- 8. Status tracking** - Real-time installment payment status

■ Custom Waiver System

- 1. Rich text editor** - Create formatted waivers with ease
- 2. Version control** - Track waiver changes over time
- 3. Location-specific** - Different waivers for different locations/programs
- 4. Dynamic rendering** - Automatically display correct waivers
- 5. Admin management** - Full CRUD operations for waiver templates
- 6. Default templates** - 4 standard waivers included out of the box
- 7. Flexible assignment** - Assign waivers by location, program, or class
- 8. Acceptance tracking** - Complete audit trail with IP, timestamp, version
