We Are 8th Light

Capabilities Overview
We craft software that unlocks human potential.

Designing for people • Inspiring through education • Building for the future

At 8th Light, we believe that well-designed and implemented software is vital to organizations to meet the evolving demands of their customers. Leveraging our 15+ years of experience, we aim to increase the quality of software in the world through team-based collaboration.
**Design for people.** We lead with a human-centered approach to software, resulting in products that are intuitive, approachable, and delightful.

**Inspire through education.** We don’t just deliver code, we share the skills and best practices that enable clients to grow their business through a culture of continual learning.

**Build for the future.** We develop software that provides long-term sustainability, performance, and differentiation with clients, empowering teams in transformative ways.
Design products that people want to use.

Bring your product to life inspired by the needs and interests of your customers.

- Efficiently deliver a solution fit for market
- Create a highly usable, useful, and accessible product
- Ensure the solution maintains a cohesive brand experience
- Instill confidence that your product is addressing the most important needs

SERVICES
- UX design
- User interface design
- Visual design & branding
- UI implementation
Develop software that drives your business’ success.

Accelerate delivery performance and embrace practices for continuous improvement.

- Build quality into the foundation
- Deploy frequently and reliably
- Migrate to the cloud
- Resolve bugs with fixes that last
- Leverage your wisdom to rewrite your platform
- Let data drive your business
- Build more secure systems

SERVICES

- Software architecture
- Pipeline optimization
- Cloud migration
- Software stabilization
- Software rewrites
- Data engineering
- Security
Embrace a culture of continual learning.

Improve the way you evolve your products and how your teams work together.

- Bring your legacy app up to speed
- Become a digital-first organization
- Implement sustainable processes
- Measure and manage high-performing teams
- Apprenticeship as a service
- Acquire and distribute new skills

SERVICES
- Legacy platform transformation
- Digital transformation
- DevOps transformations
- Agile coaching
- Holistic onboarding
- Team training
We understand what’s at **stake** – and we care about **getting it right** and building the right product.
Engagements designed for you.

- **Project or outcome-based**: for clients who need full service
- **Integrated team augmentation / client led**: for clients who require extra capacity and best practices
- **Consulting**: for clients who need help with bespoke technical decision-making, institutional or team-level change
- **Training and mentoring**: for clients interested in upskilling their teams
- **Apprenticeship as a service**: for clients who want help replicating the success of our own apprenticeship program
We design software through a human-centered design-led approach.

- **User Experience Design**: Human-centered design led activities learning from users, experts, and analogous contexts to uncover needs and insights to inspire new opportunities for design. We then map product features to user journeys through wireframes, prototypes, information architecture, and more.

- **UI Design**: Iterative process designing interactions with components and the composition of elements that make up the screen — turning wireframes into high-fidelity components and interactions.

- **Visual Design**: Integrating and expanding the brand style guides (as necessary) to ensure a cohesive look, feel, tone, and messaging.

- **UI Implementation**: Collaborating closely with our development team to faithfully integrate the front-end design into the various components and technologies of the product.
We build software through an iterative, agile process.

- **Iterations:** Specializing in breaking large systems into composable parts, we can deliver in short, weekly iterations, resulting in rapid feedback cycles from product stakeholders.

- **TDD:** Driving our development with Unit and Acceptance Tests helps us avoid waste, ensuring that every single line moves us closer toward a system that behaves how you intended.

- **Pair Programming:** When we collaborate, we share knowledge and build skills, which promotes continuous momentum, efficient problem-solving, breaks down silos, and builds cross-functional teams.

- **Continuous Integration:** We continuously integrate code to ensure delivery exceeds expectations, while adopting a “ship anytime” mentality that deploys a working system at any iteration.

- **Product Learning:** Each line of code tells us something about the final product, and every product becomes more concrete as we receive feedback from product stakeholders and customers.

- **Software Delivery:** Subscribing to *Accelerate* researchers’ metrics — delivery lead time, deployment frequency, mean time to restore, and change fail percentage — helps us improve what matters most.
Designing and delivering software solutions for and with our clients.
Technologies We Use

We are always working with the latest technologies to ensure the quality of our software.
Clients We Serve

We partner with clients in a wide range of industries and at every stage of growth to craft innovative and reliable software solutions.
“Culturally, they are really good people to work with. I always felt 8th Lighters were part of the team and really cared about our success.”

Chris Hein, Director of Software Development, NCSA
Our Work
Web3

Our investment in cryptocurrency and blockchain
After nearly five years of work in the Ethereum ecosystem, we're increasingly optimistic about its evolution.

Web 3.0 projects have empowered us to think differently about how applications can be structured, and we're beginning to see a coherent ecosystem that more fully embraces the Internet's early promise of decentralization.

The speed of innovation in this space is dizzying, but our underlying principles remain the same, and continue to guide our approach to building distributed applications.

We’ve helped clients leverage blockchain and web3 tools in a variety of ecosystems and have listed a few to the right.

Ride on Die, a hackathon project at ETHGlobal 2021
Web3 Projects

VULCANIZEDB

We helped create VulcanizeDB, an open source data indexing and availability tool for Ethereum that syncs, transforms, and stores smart contract events and storage updates in a relational database.

- Created Golang tools and libraries for extracting, decoding, and transforming EVM smart contract data
- Exposed data using Postgres and Postgraphile
- Maintained a fork of the go-ethereum client enabling subscriptions to smart contract storage changes

INTERBANK LENDING EXCHANGE

8th Light worked alongside an electronic interbank lending exchange to create a private ledger of trading activity and a custom, non-fungible token to reward and incentivize trades, deployed on a private blockchain.

- Deployed a private proof-of-authority Ethereum chain to record trade and token data
- Wrote smart contracts for a custom ERC721 nonfungible token
- Created a React frontend dApp for market participants to view trade data and exchange tokens
Web3 Projects

MAKER

Building on VulcanizeDB, we created a GraphQL API providing real time data about Maker’s multi-collateral Dai stablecoin protocol. Data from our API helped to power dashboards, keeper bots, and internal services at Maker.

- Wrote custom Golang code to extract and transform Maker protocol data from contract storage
- Used Postgraphile to expose both low-level contract data and high-level views of auctions, vaults, and protocol parameters
- Designed and maintained infrastructure to support real time data at Maker scale

Additional relevant clients

- Popcorn
- Rain
- AFX (American Financial Exchange)
- +SUBSCRIBE
Healthcare
Impacting health and wellness solutions
Working with many premier health and wellness organizations, we innovate within a regulation-heavy environment. We build high-functioning, responsive applications that encourage user engagement and ultimately contributes to people's well being.

The following selection of recent work encompasses partnerships where we have been able to make an impact through improved wellness and healthcare solutions:

- GeneDx
- Conceivabilities
- GoodRx
- Pfizer
- Health Worker Data Alliance
- Ahana Pediatrics
- Medline
- Transaction Assurance Group
INTEGRATED DIABETES MANAGEMENT

A collaboration with IDEO and a medical device company to create a holistic diabetes platform that helps patients with Type 2 diabetes live happier, healthier lives.

Diabetes educators (aka "guides") provide personalized care and monitor progress via the native iOS app via:

➔ live chat features
➔ curated content supporting patient's goals
➔ readings from connected blood glucose meters and Fitbit devices
➔ photos of meals and daily reflections

All data lives in a backend server built with Phoenix and Elixir, where it is shared with a team of data scientists to perform additional analyses.

SERVICES: Mobile App Development • UI Design
TOOLS: Swift (iOS) • Phoenix, Elixir • React, TypeScript
MOTIVATIONAL PHYSICAL THERAPY

A collaboration with IDEO and an occupational health company to build a fun, interactive mobile application that motivates physical therapy patients to complete exercises and track their recovery progress at home.

The native iOS and Android apps gamify recovery by allowing users to quickly and easily:

➔ connect directly with their clinician and view their full recovery journey
➔ access information about appointments, watch instructional videos, and leave feedback
➔ track progress by unlocking achievements and celebrating patient milestones

SERVICES: Mobile App Development • UI Design
TOOLS: Swift (iOS) • Kotlin (Android) • C#, GraphQL
POWERFUL TELEMEDICINE PLATFORM

Scaling a telemedicine platform that enables healthcare providers to support each other through live video communications.

This revolutionary platform was fully operational and generating enthusiasm in the market, so they looked for a partner to architect a solution that would further scale to support their growth and comply with data security protocols that differ country by country throughout the world.

Improvements included:

➔ a multi-tenancy and infrastructure-as-code scaling solution
➔ a data management strategy that complies with stringent security protocols

SERVICES: Web App Development • UI Design
TOOLS: React, Node • WebRTC • Terraform & AWS
LIVE STREAMING HEALTHCARE

A prototype app that connects patients with nurses and doctors through live video streaming.

The application enables hospitals overwhelmed by the COVID-19 pandemic to administer socially distanced care, and is designed to function seamlessly in a variety of chaotic hospital environments. Administrators quickly create thousands of virtual beds to match layouts of makeshift hospitals, including an admin view to monitor all of the beds at once in a heat map. Features include:

➔ clean and intuitive UI design to accommodate hospital workers wearing PPE
➔ secondary bedside tablet that allows untrained workers to place calls and interact with doctors and nurses through a simple and intuitive interface

SERVICES: Web App Development • UI Design
TOOLS: JavaScript & Elixir • WebRTC • Amazon Kinesis
COVID-19 INSIGHTS APP

A simple and cost-effective way to measure and track the physical and mental well-being of health professionals over time.

COVID-19’s impact has been unpredictable and varied, with those on the frontlines being most at risk. The Health Worker Data Alliance survey collects data from health workers, and a pipeline feeds this data into a visualization platform for easy-to-interpret insights for volunteers and policymakers to review.

SERVICES: System Architecture • Data Pipeline • Cloud Services Integration • Data Visualization
TOOLS: React • AWS • Amazon Athena • Amazon Glue • AWS Lambda • Tableau
IVF CLINIC INFORMATION APPLICATION

A website and CMS that allows ConceiveAbilities to crowdsource and display data about the availability of IVF clinics in different areas.

When the COVID-19 pandemic limited hospital capacity, ConceiveAbilities needed a way to gather and display data about IVF clinic availability without writing any code themselves.

Despite the constant stress and uncertainty of the COVID-19 pandemic, surrogates and potential families can easily browse the IVF Clinic Finder website to get accurate data about their options, and help crowdsource additional information.

SERVICES: CMS • Website
TOOLS: Gatsby • Netlify CMS • React • Jest • GraphQL • Google Places API
Fintech

Empowering engagement through software
Our work with leading fintech and banking institutions includes implementation of large-scale system integrations and building high-functioning platforms and responsive applications with beautiful UI designs that encourage user engagement. Select clients include:

- Braintree, a PayPal Service
- DRW
- Capital One
- CTC (Chicago Trading Company)
- Avant
- eFINANCIAL
- Backstop Solutions Group
- BNY Mellon
- Société Générale
- Verifi
- Dotted Line
- Accordion Partners/Maestro
- Enova International
INTEGRATING MICROSERVICES

A new software system with nine different coordinating microservices automating the process of pricing client portfolios.

This greenfield application for BNY Mellon leverages a number of integrations with a wide variety of third-party systems, sending and consuming data from various vendors and underwriters. The project included:

➔ large-scale refactorings of the legacy platform to extract new microservices, integrate new workflows, and load their final data into an accounting system
➔ educating the engineering team and managers to transition from a waterfall approach toward a more agile delivery process

SERVICES: Web Development • API Integrations • DevOps
TOOLS: Ruby on Rails • Microservice Messaging Protocols
ENABLING FLEXIBILITY TO EXPAND

Creating the ability to calculate different loan options so Enova International could present them to users.

The data- and analytics-driven online lending company needed to expand its financial services to existing customers. Platform features included:

➔ coordination across multiple components in organization’s service-oriented architecture
➔ filtering existing customers through eligibility criteria and qualify users
➔ ensuring reliable user interface
➔ customer service portal that connects services and enables representations to review relevant data and materials

The new features helped the company grow revenue without adversely affecting their site performance.

SERVICES: Web Development • DevOps
TOOLS: Ruby on Rails • JavaScript • Postgres
Ecommerce
Helping meet consumers’ and sales’ needs
DEALS-BASED ECOMMERCE PLATFORM

A long-standing ecommerce partnership providing daily deals to consumers.

Our 10+ year partnership with Groupon began with a pair of software professionals and grew to a team of 10 as their needs evolved both locally and globally. We helped them iterate away from their large rails monolith to a more distributed service-oriented architecture. Other project aspects include:

➔ rebuilt features allowing salespeople to identify potential leads and perform the entire sales process out in the field
➔ unify their customer support services
➔ scale their email systems
➔ address a number of performance issues

SERVICES: Ecommerce • Web App Development
TOOLS: Ruby on Rails • Clojure • AWS
Apprenticeship
Modern programs to cultivate cultures of learning
MODERN APPRENTICESHIP

Empowering a team with a culture of continual learning, and recruiting non-traditional developers and training them into technical leaders.

Based in rural Illinois, Software Solutions Integrated needed to upskill their team on a new tech stack and expand their recruiting pipeline. We helped create and implement a modern apprenticeship program that reinforces new skills with hands-on practice and learning guided by mentors.

SERVICES: Apprenticeship as a Service • Consulting • Coaching
TOOLS: Mentorship • C# • Angular
Let’s build something together.