MAGE Platform

Team B2

- Name: Peter B
- Repositories:
  - https://github.com/B2MAGE/mage-backend
  - https://github.com/B2MAGE/mage-frontend
- Artifacts:
  - https://github.com/orgs/B2MAGE/projects/1 (currently private)
  - https://github.com/B2MAGE/mage-backend/blob/main/README.md
  - https://github.com/B2MAGE/mage-backend/blob/main/CONTRIBUTING.md
  - https://github.com/B2MAGE/mage-backend/tree/main/docs
  - https://github.com/B2MAGE/mage-frontend/blob/main/README.md

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At-a-glance

What I worked on

- Created frontend and backend repository
- Set up GitHub Projects board for SCRUM workflow
- Configured branch protection for main
  - Required pull requests to merge to main
  - Required one code review before merge
- Initialized React + TypeScript + Vite frontend
- Added React Router routing and initial routes
- Built shared frontend layout component
- Implemented header navigation
- Set up backend project structure
- Configured database connectivity
- Configured database migrations
- Created user persistence layer
- Implemented User model and repository
- Implemented Google authentication endpoint (POST /auth/google)
- Wrote onboarding/setup documentation for the team

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Example Code:

```java
@RestController
@RequestMapping("/auth")
public class AuthController {

    private final GoogleAuthenticationService googleAuthenticationService;

    public AuthController(GoogleAuthenticationService googleAuthenticationService) {
        this.googleAuthenticationService = googleAuthenticationService;
    }

    @PostMapping("/google")
    ResponseEntity<GoogleAuthenticationResponse> authenticateWithGoogle(
            @Valid @RequestBody GoogleAuthenticationRequest request) {
        GoogleAuthenticationResult result = this.googleAuthenticationService.authenticate(request.idToken());
        HttpStatus status = result.created() ? HttpStatus.CREATED : HttpStatus.OK;

        return ResponseEntity.status(status)
                .body(new GoogleAuthenticationResponse(
                        result.user().getId(),
                        result.user().getEmail(),
                        result.user().getDisplayName(),
                        result.user().getAuthProvider().name(),
                        result.created()));
    }
}
```

AuthController:

- Exposes the POST /auth/google route
- Accepts a validated Google ID token request
- Delegates authentication to the service layer
- Returns the Google-backed user
    - 201 Created for new accounts
    - 200 OK for existing ones

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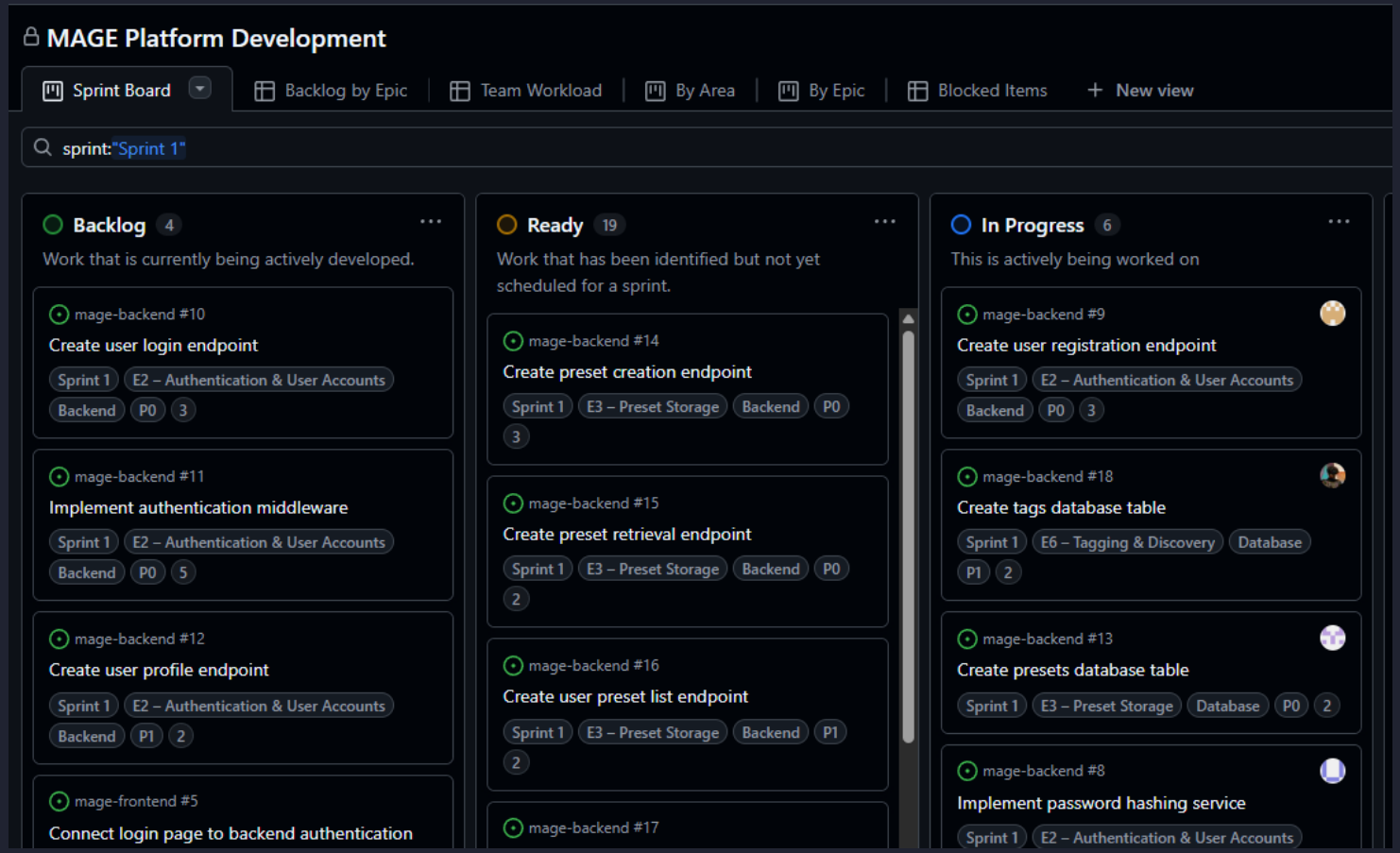
Example Artifact:



GitHub Project Page:

- Manage the MAGE development workflow
- Track sprint tasks and progress
- Organize work across development stages
- Coordinate team collaboration
- Link issues and pull requests to tasks
- Monitor blockers and dependencies

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Long Project Topic Idea:

Monolith vs Microservices: Architectural Tradeoffs for Small Development Teams

Key Sections:

- Monolithic architecture overview
- Microservices architecture overview
- Tradeoffs (complexity, scaling, DevOps)
- Case studies from startups
- When small teams should or should not use microservices